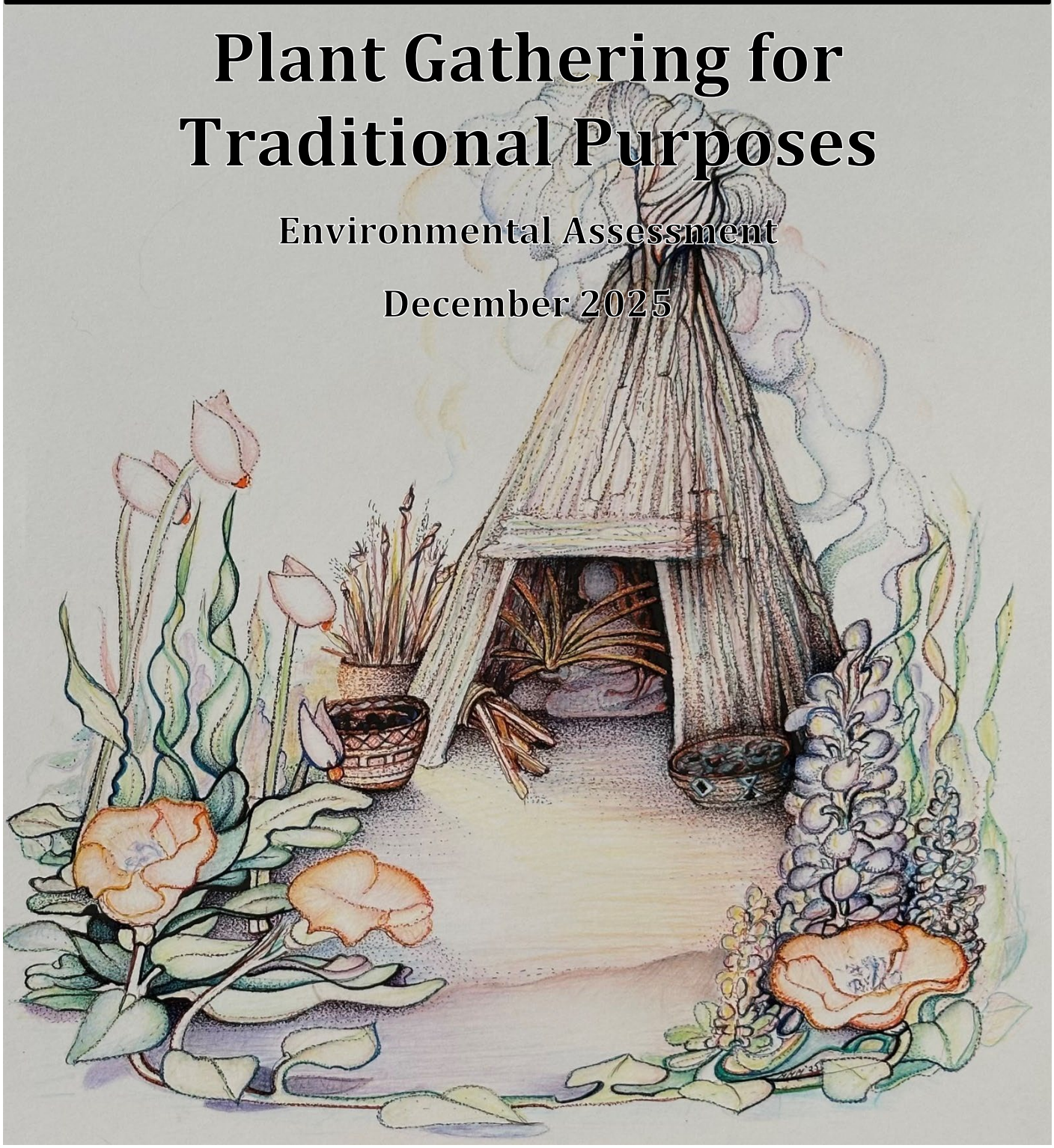
National Park Service
U.S. Department of the Interior

Yosemite National Park
California

# Plant Gathering for Traditional Purposes

## Environmental Assessment

December 2025



## ON THE COVER

Artwork by Mary Motola, Tribal elder, artist, and historian, Picayune Rancheria of the Chukchansi Indians

# EXECUTIVE SUMMARY

The National Park Service (NPS) proposes to enter into an agreement with the five federally recognized Tribes who are traditionally associated with Yosemite National Park to approve the gathering of plants and plant parts at Yosemite National Park. This proposal is pursuant to 36 CFR 2.6, *Gathering of Certain Plants or Plant Parts by Federally Recognized Indian Tribes for Traditional Purposes* (the Plant Gathering rule).

Yosemite National Park maintains a long-standing and ongoing relationship with seven Traditionally Associated Tribes, regularly engaging in consultation and collaboration, including Bishop Paiute Tribe, Bridgeport Indian Colony, Mono Lake Kootzaduka'a Tribe of California and Nevada, North Fork Rancheria of Mono Indians of California, Picayune Rancheria of the Chukchansi Indians, Southern Sierra Miwuk Nation (also known as American Indian Council of Mariposa County), and Tuolumne Band of Me-Wuk Indians. The Plant Gathering Rule establishes a process to develop plant gathering agreements between the NPS and federally recognized Tribes and does not apply to non-federally recognized Tribes. As of the writing of this document, Southern Sierra Miwuk Nation and the Mono Lake Kootzaduka'a Tribe of California and Nevada have not been federally recognized. Both non-federally recognized Tribes have made significant contributions to developing this gathering agreement and the park is committed to pursuing alternative avenues for working with non-federally recognized Tribes to help restore access to traditional plant gathering practices.

This Environmental Assessment (EA) has been prepared in compliance with the National Environmental Policy Act (NEPA) to provide a decision-making framework as follows: 1) Assess a reasonable range of alternatives to meet the purpose of the proposed action; 2) Evaluate potential issues and impacts to the natural and cultural resources of the park; and 3) Identify required mitigation measures designed to lessen the degree or extent of any potential adverse environmental impacts.[1]

This EA evaluates two alternatives: Alternative A - No Action; and Alternative B – Plant Gathering for Traditional Purposes (Preferred Alternative). Under Alternative A, plant gathering would not be permitted for American Indian traditional purposes. Under Alternative B, Yosemite National Park would enter into an agreement with the federally recognized Tribes to permit the sustainable, limited gathering of plants and plant parts. No threatened, or endangered plants would be gathered. Collection limits, implementation of a

[1] [1] Executive Order 14154, *Unleashing American Energy* (Jan. 20, 2025), and a Presidential Memorandum, *Ending Illegal Discrimination and Restoring Merit-Based Opportunity* (Jan. 21, 2025), require the Department to strictly adhere to the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 et seq. Further, such Order and Memorandum repeal Executive Orders 12898 (Feb. 11, 1994) and 14096 (Apr. 21, 2023). Because Executive Orders 12898 and 14096 have been repealed, complying with such Orders is a legal impossibility. The National Park Service (NPS) verifies that it has complied with the requirements of NEPA, including the Department's regulations and procedures implementing NEPA at 43 C.F.R. Part 46 and Part 516 of the Departmental Manual, consistent with the President's January 2025 Order and Memorandum. The NPS has also voluntarily considered the Council on Environmental Quality's rescinded regulations implementing NEPA, previously found at 40 C.F.R. Parts 1500–1508, as guidance to the extent appropriate and consistent with the requirements of NEPA and Executive Order 14154.

monitoring system, and other mitigations would be employed to ensure sustainable use. The alternatives are described in detail in Chapter 2.

This EA identifies the categories of resources, or *Impact Topics*, found within the park boundaries that are most likely to be affected by the actions described in each alternative. These topics have undergone a detailed analysis by agency staff to determine the most likely effects on the resources and the mitigations required to avoid resource damage. Traditionally Associated Tribal members have also devoted considerable time collaborating with NPS staff to identify the purpose and need for a plant gathering agreement, develop the proposed plant gathering list, identify traditional methods for ensuring plant gathering is not negatively impactful to plant communities, and develop reasonable mitigation measures for Alternative B. The Impact Topics are identified in section 1.4 of this document and in Table 1.

## PUBLIC COMMENT

This EA will be available for public review for 30 days. The NPS Planning, Environment and Public Comment (PEPC) site provides access to current plans and related documents that are available for public review. If you wish to comment on the EA, you may use PEPC to post comments online at: https://parkplanning.nps.gov/ YOSEgatheringEA.

or mail (postmark) comments by the last day of public comment to:

Yosemite National Park

Attn: Superintendent, Plant Gathering for Traditional Purposes

PO Box 577

Yosemite, CA 95389

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# CHAPTER 1: INTRODUCTION

## 1.1 Background

For millennia humans have lived in, interacted with, and stewarded the landscapes in what today is known as Yosemite National Park. The local Tribes' creation stories are tied to the landscape of Yosemite. The descendants of the first peoples maintain a deep connection to the landscape through customary practices that are interwoven with the traditions and histories of their Tribes, reflecting the significance of these activities to their unique cultures. Indigenous Knowledge (IK), commonly referred to as Traditional Ecological Knowledge (TEK) is knowledge passed through generations that has been developed through observations and long-term interactions with the environment (U.S. Fish & Wildlife Services, 2011). Tribes have their own place-based body of knowledge that is often grounded in social, spiritual, cultural, and natural systems that may overlap with other Indigenous communities' knowledge (Office of Science and Technology Policy & Council on Environmental Quality, 2021). Traditional activities include gathering plants and plant parts for ceremonial use, object manufacture, or sustenance.

NPS has a general prohibition on removing plants or plant parts, in *36 CFR 2.1(a)(1(ii), 2.1 Preservation of natural, cultural and archeological resources*. In 2016, NPS issued a new regulation, *§ 2.6 Gathering of plants or plant parts by federally recognized Indian tribes (36 CFR 2.6)*, authorizing Superintendents to establish agreements allowing traditional plant gathering in NPS units. This regulation identifies requirements and restrictions for those agreements, including requirements for environmental analysis. The Plant Gathering Rule indicates that removal or disturbance of plants or plant parts is prohibited, except when an established management framework for gathering certain plants or plant parts by federally recognized Tribes has been fully analyzed. The rule explicitly prohibits all plant gathering unless specifically authorized by federal statute, treaty rights, existing regulations, or the terms and conditions of an agreement and permit issued under this rule.

The rule stipulates that Tribes must formally request an agreement for gathering plants and plant materials. The request must contain all three elements:

1. A description of the Indian tribe's traditional association to the park area;
2. A description of the traditional purposes to which the traditional gathering activities will relate;
3. A description of the traditional gathering and removal activities that the tribe is interested in conducting, including a list of the plants or plant parts that tribal members wish to gather and the methods by which those plants or plant parts will be gathered.

In a letter dated August 4, 2022, the Bridgeport Indian Colony, on behalf of the Traditionally Associated Tribes with Yosemite National Park, requested to enter into an agreement with Yosemite National Park to conduct traditional gathering of plants and plant parts from 428 taxa in and adjacent to the park. This list was refined in subsequent meetings between the NPS and the seven Traditionally Associated Tribes and was reduced to 289 vascular plant taxa (genera, species, subspecies, or varieties) occurring within Yosemite National Park (Appendix A). The Traditionally Associated Tribes that Yosemite National Park regularly consults with include Bishop Paiute Tribe, Bridgeport Indian Colony, Mono Lake Kootzaduka'a Tribe of California and Nevada, North Fork Rancheria of Mono Indians of California, Picayune Rancheria of the Chukchansi Indians, Southern

Sierra Miwuk Nation (also known as American Indian Council of Mariposa County), and Tuolumne Band of Me-Wuk Indians.

The Plant Gathering Rule establishes a process to develop plant gathering agreements between the NPS and federally recognized Tribes. As of the writing of this document, the Southern Sierra Miwuk Nation (also known as the American Indian Council of Mariposa County) and the Mono Lake Kootzaduka'a Tribe of California and Nevada have not received federal recognition. Consequently, the Plant Gathering Rule does not extend to them, and they would be excluded from any plant gathering agreements under this rule.

Despite their current federal recognition status, Southern Sierra Miwuk Nation and the Mono Lake Kootzaduka'a Tribe are traditionally associated with Yosemite and remain integral to the Tribal consultation process and park co-stewardship initiatives. Both Tribes have made significant contributions to developing this gathering agreement and maintain strong relationships with the federally recognized Traditionally Associated Tribes, the NPS, their ancestral lands, and the work conducted within the park. Their omission from this agreement, as mandated by the Plant Gathering Rule, does not diminish the importance of these relationships or the significance of cultural heritage represented in this agreement. While the Plant Gathering Rule does not allow non-federally recognized Tribes to be included in the gathering agreement, the NPS plans to pursue alternate avenues for allowing plant gathering for traditional uses by non-federally recognized Tribes.

The formal request by the Bridgeport Indian Colony to gather plants and plant parts for traditional purposes includes sufficient information to meet the Plant Gathering Rule requirements. The rule requires that the activities outlined in any agreement are evaluated through an Environmental Assessment (EA) to analyze the anticipated impacts of traditional gathering activities on park resources. The impacts of the proposed activities are analyzed in this EA.

## 1.2 Purpose and Need for Action

**Purpose:** The purpose of the project is to establish a framework that allows Tribal members traditionally associated with Yosemite National Park to gather plants and plant parts for traditional purposes.

**Need:** The project is needed to protect park resources, ensure cultural continuance in association with Tribal gathering and Indigenous Knowledge transmission and generation, and comply with 36 CFR § 2.6 - *Gathering of Plants or Plant Parts by Federally Recognized Indian Tribes*. A plant gathering request on behalf of the Traditionally Associated Tribes was initiated by the Bridgeport Indian Colony in August of 2022. This project will lay the path for a plant gathering agreement which will help ensure federally recognized Tribes can collect native plant material legally, sustainably, and in a traditional manner that protects and enhances Tribal cultures and park resources.

Tribal reasons for establishing a plant gathering agreement include:

1. Restoring Tribal access to plant resources in Yosemite National Park
2. Restoring Tribal dignity to the sustainable gathering of plant resources in the parks
3. Restoring Tribal stewardship that protects and enhances plant communities
4. Reconnecting Tribal people with the spiritual and physical benefits that plants in the park provide

5. Reinstating within Yosemite a relationship of reciprocity between tribal people and plants where one cares for the other
6. Aligning park and Tribal perspectives for cultural and natural resource management
7. Utilizing Indigenous Knowledge to optimize plant structure most suitable for traditional use
8. Removing barriers to the fulfilment of Tribal responsibilities as given by the Creator
9. Perpetuating Tribal cultural knowledge by reengaging Tribal members with plants/plant habitat
10. Providing opportunities for Tribes to share traditional knowledge with park staff and visitors.

## 1.3 Relationship to Other Plans and Policies

Current plans and policies related to management of park resources are consistent with the activities outlined in this document, including.

**NPS Organic Act of 1916 (Title 54 of U.S. Code, Chapter 1001, section 100101)**: "*The service thus established shall promote and regulate the use of the Federal areas, known as national parks, monuments, and reservations….by such means and measures as conform to the fundamental purpose of the said parks, monuments and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations."* The Act was reaffirmed by Congress in 1970 in 16 USC 1a-1 "General Authorities Act," which added specific guidance, particularly regarding leaving park resources unimpaired.

**NPS Management Policies (2006):**

**4.1.4 – Partnerships: "…** *the Service will develop agreements with federal, tribal, state, and local governments and organizations; foreign governments and organizations; and private landowners, when appropriate, to coordinate plant, animal, water, and other natural resource management activities in ways that maintain and protect park resources and values."*

**5.3.5.2 - Cultural Landscapes:** *"The treatment of a cultural landscape will preserve significant physical attributes, biotic systems, and uses when those uses contribute to historical significance. Treatment decisions will be based on a cultural landscape's historical significance over time, existing conditions, and use. Treatment decisions will consider both the natural and built characteristics and features of a landscape, the dynamics inherent in natural processes and continued use, and the concerns of traditionally associated peoples."*

**5.3.5.2.6 - Land Use and Ethnographic Value:** *"Many cultural landscapes are significant because of their historic land use and practices. When land use is a primary reason for the significance of a landscape, the objective of treatment will be to balance the perpetuation of use with the retention of the tangible evidence that represents its history. The variety and arrangement of cultural and natural features in a landscape often have sacred or other continuing importance in the ethnic histories and cultural vigor of associated peoples. These features and their past and present-day uses will be identified, and the beliefs, attitudes, practices, traditions, and values of traditionally associated peoples will be considered in any treatment decisions."*

**5.3.5.3.1 - Resource Access and Use:** *"Consistent with the requirements of the Organic Act, the National Historic Preservation Act, American Indian Religious Freedom Act, the Archaeological Resources Protection Act, the National Environmental Policy Act, and Executive Order 13007 (Indian Sacred Sites) cited in section 5.3.5.3 above, the Service will strive to allow American Indians and other traditionally associated peoples access to and use of ethnographic resources. Continued access to and use of ethnographic resources is often essential to the survival of family, community, or regional cultural systems, including patterns of belief and sociocultural and religious life."*

**5.3.5.3.2 - Sacred Sites: "***The National Park Service acknowledges that American Indian Tribes, including Native Alaskans, treat specific places containing certain natural and cultural resources as sacred places having established religious meaning and as locales of private ceremonial activities. Consistent with Executive Order 13007 (Indian Sacred Sites), the Service will, to the extent practicable, accommodate access to and ceremonial use of Indian sacred sites by religious practitioners from recognized American Indian Tribes and Alaska Natives, and avoid adversely affecting the physical integrity of such sacred sites."*

**8.5 - Use by American Indians and Other Traditionally Associated Groups**: "*The National Park Service will develop and implement its programs in a manner that reflects knowledge of and respect for the cultures of American Indian Tribes or groups with demonstrated ancestral ties to particular resources in parks."*

**8.8 - Collecting Natural Products**: "*The collection of natural products for personal use or consumption is governed by NPS general regulations contained in 36 CFR 2.1 and 36 CFR Part 13. A superintendent may designate certain fruits, berries, nuts, or unoccupied seashells that can be gathered by hand for personal use or consumption upon a written determination by the superintendent that such an activity will not adversely affect park wildlife or the reproductive potential of a plant species or otherwise adversely affect park resources."*

**Secretary's Order 3403 Joint Secretarial Order on Fulfilling the Trust Responsibility to Indian Tribes in the Stewardship of Federal Lands and Waters:** The Secretary's Order directs agencies to increase opportunities for Tribes to participate in traditional stewardship of present-day federal lands and waters. This includes the integration of Indigenous Knowledge and sustainability practices into federal management and operations, subject to the interest of each Tribal Nation.

**301 Department Manual 7 Departmental Responsibilities for Consideration and Inclusion of Indigenous Knowledge in Departmental Action and Scientific Research (2023):** *"This chapter establishes Department of Interior policies, responsibilities, and procedures to respect, and equitably promote the inclusion of, Indigenous Knowledge in the Department's decision making, resource management program implementation, policy development, scientific research, and other actions."*

**NPS Policy Memorandum 22-03 Fulfilling the National Park Service Trust Responsibility to Indian Tribes, Alaska Natives, and Native Hawaiians in Stewardship of Federal Lands and Water:** *"Beyond its legal responsibilities, the NPS shares with Indian Tribes, Alaska Natives, and the Native Hawaiian Community the philosophy of making management decisions today that result in protection of park*

*resources and values for generations into the future. In support of this, the NPS will incorporate the expertise of Indian Tribes, Alaska Natives, and the Native Hawaiian Community into planning and resource management activities including through the use of Indigenous knowledge."*

**36 CFR 2.1 Preservation of natural, cultural, and archeological resources (c)(1)**: "*The superintendent may designate certain fruits, berries, nuts, or unoccupied seashells which may be gathered by hand for personal use or consumption upon a written determination that the gathering or consumption will not adversely affect park wildlife, the reproductive potential of a plant species, or otherwise adversely affect park resources."*

> **Superintendent's Compendium (Yosemite 2025)** cites 36 CFR 2.1(c)(1), (c)(2) and states: The following fruits, nuts, berries or unoccupied seashells may be gathered by hand for personal use or consumption, in accordance with the noted size, quantity, collection sites and/or use or consumption restrictions:
>
> - Blackberries: 1 pint per person per day, wherever found, for immediate consumption
> - Himalayan blackberry: unlimited quantity
> - Raspberries: 1 pint per person per day, wherever found, for immediate consumption
> - Elderberries: 1 pint per person per day, wherever found, for immediate consumption
> - Strawberries: 1 pint per person per day, wherever found, for immediate consumption
> - Thimbleberries: 1 pint per person per day, wherever found, for immediate consumption
> - Huckleberries: 1 pint per person per day, wherever found, for immediate consumption
> - Fungi, Edible: 1 pint per person per day, wherever found, must be cut (not pulled)
>
> The following may be gathered and transported from the collection site for non-commercial use:
>
> - Apples
> - Pears

**2014 Merced Wild and Scenic River Plan:** Cultural Outstandingly Remarkable Values 8- Yosemite Valley American Indian Ethnographic Resources- *"Yosemite Valley American Indian ethnographic resources include a linked landscape of specifically mapped traditional-use plant populations, as well as the ongoing traditional cultural practices that reflect the intricate continuing relationship between indigenous peoples of the Yosemite region and the Merced River in Yosemite Valley."*

**1997 Yosemite Vegetation Management Plan:** *"The primary goal of vegetation management in Yosemite is to preserve, restore, and perpetuate the natural processes which act upon the native plant life as part of natural ecosystem functions. It is recognized that native people have had influence on some existing plant communities and are components of today's "natural" system…Landforms and vegetation that occur in Yosemite have become components of scenic and cultural landscapes which reflect Native American Indian, European, and present adaptation and use of natural resources. Part of the goal of vegetation management in Yosemite is to preserve the cultural landscape's physical attributes, biotic systems, and scenic quality when the components contribute to its historical significance and meet park management objectives. …Native American Indian influences and processes will be used to maintain cultural landscapes when and where appropriate."*

## 1.4 Impact Topics

Impact topics are the resources or issues of concern that could be impacted by the range of alternatives. NPS specialists used federal laws, regulations, and management policies to identify the impact topics retained for further analysis. Identification of impact topics facilitates the analysis of environmental consequences and allow for a standard comparison between alternatives based on the most relevant information. Table 1 summarizes the topics retained or dismissed and includes the rationale for dismissal.

Four topics are carried forward for further analysis in this EA: ethnographic resources, ethnographic cultural landscapes, special status plants, and vegetation. This analysis is found in Chapter 3, Affected Environment and Environmental Consequences.

Issues related to archeological resources, human health and safety, invasive plant species management, park operations, soils, visitor use and experience, wetlands, wild and scenic rivers, and wildlife have been considered and dismissed from detailed analysis because they are not central to the proposal or do not assist with making a reasoned choice between alternatives. While issues related to wilderness have been considered and dismissed as an impact topic in this EA, a Minimum Requirements Analysis (MRA) has been completed for the actions proposed in this document, in accordance with the Wilderness Act.

**Table 1. Impact Topics**

| Impact Topics | Retain | Dismiss | Rationale |
|---|---|---|---|
| **Archeological Resources** | | x | Foot traffic associated with plant gathering is not expected to cause damage to archeological materials. Any potential disturbance would be comparable to park visitors walking over the ground surface for other purposes. Collection of roots or other subsurface plant parts may cause limited ground disturbance, but this would not be significant and does not require further analysis. Gatherers should be made aware of inadvertent discovery protocols. |
| **Ethnographic Cultural Landscapes** | x | | See discussion in Chapter 3. |
| **Ethnographic Resources** | x | | See discussion in Chapter 3. |

| Impact Topics | Retain | Dismiss | Rationale |
|---|---|---|---|
| **Human Health and Safety** | | x | Yosemite has an active invasive plant management program. Following a 2010 Invasive Plant Management EA, the park uses approved herbicides to treat some invasive plants within the park. Additionally, there are areas in the park that have been identified as containing hazardous materials. These sites are primarily a result of historic trash disposal activities. These sites are being assessed for remediation. In some cases, remediation activities are already occurring. The use and location of herbicide treatment and hazardous material sites are important to share with Tribal gatherers and will be accomplished through the communication and meeting strategy established in the agreements. In addition, five high priority invasive plant species that are regularly treated with herbicides were removed from the gathering list to avoid possible health effects. The agreement will establish a communication strategy and information sharing for Tribal members to know where treatments are made, and the Invasives Species Management annual workplan will be available. Effective communication and coordination should prevent any significant impacts on human health and safety |
| **Operations** | | x | With new regulations and protocols for traditional gathering, there will be an increase in the need for various regulation enforcement and education measures, as called for in the agreement. Impacts to park operations will be minor and inconsequential and are not expected to be significant. |
| **Soils** | | x | Removing partial foliage may increase carbon exudation from roots stimulating microbial activity and availability of essential plant nutrients. Plant gathering has been shown to aerate and reduce soil compaction, stimulate bioactivity, and allow water to seep into drier soils (Deur and Bloom 2021, 303-304). Increasing plant collection in certain areas may increase foot traffic and may destabilize soil structure and increase potential for erosion. Use of tools in soil may increase the chance of transferring disease. These impacts to soils, both positive and negative, will be minor and inconsequential, and are not expected to be significant. |

| Impact Topics | Retain | Dismiss | Rationale |
|---|---|---|---|
| **Recreation Resources – Visitor Use and Experience** | | x | The proposed plant gathering would sometimes occur within sight of visitors on hiking trails or would be in view of the public along roads. Traditional use of plant materials would have an enriching, positive impact on visitor experience, and provide interpretive and educational opportunities. The general public's ability to gather fruits, nuts, and berries for personal use or consumption under the existing Superintendent's Compendium would not be affected by either alternative evaluated in this EA. These impacts would be negligible and do not warrant further analysis. |
| **Vegetation** | x | | See discussion in Chapter 3. |
| **Vegetation – Invasive Species** | | x | Collection of invasive plants can limit the distribution of the plant and benefit a biodiverse ecosystem. This is expected to have an insignificant impact on reducing the number of seeds/plants of invasive populations collected.<br><br>Gatherers may weed invasive plants in gathering areas helping to improve plant communities and encourage native plant species to out-compete invasive species. Gatherers can observe and report invasive species for treatment follow up by NPS staff.<br><br>Ground disturbance and the reduction of native plant cover associated with plant gathering may create habitat for invasive species. The collection of non-native plants has the potential to be spread to new areas. Additionally, gatherers may be vectors for invasive plant propagules to be spread to new areas (from outside the park or within the park). These impacts are expected to be minor and insignificant.<br><br>The largest concern for invasive species relates to invasive species management in the park, as referenced in the Human Health and Safety considerations |
| **Vegetation – Special Status Plants** | x | | See discussion in Chapter 3. |
| **Wetlands** | | x | While 30% of the plants on the proposed plant collection plant list occur in wetlands, the level of minor soil compaction and trailing impact from foot traffic, which is already permitted to the public, is no more impactful to wetland ecosystem function than current park management projects. The impacts are negligible and do not warrant further detailed analysis. |

| Impact Topics | Retain | Dismiss | Rationale |
|---|---|---|---|
| **Wild and Scenic Rivers** | | x | Tribal gatherers may harvest plants and/or plant parts located within the Wild and Scenic River corridor due to some plants and/or plant parts growing within this habitat. Any impacts to plant communities within Wild and Scenic River corridors are expected to be minimal and result in better health for the plant communities through stewardship. The impacts are negligible and do not warrant further detailed analysis. |
| **Wilderness** | | x | Tribal gatherers would gather plants/plant parts in wilderness, especially along traditional travel routes. Traditional gathering may contribute to wilderness areas by enriching connections to traditional stewardship with the land through thoughtful, respectful and gentle ways without human works dominating the landscape or use of technology or machines. Impacts to wilderness due to a Tribal gathering agreement are not expected to be significant. A Minimum Requirements Analysis (MRA) was developed alongside this EA and has informed the action. The MRA documents that wilderness character is preserved, and no 4(c) prohibited uses will be permitted. |
| **Wildlife and/or Wildlife Habitat** | | x | Yosemite National Park supports more than 400 species of vertebrates including fish, amphibians, reptiles, birds, and mammals. The high diversity of species is the result of diverse habitats in Yosemite that are largely intact. The park's rich habitats range from thick foothill chaparral to conifer forests to expanses of alpine rock.<br><br>Several of the plant species proposed for collection provide a food source and/or habitat for wildlife. However, collection of these plants in the quantities proposed would not affect the availability of food or habitat. TEK includes being observant, aware, and cautious for wildlife and their homes.<br><br>Using hand tools to cut down parts of trees (live or dead) could have impacts on nesting or denning species. Collections occurring in riparian areas could dislodge egg masses in the water.<br><br>Mitigations, including information sharing, checking for nests and/or egg masses, and tree size restrictions allow this impact topic to be dismissed from further analysis. |

# CHAPTER 2: ALTERNATIVES

Two alternatives were considered and are carried forward for analysis in this EA: the no action alternative and an action alternative. A no action alternative is required by NEPA as a baseline to compare proposed action alternatives. The action alternative presents a reasonable and feasible approach that meets the purpose of, and need for, action. This chapter describes each alternative and identifies the NPS preferred alternative.

## 2.1 Alternative A: No Action

Under the no action alternative (alternative A), Yosemite National Park would not enter into an agreement with the Traditionally Associated Tribes to gather plants and plant parts found within Yosemite National Park for traditional purposes. The no action alternative would be a continuation of the existing management conditions, limiting gathering to fruit, berries, nuts, and unoccupied shells as specified in Yosemite's Superintendent's Compendium, per 36 C.F.R. §§ 2.1(c)(1), (c)(2).

## 2.2 Alternative B: Plant Gathering Rule Alternative (Preferred)

Under the Plant Gathering Rule Alternative, the federally recognized tribes traditionally associated with Yosemite National Park (Bishop Paiute Tribe, Bridgeport Indian Colony, North Fork Rancheria of Mono Indians of California, Picayune Rancheria of the Chukchansi Indians, and Tuolumne Band of Me-Wuk Indians) would enter into an agreement with NPS to gather plants and plant parts of approved plant species found within Yosemite National Park for traditional purposes (Appendix A). These plants and plant parts would be gathered with nonmotorized tools at any time in areas without special use designation which prohibits plant collecting. The quantity of plants and plant parts collected for traditional purposes would follow guidance from TEK which allow for a respectful and sustainable use of plants without damaging plant communities, pollinators, wildlife, or habitats. While promoting cultural continuance, this alternative allows for Indigenous Knowledge(s) transmission and generation (Office of Science and Technology Policy and Council on Environmental Quality, 2021).

Under Alternative B, Yosemite National Park would enter into one agreement with the federally recognized Tribes, and Yosemite National Park would issue a permit to each Tribe individually. The terms of the agreement will follow the requirements of the Plant Gathering Rule. Per the 2024 Policy Memorandum 24-01 providing guidance for implementing the Plant Gathering Rule, the plant gathering agreement will automatically expire after ten years from the date of authorizing agency signature. The permit issued to each Tribe will not exceed five years. Prior to the approval of a renewed agreement and permits, these documents will be reviewed by the Tribal government representatives and Yosemite National Park staff to identify any potential changes, and as appropriate, documented in a memo to file or categorical exclusion.

Even though the agreement and permits will be between the NPS and federally recognized tribes only, the analysis described below in Chapter 3 of potential environmental impacts from traditional gathering activities (Alternative B) wouldn't change if all seven Traditionally Associated Tribes were part of the agreement. Any future requests by other Tribes outside of the seven Traditionally Associated Tribes would need to be evaluated through a separate NEPA process.

### 2.2.1 Stipulations and Mitigations:

The agreement between the NPS and the federally recognized Tribes would include the following mitigations and stipulations in its terms and conditions, per the Plant Gathering Rule.

- Tribal Members will only gather plants and plant parts of approved plant species found within Yosemite National Park for traditional purposes (Appendix A).
- Tribes and NPS staff will meet biannually to discuss gathering activities, identify any emerging issues or improvements that could be made to the permit, and to optimize protection of park resources, while allowing for traditional gathering activities to occur. The following topics will be discussed (See Appendix B for additional biannual monitoring meeting topics and information):
    - Anticipated gathering and specific areas desired for gathering during the upcoming year.
    - Proposals for adding or removing plant taxa from the gathering list. Changes to the list will be approved through a separate compliance process.
    - Traditionally Associated Tribes will present monitoring outcomes and report on any activities which may necessitate intervention by the Traditionally Associated Tribes and the NPS.
    - NPS will address other resource information and concerns, such as interactions with the public, visitor education, and identification and protection of threatened or endangered animal species.
- To ensure the sustainable harvest of species, Tribes are responsible for monitoring outcomes throughout the park for all approved species.
- A Tribal representative from each Tribe should serve as a main contact for Tribal members and NPS to contact for any concerns and to coordinate gathering activities with other Tribes. Tribes will track, to the extent feasible, gathering information by their members, to inform coordination and reporting.
- To the best of their abilities, Tribal governments will provide education and trainings through elders and traditional practitioners to Tribal members to prevent potential negative impacts or over harvesting.
- Gatherers will use traditional gathering methods, primarily gathering by hand and hand tools such as traditional digging sticks. When necessary, clean and sharpened non-mechanized hand tools such as but not limited to scissors, pruning shears, trowels, soil knives, rakes, hoes, handsaws, loppers, weed wrenches, digging bar, forked weeders, pickaxes, and shovels may be used to gather the plants or plant parts.
- Minimal ground disturbance by hand or hand tools may be necessary for traditional gathering. Any artifacts found will be left in place. If a gatherer finds cultural items to be vulnerable or at risk of loss/impact, they are encouraged to contact the park Tribal Liaison to discuss appropriate measures to address threats or impacts.
- No federally threatened or endangered plants or plant parts are to be harvested. Special status plant (SSP) species may be collected without further species-specific analysis if:
    - They are Yosemite SSP priority 9-14. These categories are related to distribution and are referred to as “park sensitive.” EA mitigations are sufficient to avoid negative impacts to these categories. See section 3.4.1 for detailed description of Yosemite’s ranking priority categories.

    - SSP species that are to be avoided during gathering, within the same genus as common species, are indicated in table notes (Appendix A).
- Gathering of plants and plant parts will be harvested at different times throughout Yosemite National Park according to plant lifecycles and seasons, guided by Traditional Ecological Knowledges and follow Department of Interior protocols (BLM, NPS, and USFWS 2025). Gathering will be conducted within the following limits:
    - See Appendix A for plant parts and limits customized to life form (annuals, perennials, shrubs and trees, and non-natives). There are no limits for non-native plants.
    - At a minimum (50) or more individual plants should be present in the observable population before gathering.
    - No single plant loses more than an estimated 50% of its available aboveground biomass in stems, leaves, flowers, or fruits.
    - When removing the entire plant is permitted, less than an estimated 20% of plants will be gathered from any one population.
    - No more than an estimated 20% of the seed is to be collected from a population of over 50 individuals on a single day.
    - Limbing or felling mature trees is not permitted in this agreement or special use permit.
- Prior to gathering, vegetation will be examined for obvious signs of nesting birds and other animals.
- Firewood collection is not authorized through this agreement and special use permit– protocols for firewood collection are described in a separate agreement.
- Seeds and soil are to be removed from footwear and all tools when moving from site to site to reduce the potential introduction of non-native plants and spread of disease, including future diseases.
- The intent of the gathering agreement is for traditional purposes only, not for commercial purposes.
- To minimize impacts on sensitive locations, like meadows, riverbanks, and wetlands, gatherers should avoid traveling in large, closely-knit groups. Instead, they should spread out to disperse impacts and reduce soil compaction. When accessing riverbanks, use sandy, resilient shorelines to protect riparian vegetation. If the same plant or plant part can be gathered from a less sensitive location, that site should be preferred.
- Non-Tribal members may accompany federally recognized Tribal Members for educational purposes. Gathering of plants or plant parts by non-Tribal members is prohibited except for those plants and quantities listed in the Superintendent's Compendium.
- The Tribe may identify their method for identifying authorized gatherers. The Tribe may choose to list the title, or a description of the positions authorized to harvest under the agreement and subsequent permit. Superintendents may issue the permit in the name of the Tribal leader who retains discretion to authorize individual enrolled Tribal members, societies, and clans to collect plants and plant parts within the park. The NPS and the Tribe may decide an oral communication process is best to meet Tribal privacy concerns while relaying appropriate information under the agreement.
- Vehicle travel is permitted only on open public roads. Vehicles must park only in designated parking areas, including pullouts. Collecting locations are to be accessed by foot. Use of stock is also permitted when in accordance with current Yosemite National Park policy and regulations.
- Group size is limited to a maximum of 8 people in Wilderness when travelling off trail more than ¼ mile from established trails or roads and up to 35 people for day use travel on established trails to reduce impacts to vegetation, soils, and cultural resources. When off trail, groups will disperse to

reduce impacts to vegetation, wildlife habitat, or soils. Any group exceeding size limitations must split into subgroups and comply with the above size limitations. Subgroups must begin at different trail heads or on separate days, and the subgroups must always travel and camp at least ¼ mile apart.

### 2.2.2 Temporary Closures

The Yosemite National Park superintendent retains the authority to close certain areas of the park to collection, restrict collection of specific species, or reduce authorized collection amounts if unforeseen circumstances arise that could impact resources, park management objectives, or the safety of Traditionally Associated Tribal members (e.g. natural disaster, fire, or drought).

Per the Plant Gathering Rule, "….the Superintendent may close park areas, or portions thereof, to the traditional gathering and removal of plants or plant products for any of the following reasons: (i) Maintenance of public health and safety; (ii) Protection of environmental or scenic values; (iii) Protection of natural or cultural resources; (iv) Aid to scientific research; (v) Implementation of management plans; or (vi) Avoidance of conflict among visitor use activities."

Additionally, "Closed areas may not be reopened to traditional gathering and removal until the reasons for the closure have been resolved," and "…Except in emergency situations, the Superintendent will provide public notice of any closure under this section in accordance with § 1.7. The Superintendent will also provide written notice of the closure directly to any Tribe that has an agreement to gather and remove plants or plant parts from the closed area.

## 2.3 Alternatives considered but dismissed

### 2.3.1 Tribal Alternative:

Under the Tribal Alternative proposed by the Traditionally Associated Tribes, the seven Tribes traditionally associated with Yosemite National Park would gather plants and plant parts from approved species within both Yosemite National Park and Devils Postpile National Monument for traditional purposes. However, as previously discussed, non-federally recognized Tribes cannot be included in a plant gathering agreement under the framework of the Plant Gathering Rule. Additionally, the Tribes traditionally associated with Devils Postpile National Monument differ from those traditionally associated with Yosemite. Therefore, it would be more appropriate to develop separate agreements for each site. For these reasons, the Tribal Alternative was considered but ultimately dismissed. Alternative B represents a modified version of the Tribal Alternative.

# CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

## 3.1 Introduction and Definitions

This chapter summarizes the natural and cultural resources which could be affected by the alternatives and analyzes the impacts (or "environmental consequences") of each alternative. The affected environment description is followed by the environmental consequences analysis for each impact topic. The impact topics analyzed in this chapter correspond to the impact topics retained for analysis, as described in Chapter 1.

**Affected Environment:** The affected environment describes existing conditions for those elements of the natural and cultural environment (including human health and safety and the visitor experience) which could be affected by the actions proposed in the alternatives. These descriptions serve as a baseline for understanding the resources that could be impacted by implementation of the proposed action.

**Impacts/Environmental Consequences:** According to NEPA Section 102, agencies must consider the "reasonably foreseeable environmental effects of the proposed agency action [§ 4332(2)(C)(i)]." Effects or impacts mean "changes to the human environment from the proposed action or action alternatives that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or action alternatives (United States Department of the Interior 2025)."

Neither of the alternatives analyzed in this EA would violate any federal, state, Tribal, or local laws that protect the environment.

The methods used to assess impacts vary depending on the resource considered but generally are based on a review of pertinent literature and park studies, the information provided by Tribal members, on-site experts, and other agencies, professional judgment, and park staff knowledge and insight. Impact discussions must link the available information used with the conclusions of the analysis.

### 3.1.1 Past, Present, Reasonably Foreseeable Planned Actions and Trends

In assessing potential impacts of each alternative, the following past, present, and reasonably foreseeable planned actions and trends have also been considered:

**Past, Present, and Future Actions:**

- Invasive Species Control
    - Yosemite has actively controlled invasive plant populations since the 1930s. In 2008, Yosemite National Park created the Invasive Plant Management Plan (2008 IPMP) to provide a comprehensive, prioritized program of invasive plant prevention, early detection, control, systematic monitoring, and research. This plan was updated in 2010, outlining a protocol for adaptive management techniques that provides greater flexibility to respond to present and future threats to park resources from non-native invasive species. As new herbicides are developed, tested, and approved for use in the western states, adaptive management allows the park to select more effective herbicides that have fewer undesirable effects. Working cooperatively with university researchers, the park continues to apply, test and monitor the various approved invasive plant treatments, to find the most efficient, effective, and safest tools to protect Yosemite's biodiversity.

- Native Plant and Ecosystem Restoration: Yosemite National Park has undertaken numerous ecological restoration projects. Several of these ongoing projects are highlighted in this EA. For a more complete list, visit https://www.nps.gov/yose/learn/nature/ecorestoration.htm
    - Merced River Plan: The Merced River Plan protects the Merced River's free-flowing condition, water quality, and the unique values that has made the celebrated river worthy of special protection under the Wild and Scenic Rivers Act (WSRA). Proposed actions in this plan include:
        - Restore 189 acres of meadow and riparian habitat.
        - Increase the campsite inventory in all river segments.
        - Increase available lodging units.
        - Increase parking for Yosemite Valley day use visitors.
        - Make significant changes to the traffic circulation pattern in Yosemite Valley to meet ecological restoration goals while reducing traffic congestion.
        - Establish a user capacity of 18,710 people at one time for Yosemite Valley, with peak visitation estimated at 20,100 visitors per day.
        - Manage user capacity for East Yosemite Valley by rerouting traffic at the El Capitan Traffic Diversion prior to reaching established limits.
        - Document the conditions of Outstanding Remarkable Values (ORVs), water quality, and free-flowing condition.
        - Protect and enhance the scenic ORV.
    - Tuolumne River Plan: The Final Tuolumne River Plan is the guiding document for protecting and enhancing river values and managing use and user capacity within the Tuolumne River corridor in Yosemite. The actions in this plan seek to balance the traditional Tuolumne experience with the need to reduce the impacts of development. They preserve and sustain wilderness character, including natural ecosystem function and opportunities for primitive, unconfined recreation, in the more than 90 percent of the river corridor that is congressionally designated Wilderness.
    - Revegetation Program: the revegetation program re-establishes native vegetation in sites disturbed by construction and ecological restoration projects. Activities include seed and cutting collection that are used directly for re-seeding, for plant propagation, or for seed production fields used to increase seed availability for large project needs.
    - Ackerson Meadow Restoration (2023-2025): Within this 230-acre meadow restoration, 90 acres of rare wetland habitat have been lost, and 100 additional acres are at risk, from a century-old erosion gully that has eroded more than 150,000 cubic yards of rich meadow soil. The erosion gully rapidly drained water from the meadow, dries soils, causes loss of water-loving plants and animals, and impacts endangered species. This project has restored and protected these wetlands by filling the erosion gully, and planting more than 425,000 native wetland plants and 700 pounds of native seeds by spring 2025.
- Removal of plants to manage the trail system: Trail operation and maintenance activities are necessary to ensure visitor safety and enjoyment in the park, and to promote resource protection by encouraging trail use. Regular trail maintenance activities include removing fallen trees from trail corridors; creating barriers to discourage trail shortcutting, trail widening, and use of social trails; cutting back brush and small trees that encroach on or block the trail; and removing trees that interfere with the trail corridor.

- Wilderness Restoration Activities: The wilderness restoration program works to restore natural conditions to Yosemite Wilderness. The park wilderness montane, subalpine, and alpine ecosystems are experiencing vegetation loss, soil erosion and compaction, habitat fragmentation, and hydrological changes due to visitor and administrative use. This program focuses on ecologically restoring inappropriately located campsites and reducing and maintaining appropriate campsites; restoring social, abandoned, and parallel trails; rerouting trails outside of sensitive habitats; restoring habitat for wildlife; and removing non-native invasive plants.
- Vegetation Management to Reduce the Likelihood of Catastrophic Wildfire
    - Biomass Removal Projects: These projects are ongoing in the park and focused on removing mostly dead and down logs and branches to create fuel breaks along road corridors. This creates safe places for fire fighters to conduct prescribed fire or hold wildfire. Current fuel loading along road corridors are 50 to 500 tons per acre and an average of 125 tons/acre, with 10-15 tons being the "normal range". All trees removed will be fewer than 20 inches in diameter. These smaller diameter trees are "ladder fuels" that push fire into the canopy and can push fire into the tops of trees and promote "crown fires." Without intervention, the intense fuel loading and dense ladder fuels makes it impossible for fire fighters to restore fire as a natural process.
    - Scenic Vista Management Projects: The scenic vista program documents, protects, and reestablishes Yosemite's important viewpoints and vistas, consistent with the natural processes and human influences that created them. The Finding of No Significant Impact for the Scenic Vista Management Plan EA was completed and signed in July of 2011 for sites outside of the Wild and Scenic River corridors. No more than 93 vista sites throughout the park will be initially managed, and an additional 21 sites monitored and maintained. To date, a total of 32 sites have been initially managed.
    - Conifer Removal in Tuolumne Meadows: Spring runoff historically flooded Tuolumne Meadows to an extent that prevented the establishment of lodgepole seedlings along meadow margins. Floodwaters saturate the pore space in soil, denying sufficient oxygen to the roots of the pines, and increasing the likelihood of root rot and seedling mortality. Construction of Tioga Road has altered the drainage patterns by diverting, channelizing, and restricting portions of the meadow from inundation. Ongoing small conifer removal (tree trunks up to 12 inches in diameter) will restore the size and function of the meadow ecosystem as well as restore scenic vistas.
    - Fire Management and Forest Restoration: The lower-elevation forests of Yosemite evolved with frequent, generally low- to moderate-severity fires lit by lightning or American Indians. This process kept fuels and vegetation low, maintaining and enhancing a landscape of park-like forests, broad meadows, and open oak woodlands. Starting in the mid-19$^{th}$ century, European colonizers enforced a policy of fire suppression. Without fire, conifers grew into the maintained meadows and oak groves, and forests grew increasingly dense. In the 1970s, park managers began to recognize the integral role of fire in the management and overall health of the park's ecosystems and initiated a prescribed fire and managed wildfire program. Today, Yosemite's fire management program balances the protection of life, property, and other important resources with the restoration of fire as a natural process and the inclusion of TEK.

- NPS Forestry Hazard Tree Program: Diseases, insects, soil moisture, wind, fire, and snow combine with human activities to create tree hazards, especially in natural areas like Yosemite. The National Park Service defines tree hazard as any tree, either alive or dead, which due to outwardly visible defects could fall (in part or entirety) and strike a person or property within any designated portion of a development zone. Forestry workers in Yosemite balance protecting people and property with conserving unimpaired the natural and cultural resources of the park. Crews accomplish this through regularly scheduled surveillance and special surveys after severe storms, fires, or other disturbances. At that time, trees requiring hazard abatement are identified. Crews then post warnings or site closures or proceed with hazard mitigation by pruning or removing a tree. Tree debris is left on the ground in places where practicable, but often must be removed.
- PG&E Operations: PG&E owns and operates electrical service throughout the park. PG&E utility operations and maintenance (O&M) work occurs throughout the park on a regularly scheduled basis in accordance with operational or regulatory guidelines. The Utility O&M activities consist of routine patrols and physical inspections; maintenance, repair, or replacement of facilities and associated equipment; maintenance or repair of facility access routes; and facility-related vegetation maintenance. Where physical inspections identify the need for facility-related maintenance, repairs, or equipment replacements, these activities are then scheduled and performed by field crews using a variety of hand tools, mechanical tools, and other specialized equipment and vehicles. PG&E will also conduct emergency repairs and/or vegetation maintenance when there is an imminent threat.

- Plant Gathering According to the Superintendent's Compendium: See discussion of the Superintendent's Compendium in Chapter 1.
- Black oak restoration: For generations, American Indians have planted and tended California black oaks in Yosemite Valley. Active stewardship, which included planting acorns and careful burning, helped reduce pests, promote seedling growth, and keep the trees healthy. Black oaks hold significant ecological and cultural value, and their acorns provide nutritious food for people and wildlife. The Traditionally Associated Tribes are working with the National Park Service to bring their knowledge and techniques back to the oak woodlands. Black oak restoration work includes gathering and planting acorns, pruning tree limbs, and reducing potential fire fuel, and using traditional techniques whenever possible.
- Restoring fire in black oak groves: The black oak groves of Yosemite Valley require low-intensity fire to produce high-quality acorns and seedling growth. Traditionally, American Indian Tribes would facilitate this process with semi-annual burns that encouraged the renewal of favorable understory species, decreased the number of competing conifers, reduced pests, and promoted spiritual, ceremonial, and nutritional health and well-being (Long et al. 2016, 27-28). In the absence of these traditional practices and fire, the health of local groves has declined (Long et al. 2016). Actions to restore fire in black oak groves include fuel reduction, restoration of Tribal stewardship in two oak groves in Yosemite Valley and prescribed cultural burning.
- Yosemite Indian Cultural Program: Visitor interest in the stories of the Traditionally Associated Tribes of Yosemite has grown in recent years. The Yosemite Indian Cultural Program (ICP) is an initiative within the park focused on preserving and sharing the cultural heritage of the Tribes that were in

the area — and are still here — long before the establishment of the national park. The ICP is developing a guest demonstrator program so that local California Tribes can share their own stories.

**Trends:**

- Black oak trends/recruitment: In the black oak tree populations studied in Yosemite Valley—regardless of elevation, soil type, vegetation community, and distance from roads and trails—the expected healthy tree population structure was not found. The populations were mostly mature adult trees with a fair number of seedlings but few saplings or young adults (Kuhn and Johnson 2008). There could be several interrelated reasons for the lack of regeneration, including fire suppression, absence of Tribal tending and stewardship, hydrological changes, and increased deer browsing (Long et al. 2016, 36). Climate change effects, including an increase in periods of drought and severe wildfires, may benefit black oaks more than the less drought-tolerant conifers (Kershner 2014), but may also impact black oak recruitment (Merriam 2013) and threaten large, mature oaks in favor of young sprouts (Long et al. 2016, 36-37). Because black oaks are vital for wildlife, human, and ecosystem health, many Tribal members and researchers are working to understand and promote black oak health throughout their range.
- Re-incorporation of cultural burning: For millennia, American Indian people in Yosemite cultivated a relationship between fire and the land to provide food, medicine, and materials, and in doing so, created a landscape that was biologically diverse and resilient to climatic fluxes (Deur and Bloom 2021 and 2024). Many ecosystems in the Yosemite area are therefore not solely naturally-adapted landscapes that have persisted without human intervention (Anderson 1996). Returning cultural fires to Yosemite is an effective strategy to create a more resilient and biologically diverse landscape in the face of climate change (Kimmerer and Lake 2001). In collaboration with Traditionally Associated Tribes, the park has conducted cultural burns in the past (Kinoshita 2008). The park plans to strengthen and grow a cultural burning program to enhance culturally important plant communities, reduce fuels, and protect sensitive resources. For cultural burning to succeed, it is imperative to reduce the fuel loading and recreate the conditions where fire can be used without fear of escape, negative smoke impacts, or injury.

## 3.2 Ethnographic Resources

### 3.2.1 Affected Environment

Ethnographic resources are defined by the NPS as "objects and places, including sites, structures, landscapes, and natural resources, with traditional cultural meaning and value to associated peoples" (NPS 2006). The continued access to plant materials as ethnographic resources is the central focus of this EA. The only plants that currently can be explicitly collected are those described within the Superintendent's Compendium.

Tribes rely on access to plant communities within diverse ecological habitats to maintain ceremonies, create traditional objects such as baskets, and provide food and medicine (Long et al. 2014, 176). Furthermore, plant gathering has always been a critical part in community building, continued knowledge transmission throughout generations, and intertribal connection and trade (Deur and Bloom 2021). The importance of traditional plant gathering has persisted and adapted through changing land management actions, policy and superintendent direction, changing environmental conditions, introduction of non-native species, Tribal access to the park, and a steady increase in park visitation (Figure 1).

Since European settlers arrived in the Yosemite area, Yosemite ethnographic resources have been impacted (Figure 2). This has included:

- Ecological changes because of fire suppression.
- Diminished wetlands, riparian areas, and seasonally flooded meadows because of development in wetlands and terrain manipulation to prevent flooding.
- Decline in culturally preferred species and introduction of invasive species because of grazing.
- Impacts to traditional gathering areas because of ever-growing visitation.
- The loss of important plant growth forms needed in cultural activities or creations.

These ongoing impacts contribute to a trend of reduced quantity and quality of culturally important plants, as well as impair the "cultural, dietary, social, and economic practices" associated with traditional gathering (Deur and Bloom 2021, 306). For example, plants used for basketry are in decline as are the qualities that make them useful (Anderson 1997; Shebitz 2005; Pfeiffer and Ortiz 2007; Lepofsky 2009; Fowler and Lepofsky 2011). Today, although impacted, culturally important plant communities persist throughout Yosemite and remain culturally important ethnographic resources for Traditionally Associated Tribes. Increasingly, the NPS and the public have recognized the value of Traditional Ecological Knowledge and its importance for continued management of park resources (Deur and Bloom 2021).

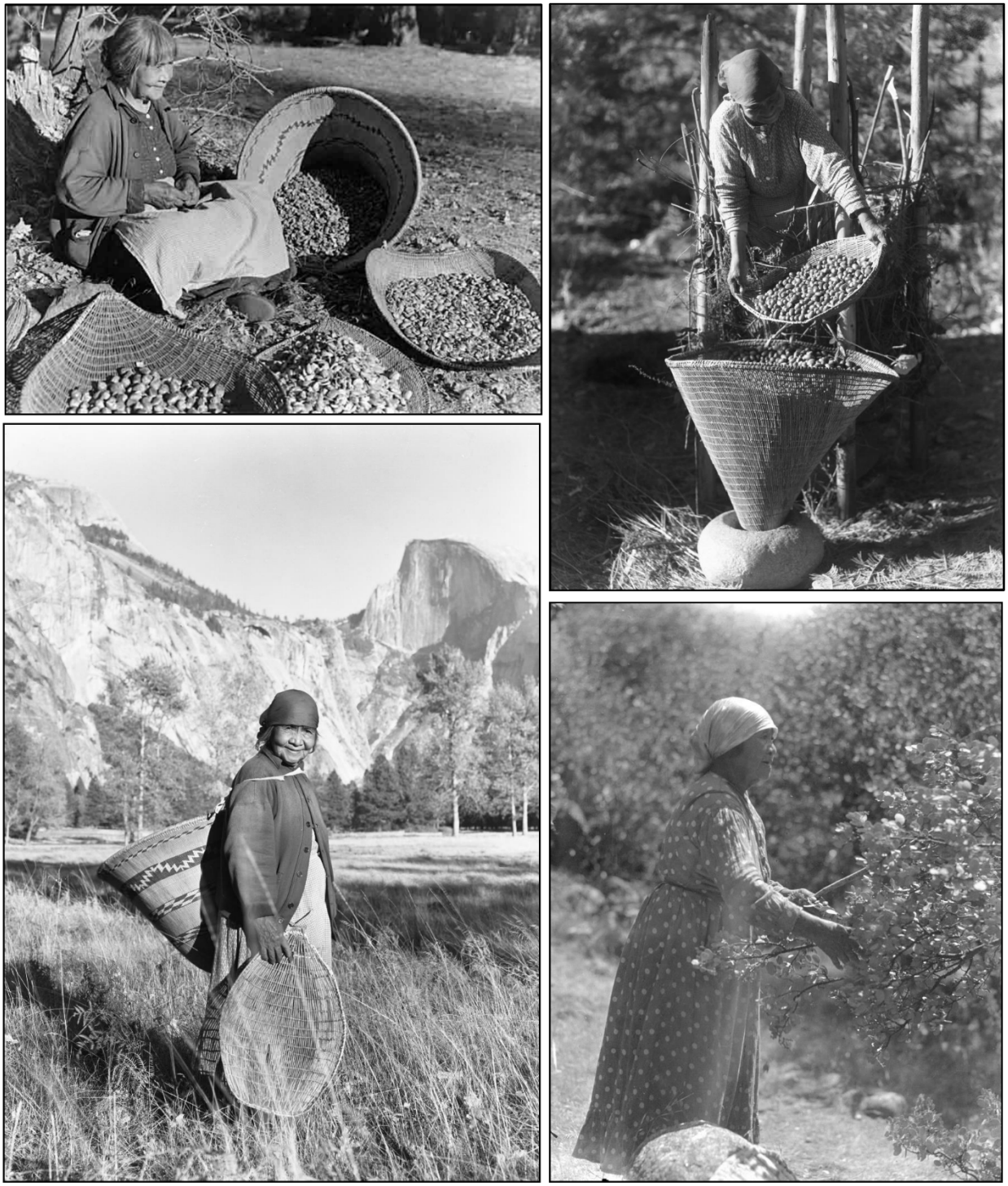

**Figure 1.** ***Ta-bu-ce, also known as Maggie Howard (1870-1947), preparing acorns, filling a chucka (granary) with acorns, gathering acorns and grass seeds in Ahwahnee Meadow, and picking manzanita berries 1931-1936. Ta-bu-ce, a Kootzaduka'a woman born at Mono Lake, was one of the first American Indian women to do cultural demonstrations at Yosemite Museum. She worked at the museum from 1929 - 1942 demonstrating acorn preparation and basket weaving.***

**Figure 2.** ***View of Yosemite Valley from Glacier Point in 1866 (top) and 2019 (bottom). These photographs demonstrate the replacement of many oak woodland areas with dense conifer forest areas in the last 150 years. Top Credit: Photographer: Carleton Watkins; Yosemite NP Archives. Bottom Credit: NPS Photo / Ted Barone 2019.***

## 3.2.2 Environmental Consequences

### 3.2.2.1 Alternative A: No Action

**Figure 3.** ***Judges scoring American Indian baskets at Indian Field Day in 1925*.**

The no action alternative would continue to preclude the Traditionally Associated Tribes from gathering plants for traditional purposes at Yosemite National Park. Gathering plants is a key component of the cultural identity of the Traditionally Associated Tribes. Since Yosemite became a national park, the NPS has exerted influence on traditional gathering practices within the park, such as NPS policies and the discretion of superintendents either supporting the gathering and use of plants that have interpretive and economic value (Figure 3), or prohibiting plant gathering altogether (Bloom and Deur 2020, 158-163). Although some Tribal members have continued gathering certain traditionally utilized plant species since the establishment of the park, the gathering of species was not legalized. Under this alternative, the lack of legal means of plant gathering will likely deter many Tribal members from engaging in this practice. Alternatively, Tribal members may continue their ancestral gathering traditions, though with concerns about potential law enforcement actions. This alternative would therefore result in long-term, adverse, direct impacts to ethnographic resources, and indirect effects to cultural knowledge generation and transmission. Impacts to ethnographic resources under the no action alternative would span generations and would persist as long as the Traditionally Associated Tribes are not permitted to gather plants for traditional use.

**Reasonably foreseeable Impacts**

Impacts to ethnographic resources under the no action alternative, when combined with past, present, and reasonably foreseeable future actions and trends would remain adverse, compounding through Tribal Nations across time.

### 3.2.2.2 Alternative B: Plant Gathering for Traditional Purposes

Alternative B would provide a mechanism for the federally recognized Tribes to gather plants for traditional purposes and exercise traditional practices that connect them to ethnographic resources on their ancestral lands. The action alternative would result in direct, beneficial impacts to ethnographic resources. This alternative would also allow for indirect beneficial effects, which may include increased health and wellness of Tribal members due to increased interactions and physical activity with nature (Maller et al. 2006), and by ensuring cultural continuance and nutritional food availability (Long et al. 2016). For many American

Indian people, a reciprocal relationship exists between the caretaking of their ancestral homelands and the support their land provides (Long et al. 2003).

Plants and plant gathering continue to play an essential role in Traditionally Associated Tribal communities maintaining living cultural traditions. Tribal members consider these plants to possess the powers or attributes of their locations; and the qualities that imbue such plants make them particularly desirable for ritual and medicinal purposes (Bloom and Deur 2020, 155). As a result, plants that grow in proximity to sites of elevated cultural importance, such as the waterfalls or geographic features figuring prominently in oral traditions, are particularly sought-after. Similarly, many Tribal members identify their favorite gathering areas as those located near ancestral residences in Yosemite Valley. They cite the importance of gathering in areas once used by relatives and more distant ancestors (Deur and Bloom 2021). For these reasons, similar plants outside of park boundaries may not hold the same significance as plant communities within Yosemite's ancestral homelands.

**Reasonably Foreseeable Impacts**

The plants listed in the Traditional Plant Gathering List contain species identified by Tribal representatives to be collected throughout Yosemite National Park in whole or in part with general harvesting guidelines for the different plant life forms. Appendix A is meant to be an adaptive document to allow for scientific name changes as Western knowledges, Indigenous knowledges, and ways of knowing adapt and expand. Section 2.2.1 of Alternative B provides the framework for which to analyze adding or removing plant taxa from the gathering list to ensure impacts do not change in substance or severity. Changes to the list will be approved through a separate compliance process. Impacts on ethnographic resources under the action alternative, when combined with past, present, and reasonably foreseeable future actions and trends would remain beneficial.

# 3.3 Ethnographic Cultural Landscapes

## 3.3.1 Affected Environment

A cultural landscape is "a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person, or exhibiting other cultural or aesthetic values (NPS 2025)." Ethnographic landscapes are a type of cultural landscape and can include large geographic areas that are associated with contemporary groups whose continued use and connection to the land follows long-established cultural practices. It has been well-documented (Anderson 1988, 1990, 1993a, 1993b, 1996, Deur and Bloom 2021, Lewis 1973) and expressed through oral traditions, that Tribes in the Yosemite area have a cultural tradition of using plant management techniques, including fire, pruning, clearing underbrush, weeding, tilling, selective harvesting, scattering seeds, smoking, and "knocking" dead wood out of trees to increase the quality, quantity, and health of culturally significant plants. While only plant gathering actions are proposed in Alternative B, plant gathering is one piece of the integrated holistic range of landscape management techniques that have been practiced by Tribes in Yosemite for time immemorial. These actions occurred consistently and regularly through time (Figure 4). The results of these actions may seem subtle but are observable ancestral connections that have had permanent effects to plant associations, species composition, and genetic structures (Anderson 1996, 194; Deur and Bloom 2021). As described by Tribal members, the landscapes within Yosemite National Park are therefore "a fully humanized landscape- cultivated and under constant care- manifesting the long-held knowledge and the

deepest cultural values of resident peoples, clearly inscribed upon the landscape (Deur and Bloom 2021, 309)."

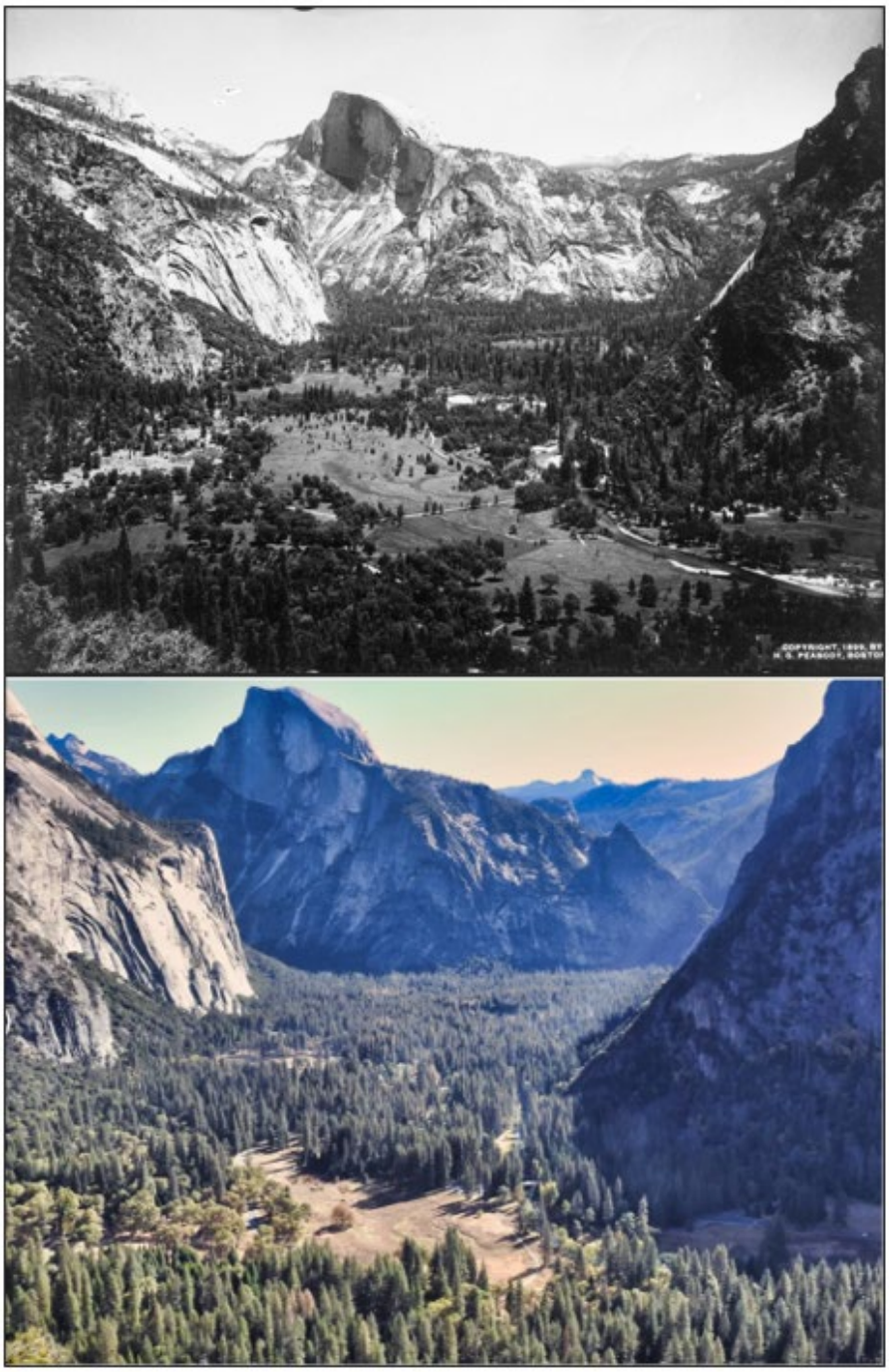

**Figure 4** ***View east from Columbia Rock on the Yosemite Falls Trail in 1899 (top) and 2019 (bottom). These photographs demonstrate the vegetation change in Yosemite Valley in the last 120 years. Top Credit: Photographer: Henry G. Peabody. Yosemite NP Archives. Bottom Credit: NPS Photo / Ted Barone 2019***

Removing American Indians from their ancestral homelands and elimination of traditional landscape management practices has adversely impacted both Tribal communities and the ethnographic cultural landscapes in the park. Reincorporation of some traditional management, such as black oak tending and cultural burning, has begun to improve the condition of ethnographic cultural landscapes, especially in Yosemite Valley. However, "the continuing decline in quantity and quality of keystone plant habitats and species [such as black oaks] indicates that more work lies ahead. Multidisciplinary research, cross- cultural dialogue, and management actions will be required if the anthropogenic landscapes of Yosemite Valley, and the people who long sustained them, will continue to thrive into the foreseeable future (Deur and Bloom 2021, 310)."

### 3.3.2 Environmental Consequences

#### 3.3.2.1 Alternative A: No Action

Similar to ethnographic resources, the no action alternative would result in long-term, adverse, direct impacts to ethnographic cultural landscapes. Under alternative A, the historically managed cultural landscapes within Yosemite National Park will continue to suffer because of displacement of American Indians as well as from a decline in traditional landscape maintenance techniques, including plant gathering, burning, pruning, selective harvesting, tending, etc. (Anderson 1999; Kimmerer and Lake 2001). While the NPS is beginning to incorporate TEK into landscape management, without legal tribal plant gathering access, a critical part of the relationship between people and ethnographic landscapes is missing (Bloom and Deur 2020, 158). Historical references demonstrate that traditional management techniques are inextricably connected to traditional gathering, and while only plant gathering actions are proposed in Alternative B, plant gathering is one piece of the integrated holistic range of landscape management techniques. Tribal consultants therefore indicate that it will not be effective to implement tribal management techniques alone, without restoring traditional gathering traditions (Bloom and Deur 2020: 158, NPS 2016a, b). Limiting access of traditional gathering perpetrates the erasure of American Indian culture and Indigenous Knowledge and can have societal and ecological consequences (Diekmann et al. 2007). For example, cultural landscapes in Yosemite, once fundamentally structured by traditional land management techniques are now recognized as a landscape at risk of extreme fire and decreased ecosystem resilience.

**Reasonably Foreseeable Impacts**

Impacts to ethnographic cultural landscape resources under the no action alternative, when combined with past, present, and reasonably foreseeable future actions and trends would remain adverse, compounding through Tribal Nations across time.

#### 3.3.2.2 Alternative B: Plant Gathering for Traditional Purposes

Alternative B would result in direct, beneficial impacts to ethnographic cultural landscape resources. Beneficial impacts to ethnographic cultural landscape resources from Alternative B primarily include application of traditional knowledge to reinvigorate long-term landscape stewardship through plant gathering and reestablishing connection between federally recognized Tribal members and landscapes within the park boundaries (Figure 5). When asked, Tribal members consistently report that gathered plant species regularly grow in greater quantity and quality when regularly used (Bloom and Deur 2020). Because of harvesting techniques, including selective harvesting in a manner that facilitates future plant growth, traditional gathering is likely to symbiotically increase the health of ethnographic cultural landscapes and

Tribal communities and endangered native languages. Promoting native plants growth for basketry and traditional purposes encourages a biodiverse landscape, enabling cultural transmission to occur (Shebitz 2005).

**Figure 5.** ***Photographs of a black oak grove before and after Tribal stewardship May 2021 and June 2022.***

Tribal members have noted that Alternative B would allow for the continuation of cultural practices within the park, restoring Tribal dignity and connection to the land. A plant gathering agreement would increase the recognition of Tribal sovereignty and legitimization of cultural uses and practices associated with ethnographic cultural landscapes. This would continue to strengthen the trust and co-stewardship relationships among the federally recognized Tribes and the NPS, allowing for communication and pursuit of shared goals.

Because Alternative B does not include non-federally recognized tribes, these communities will continue to be negatively impacted due to restricted access to traditional gathering practices. This limitation hinders their ability to engage in cultural and resource management activities, leading to ongoing adverse effects on their cultural heritage and well-being.

**Reasonably Foreseeable Impacts**

Impacts to ethnographic cultural landscapes under the action alternative, when combined with past, present, and reasonably foreseeable future actions and trends would remain beneficial. Traditional gathering may identify co-stewardship needs and lead to other projects that reincorporate traditional landscape management techniques, such as the restoration of cultural burning set by American Indians. This would be beneficial to the health of the ethnographic cultural landscapes and Tribal Nations.

# 3.4 Special Status Plant Species

## 3.4.1 Affected Environment

The condition of special status plants (SSPs) in Yosemite National Park varies by taxa. Park staff maintain a geodatabase for known occurrences of SSPs. The condition of federal and state listed taxa are of highest concern. NPS Management Policies 2006 outlines the broad framework, provides direction, and sets limits for making management decisions regarding SSPs. Section 4.4.2.3 Management of Threatened or Endangered Plants and Animals provides guidance on special status plant surveys.

Following policy, park staff maintains a SSP list composed of 161 taxa. The species are binned into 14 categories according to their standard rationales for inclusion. Taxa may fall into multiple priority categories but are referred to below by their first occurring priority, also known as their effective priority. There are 14 effective priority categories.

SSP Priority Categories and their Rationale for Inclusion

1. *Federally listed as Threatened or Endangered*
2. *California Rare or Endangered*
3. *Forest Service Sensitive*
4. *California Native Plant Society List 1B*
5. *California Native Plant Society List 2*
6. *US Fish and Wildlife Service Species of Concern or Species of Local Concern*
7. *California Native Plant Society List 3*
8. *California Native Plant Society List 4*
9. *Limited Distribution in Yosemite National Park and California*
10. *Sierra Nevada Endemic*
11. *Limited distribution in California/common in Yosemite National Park*

12. *Forest Service Watch List*
13. *Wide distribution in California/limited distribution in Yosemite National Park*
14. *Widespread but uncommon/poorly documented in California/common in YNP*

Priority categories 1-8 include taxa federally listed as threatened or endangered, California (CA) Rare, CA Threatened, or CA Endangered, Forest Service Sensitive, California Native Plant Society (CNPS) List 1B, CNPS List 2, Federal Species of Concern or Species of Local Concern, CNPS List 3, and CNPS List 4. CNPS is a non-governmental organization widely accepted as the standard source of information on the rarity and endangerment status within the California flora. These categories are considered the rarest across all categories. Yosemite National Park's SSP list categories 1-8, listed by effective priority, includes, 1 federally threatened species, 4 state-listed taxa, 13 Forest Service Sensitive taxa, and 68 species listed by the California Native Plant Society (CNPS).

Priority categories 9-14 include limited distribution in Yosemite NP and CA, Sierra Nevada endemic, limited distribution in CA but common in the park, Forest Service Watch List species, wide distribution in CA but limited distribution in the park, and widespread but uncommon/poorly documented in CA and common in the park. These categories are related to distribution and are referred to as "park sensitive." Yosemite's SSP list categories 9-14, listed by effective priority, includes 29 limited distributions in the park and CA taxa, six Sierra Nevada endemic taxa, three of limited distribution in CA and common in the park taxa, one Forest Service Watch list taxon, 49 wide distribution in CA and limited distribution in the park taxa, and four widespread but uncommon or poorly documented in CA and common in the park taxa.

Whitebark pine (*Pinus albicaulis*), is the only federally listed plant species in the park. This tree is listed as threatened under the Endangered Species Act (ESA) and occurs in Yosemite National Park near the upper tree limit of the subalpine zone. Threats to whitebark pine include altered fire regimes, white pine blister rust, mountain pine beetle, and climate change (U.S. Fish and Wildlife Service 2021). Whitebark pine is not currently collected for plant gathering activities.

## 3.4.2 Environmental Consequences

### 3.4.2.1 Alternative A: No Action

The no action alternative would result in limited gathering of fruits, nuts, and berries by the Traditionally Associated Tribes and the public for personal use or consumption, as described in the Superintendent's Compendium.

Under this alternative, no taxa on the park SSP list would be authorized for collection without further analysis through the Park's standard compliance process. Through the standard process, projects are reviewed by vegetation subject matter experts (SMEs) for potential impacts to SSPs. Vegetation SMEs evaluate the need for SSP surveys prior to the commencement of activities that may modify vegetation, such as clearing, mowing, or ground-breaking activities. SMEs may deem it appropriate to conduct SSP surveys when:

- Natural (or naturalized) vegetation occurs in an area that may be directly or indirectly affected by a project (project area), and it is unknown whether or not special status plants or sensitive natural communities occur in the project area;

- Special status plants or sensitive natural communities have historically been identified in a project area; or
- Special status plants or sensitive natural communities occur in areas with similar physical and biological properties as a project area.

If SMEs determine unacceptable potential exists for negative impacts to SSPs, specific mitigations may be prescribed. Reviews take into consideration project actions, location, timing, SSP priority categories, and taxon-specific characteristics and requirements. For each taxon, survey priority level, flowering season, elevation, known distribution, and access issues are considered in planning survey strategy and timing. In addition to potentially requiring SSP surveys, mitigations may require, but are not limited to, onsite vegetation monitors, alternative project implementation timing, altered project design, seed collection, and/or plant salvage.

**Reasonably foreseeable Impacts**

The no action alternative, when combined with past, present, and reasonably foreseeable future actions, would not detract from the generally good condition of special status plant species.

#### 3.4.2.2 Alternative B: Plant Gathering for Traditional Purposes

Alternative B would result in increased gathering of vegetation, fruits, nuts, and berries by federally recognized Tribes.

Under Alternative B, the federally protected white bark pine would continue to not be collected for plant gathering and impacts from general plant gathering in whitebark pine habitat are not anticipated. Although threatened and endangered plant species are not proposed for gathering, the absence of traditional plant resource management could be a cause of some native plant species declines (Anderson 1996). In Yosemite, rare plant species were newly observed following prescribed fire (Anderson 1988).

Alternative B would have no direct effect on species in Yosemite's SSP list in priority categories 1-8, since these species are not included in the traditional plant gathering list. A Tribal proposal to gather species in SSP priority categories 1-8 would require additional species-specific analysis of plant parts and quantities to be collected, location, life history characteristics, and rarity of the species.

Five species on Yosemite's SSP list in priority categories 9-14, also known as "park sensitive," are on the traditional plant gathering list: *Asarum lemmonii*, *Lepechinia calycina*, *Salix boothii*, *Sequoiadendron giganteum*, and *Staphylea bolanderi*. Under Alternative B, these five taxa on the Yosemite SPP list would be authorized for collection, following limits and conditions listed in "2.2.1 Stipulations and Mitigations." These limits and conditions have been evaluated by an interdisciplinary team of specialists, in coordination with the Traditionally Associated Tribes, and have been determined to be sustainable. Although there would be minor, short-term, direct adverse impacts to individual plants, the sustainable use of plants and plant parts would not cause long-term adverse effects to populations.

*Asarum lemmonii* is on Yosemite's SSP list due to being a Sierra Nevada endemic. *Lepechinia calycina* and *Salix boothii* are included due to their limited distribution in Yosemite, although they have wide distributions in California. *Sequoiadendron giganteum* and *Staphylea bolanderi* are included due to their limited distribution both in Yosemite and California.

One taxon with potential for misidentification is in the *Carex* genus. The full *Carex* genus (*Carex* spp., 76 taxa) is listed on the traditional plant gathering list. Sixteen *Carex* taxa are on the SSP list, including nine in priority categories 1-8 (none of which are on the plant gathering list). To mitigate misidentification and unintentional gathering of SSP taxa, an analysis was performed to assess the potential for adverse impacts on similar-looking species. Park vegetation staff concluded that all *Carex* taxa assigned a priority ranking of 1 to 8 require mitigation measures to prevent inadvertent collection. To determine suitable avoidance strategies, identification characteristics and habitats for these nine taxa were analyzed.

- Vegetation staff determined that a simple guideline, when combined with habitat-specific notes, can help prevent the unintentional collection of nine priority category 1–8 SSP *Carex* taxa. Of the nine priority *Carex* taxa listed on the traditional plant gathering list, eight have leaf blade width ranges less than 4 mm. The recommended guideline is to limit the collection of *Carex* plants to those with leaf widths greater than 4 mm. This approach allows gatherers to collect most desired *Carex* species while minimizing the risk of inadvertently harvesting priority SSP taxa.
- The details of gathering mitigation measures are provided in "2.2.1 Stipulations and Mitigations" and Appendix A. For *Carex*, a minimum of 50 individuals must be present in the observable population before gathering and less than 20% of plants may be gathered from any one population. Even with the implementation of this guidance, there are always potential impacts from unintentional collections, however the likelihood of adverse impacts is minimal. The intensity of any inadvertent collections will be limited by 1) easy-to-follow guidance on target plant and habitat characteristics and 2) collection constraints relative to population size.

Other taxa with potential for misidentification due to their resemblance to similar-looking SSPs are also highlighted in the gathering list table. These "watch-out" notes are designed to help gatherers avoid impacting SSPs that are at a higher risk of unintentional collection.

**Reasonably Foreseeable Impacts**

The action alternative, when combined with past, present, and reasonably foreseeable future actions and trends, would not be likely to adversely impact Yosemite SSPs. Collection of misidentified plants could adversely affect SSPs, however the mitigations proposed under the action alternative would minimize potential for these effects.

# 3.5 Vegetation (Non-Special Status Species)

## 3.5.1 Affected Environment

Yosemite National Park boundaries are within several ecological transition zones, resulting in vegetative diversity many times greater than most areas of similar size. The park has over 1,683 species of vascular plants that have been identified in the park (NPS, n.d.), including 1,506 native plant species and 177 non-native plant species. Many of the non-native species are invasive, which, once established, can severely alter the composition of natural plant communities (NPS 2010). The park's geological history, glacial events, changing climate, topography, moisture, fire, and soil types, influence plant distributions across an elevation gradient from 1,800 feet (549 m) to over 13,000 feet (3,900 m) encompassing vegetation zones ranging from scrub and chaparral at lower elevations to subalpine forests and alpine meadows at higher elevations. These elevational and ecological areas are classified by community alliances according to the California Manual of Vegetation (California Native Plant Society 2016) and mapped in Yosemite's Enterprise Geographic

Information System (GIS) database. The most recent park-wide comprehensive vegetation mapping effort occurred in 2012 (Keeler-Wolf et al. 2012).

The lowest elevation, starting at about 1,800 feet (548 m) at the El Portal Administrative Site, features a hot and dry foothill-woodland zone with minimal winter snow. Common plants include chamise, ceanothus, manzanita, blue oak, interior live oak, and gray pine, also found near Hetch Hetchy Reservoir. From around 3,000 feet (900 m) to around 6,000 feet (1,800 m), the lower montane forest experiences hot, dry summers and cool, moist winters, with snow accumulation of several feet. This zone, encompassing 166,000 acres, is home to California black oak, ponderosa pine, incense-cedar, and white fir, including giant sequoia groves such as the Mariposa, Merced, and Tuolumne Groves.

**Figure 6.** ***Lupine illustration (Artwork by Mary Motola, Tribal elder, artist, and historian, Picayune Rancheria of the Chukchansi Indians).***

The upper montane forest begins at around 6,000 feet (1,800 m), characterized by short, moist summers and cold, wet winters. Snow may reach six feet and last until June, with typical species including red fir and lodgepole pine, as well as vibrant wildflowers blooming from June to August (Figure 6). This forest covers 216,000 acres and is visible along Tioga Road and near Glacier Point. Near 8,000 feet (2,450 m), the subalpine forest features a cooler climate and shorter growing season, with snow accumulations of three to nine feet. It contains western white pine, mountain hemlock, whitebark pine, and lodgepole pine, with blooming subalpine meadows from July to August across 297,000 acres. The alpine zone begins around 9,500 feet (2,900 m), located above tree line where harsh conditions prevent tree growth. This area, characterized by short, cool summers and long, snowy winters, includes granitic outcroppings and limited vegetation, requiring herbaceous plants to quickly flower and seed during brief summer periods. Covering 54,362 acres, the alpine zone is accessible with 800 miles of trails, many of these trails follow traditional travel routes used by the ancestors of the Traditionally Associated Tribes and continue to be used by the tribes today throughout Yosemite.

## 3.5.2 Environmental Consequences

### 3.5.2.1 Alternative A: No Action

The no action alternative would result in the continuation of very limited gathering of fruits, nuts, and berries by the public for personal use or consumption, as currently allowed by the Superintendent's Compendium. The Traditionally Associated Tribes would not be permitted to gather additional plants or plant parts for traditional use beyond the compendium. Vegetation would be left mostly undisturbed, except in visitor use areas adjacent to roads and trails, or in areas targeted for management (i.e. control of invasive plants or restoration of native plants). Limited removal of fruits, berries, or nuts would result in negligible, short-term, direct and indirect adverse impacts to specific target plants from removal of seed sources.

This alternative, however, would result in continued long-term, adverse, direct and indirect impacts to vegetation caused by lack of traditional gathering and associated resource management by American Indians, which was particularly intensive in Yosemite Valley (Bloom and Deur 2020, 155). Ethnohistorical literature, information provided by Tribal members, and dendrochronological research demonstrate that Tribes use a wide range of traditional management methods including, plant gathering weeding, coppicing, planting, seeding and intentional use of fire. Lack of active gathering and management result in increased underbrush, facilitating the encroachment of conifers. This encroachment not only shades out herbaceous meadow species but also alters the ecosystem, reducing habitat availability for species dependent to these meadows. Additionally, the abandonment of these traditional tending practices can lead to an increase in smaller conifers, which serve as ladder fuels, raising the risk of destructive fires. These fires threaten not only the larger trees but also elevate fire severity, scorching the diverse plant life that relies on meadows. The failure to engage in traditional tending practices, such as removing these ladder fuels, can ultimately result in high-severity fires that disrupt the natural reintroduction of nutrients back into the soil. This disruption leads to diminished soil health and a decline in plant diversity, further impacting the ecosystem's resilience and functionality.

Additionally, lack of Tribal gathering would continue to hinder the full potential benefits of other land management techniques employed by the park (i.e., prescribed burning, fuel reduction, invasive plant control) by limiting traditional subsistence strategies such as gathering (Bloom and Deur 2020, 158). In some cases, lack of gathering actions may cause the occurrence of certain native plant species in a landscape to decline (Anderson and Carpenter 1991).

Moreover, in the absence of traditional tending practices—such as cultivating native plants that attract beneficial species and deter pests—damaging species can proliferate, posing an even greater threat to native plant communities. Dry meadows lose their vitality without traditional gathering practices, which can prolong their lifespans and support various uses, such as basketry and cordage production (Bloom and Deur 2020, 155). Finally, without such management, the scenic vistas that have been maintained through these practices may vanish, impacting not only the environment but also the cultural heritage tied to these landscapes (Anderson 2002, 45; Anderson 2005). Thus, failure to gather and manage plants can disrupt ecological balance and erase valuable cultural practices and landscape features.

**Reasonably Foreseeable Impacts**

The no action alternative, when combined with past, present, and reasonably foreseeable future actions and trends could have adverse impacts on vegetation populations, structures, and genetics (Anderson 1996,

Anderson 1999, Diekmann et al. 2007, Shebitz 2005). Invasive plant treatment and native plant restoration projects by NPS would continue to improve and manage the condition of vegetative communities at the park.

#### 3.5.2.2 Alternative B: Plant Gathering for Traditional Purposes

Alternative B would result in the sustainable gathering of plants and plant parts by federally recognized Tribes, within the limits and conditions listed in 2.2.1 "Stipulations and Mitigations" and Appendix A. These limits and conditions have been evaluated by an interdisciplinary team of specialists, in coordination with the Traditionally Associated Tribes, and have been determined to be sustainable. Sustainable use means that the removal of these plant parts would not harm the overall population of the species, and in some cases, would benefit the species by aiding in regeneration and propagation. To ensure sustainability of collection activities, a minimum of 50 or more individual plants would need to be present in the observable population before gathering. Gathering of plant parts would be conducted such that no single plant would lose more than 50% of its available aboveground biomass in stems, leaves, flowers, or fruits. When removal of the entire plant is authorized, less than 20% of the plants would be gathered from any one population. No more than an estimated 20% of the seed would be collected from a population of over 50 individuals on a single day. The NPS and Tribes would meet biannually to assess the condition of plant populations and review any requests for additional taxa collection based on subject matter expert assessments (Appendix B).

Traditional resource management in Yosemite was prevalent, particularly in Yosemite Valley, with contemporary Tribal members and ethnohistorical literature consistently reporting a wide range of methods employed to manage the environment effectively. These traditional management techniques fundamentally contributed to ecological health by keeping meadows clear of underbrush and conifer encroachment, protecting large trees from fire damage, reintroducing nutrients into the soil, maximizing plant diversity, and eliminating insects and pathogens. These practices prolonged the life of dry meadows, enhanced the production of basketry and cordage materials, and preserved open scenic vistas (Bloom and Deur 2020, 155; Anderson 2002, 45; Anderson 2005). For example, Tribal members from North Fork Rancheria of Mono Indians have stated that the health of oak acorns and other plants are improved when the plants are pruned, utilized, cared for; as giving thanks for the plant is part of the plant's life cycle (Various authors, Voices of the People, 2019).

Research indicates that traditional conservation of plant species encompasses gathering and management techniques alongside social and cultural guidelines to prevent over-exploitation (Bloom and Deur 2020, 165; Berkes 2012; Blackburn and Anderson 1993; Anderson 2005; Deur and Turner 2005). By utilizing specific harvest criteria and adopting foraging and cultivation strategies, traditional gathering practices ensure the replacement and abundance of plant species, further emphasizing the benefits of gathering within these traditional management frameworks (Anderson 1993a; Turner and Peacock 2005).

Although there would be minor, short-term, direct adverse impacts to specific target plants, sustainable plant gathering would have long-term, beneficial impacts on vegetation communities and plant diversity. Wild plant species were managed for thousands of years by American Indians for productive subsistence by using specific gathering techniques to maximize both harvest and sustainability (McCarthy 1993; Farris 1993; Parlee and Berkes 2006). The general management of landscapes and ecosystems by native peoples have been well documented (e.g., Hammett 2000; Nabhan 2000; Bloom, and Deur, 2020; U.S. Federal Register, 2016).

**Reasonably Foreseeable Impacts**

The action alternative, when combined with past, present, and reasonably foreseeable future actions and trends would not adversely impact vegetation. Invasive plant treatment and native plant restoration projects would continue to improve the condition of vegetation communities at Yosemite National Park, and sustainable use of plants and plant parts guided by TEK under the action alternative would not reasonably foreseeably contribute to adverse effects on vegetation. Because Alternative B is restricted to plant gathering and excludes the full range of traditional land management techniques, long-term negative impacts on vegetation will persist. The absence of practices like controlled burning, which are essential for producing high-quality basketry materials and managing resources, will continue to adversely affect vegetation both directly and indirectly.

# CHAPTER 4: CONSULTATION AND COORDINATION

This section summarizes the consultation, coordination, and public involvement that occurred during the preparation of this EA.

## Tribal Cooperation and Consultation

The following table outlines major steps in collaboration and consultation with Tribal Nations concerning the gathering of plants for traditional purposes in Yosemite National Park.

***Table 2. Collaboration and Consultation Timeline***

| Date | Action |
|---|---|
| **August 4, 2022** | The Bridgeport Indian Colony, on behalf of the Seven Traditionally Associated Tribes with Yosemite National Park, requested to enter into an agreement with Yosemite National Park to conduct traditional gathering of plants and plant parts throughout the park. |
| **January 17, 2023** | Yosemite National Park hosted an introduction meeting with Traditionally Associated Tribes to respond to the letter from Bridgeport Indian Colony and to start a plan for a Traditional Gathering Agreement. |
| **January 17, 2023 – ongoing** | Park Subject Matter Experts and interested Tribal members formed an interdisciplinary team who started meeting regularly, started developing a plant list, and initiated planning for a Traditional Gathering Agreement. |
| **Ongoing** | The Traditionally Associated InterTribal Working Group has discussed the Traditional Gathering Plan, including the proposed plant list. This is a space to have internal discussions without NPS presence. |
| **February 16, 2023, May 19, 2023, June 11, 2024, September 12,2024, and February 13, 2025** | The Traditional Gathering EA was discussed during quarterly All-Tribes meetings. |
| **January 13, 2025** | National Park Service staff continued official consultation for the EA, notifying consulting Tribal Nations of the intent to conduct a 30-day public scoping period. |
| **June 16, 2025** | National Park Service staff continued official consultation for the EA, providing consulting Tribal Nations with the draft EA to review. |

## Agency Consultation

The following table outlines the agency consultation strategy and actions completed for this EA.

***Table 3. Agency Consultation***

| Law, Statute, or Authority | Regulated Resource | Agency | Action Taken for this EA |
|---|---|---|---|
| **Section 401 and 404 of the Clean Water Act, EO 11990 and EO 11988** | Wetlands and floodplains | U.S. Army Corps of Engineers and California Regional Water Quality Control Board | The alternatives presented in this EA will not discharge dredged or fill material into US waters or wetlands. The alternatives will also avoid destruction or degradation of wetlands, and modification or development within floodplains. The park has therefore determined that consultation with the U.S. Army Corps of Engineers and California Regional Water Quality Control Board is not necessary for this EA. Additionally, wetlands or floodplains statements of findings are not required for this EA. |
| **Section 7 of the Endangered Species Act** | Federally listed threatened and endangered species | U.S. Fish and Wildlife Service (USFWS) | The alternatives presented in this EA will have no effect on federally listed threatened and endangered species. Consultation with the U.S. Fish and Wildlife Service is therefore not required for this EA. The park received confirmation from the USFWS that consultation is not required for this plan via email on November 4, 2024. |
| **Section 106 of the National Historic Preservation Act** | Cultural resources | California State Office of Historic Preservation | The alternatives presented in this EA will have no effect to historic properties. In accordance with Yosemite's 2020 Programmatic Agreement, when a proposed undertaking finds *no historic properties affected*, further consultation is not required. As such, the park will not complete consultation with the California State Office of Historic Preservation for this EA, but will share the document for informational purposes. |

## Public Scoping

The NPS conducted a public scoping period from January 12, 2025, to February 12, 2025, to solicit input on the development of an EA concerning the proposed gathering of plants and plant parts by Traditionally Associated Tribal members of Yosemite National Park. This scoping period was a critical step in the EA process, designed to gather diverse perspectives and inform the NPS's analysis of potential impacts and alternatives. The NPS received 60 correspondences representing 165 comments from this scoping period. The comments represent a broad spectrum of viewpoints and valuable insights. This summary provides an

overview of the key themes, concerns, and recommendations that emerged from the public comments, which were carefully considered in the development of the EA.

Major Issues Identified:

- **Traditional Ecological Knowledge (TEK):**
    - A prominent theme was the critical importance of integrating Indigenous Knowledge systems into park management practices.

  Sample comment:

  *We have failed to see how the 'natural' world was in large part created by the indigenous peoples of the Americas. This was partially caused by massive depopulation from epidemic disease shortly after 1492. In addition, the mindset of colonialism assumed that indigenous peoples had not fully and productively worked the land, thereby losing their rights to it. The levels of extraction with settlement of the West by colonial peoples resulted in extreme extraction and National Parks were established to 'protect' those overused resources and save landscapes.*

  *But, in fact, this 'natural' world was shaped by the knowledge and careful sustainable use of resources by indigenous peoples. We'll all benefit if these people are once again allowed to carefully harvest and manage key resources*.

- **Cultural Continuance/Identity:**
    - Commenters consistently emphasized the vital role of plant gathering in maintaining cultural identity and traditions among Tribal communities.

  Sample comment:

  *This will save what remains of a culture that was virtually eradicated from the face of the planet. These traditions are not just related to Tribes but to human beings as a whole. Our nomadic ancestors lived in harmony with the earth long before the NPS had it rules. The rules are there for good reason and without conservation, people would destroy all balance, but I would love to see these Tribes be allowed to practice the traditions of there [sic] ancestors and keep alive ancient wisdom.*

- **Stewardship:**
    - Participants advocated for stewardship practices that prioritize and enhance the ecological integrity of the park.

  Sample comments:

  *…perhaps people who are not allowed to harvest will see people harvesting and think it is ok? Somehow there should be a ritual or sign or something to say this is only allowed for natives*.

  *I am not an expert on this, but the academic articles I have read and what I have heard native people say and do regarding plant stewardship lead me to believe this use would improve the ecological health of the area. Native plant stewardship renews and sustains plant communities.*

- **Overharvesting:**

- Concerns were raised regarding the sustainability of plant gathering practices, with calls for proactive measures to prevent overharvesting.
- One organization inquired about how multiple Tribes will communicate and coordinate to prevent overharvesting.

Sample comment:

*The only negative I can think of is over foraging. But I believe the Tribes inherently understand the importance of only taking as much as they need and not more for the sake of sustainability. So if the park were to have any stipulations, ensuring that certain plants are not over foraged could be one.*

Sample comment:

*The EA should consider how to resolve potential conflicts if more than one Tribe requests to gather the same plants or plant parts in the same location. How will the Park ensure that the total quantity allowed to be removed is both sustainable and equitable? Further, the EA should consider the potential cumulative effects if the same plant or plant part is gathered at multiple locations by multiple Tribes.*

- **Benefits to NPS Management Strategies/Knowledge:**
  - Commenters suggested that incorporating Tribal practices could significantly improve ecological health and inform NPS management strategies.

Sample comment:

*From my experience living and working in Yosemite, I have seen first hand how well the park's resource managers have fostered the restoration, and continued preservation, of Yosemite Valley and other areas of the park. It is clear that the park is using new/evolved methods of management to take care of Yosemite to preserve it for the future. With that said, I think it is essential for our new/evolved management practices to include the historic practices of Yosemite's first people from the hands of the descendants themselves. So yes, I think the park should indeed allow members of the local Tribes to gather plants for traditional uses. Benefits would be the following: 1. If the National Park Service allowed the Tribes to use the land for traditional purposes, it would be seen as a sign of respect to Tribal members whose ancestors lived in the landscape long before the United States was born. 2. If the Tribe were able to interact with the park in their traditional ways, be it by foraging, or by fostering black oak groves, then this traditional knowledge and wisdom can be passed down to future generations who can keep these practices alive throughout time. 3. By allowing the Tribe to gather and tend plants in a park that is as famous as Yosemite, maybe other federally managed lands will follow Yosemite's example and reach out to their local Tribes and offer them the same opportunity- to interact intimately with their ancestral home, free from the restraints of the government.*

- **Bureaucracy and Restrictive Government Policies:**
  - Challenges posed by existing regulations were highlighted, with comments advocating for more inclusive and collaborative policies.

Sample comment:

*National Park Service has attempted to separate the land from Native Americans for too many years. I am strongly in support of allowing traditional land management practices. This should be just a start.*

## Key Recommendations:

- **Tribal Access and Continued Connection to Place:**
  - Numerous commenters stressed the necessity of ensuring guaranteed Tribal access to ancestral lands for traditional gathering practices.
- **Visitor Education:**
  - Recommendations included the development and enhancement of visitor education programs to foster understanding and respect for Indigenous cultural practices.
- **Stipulations/Mitigations for Overharvesting/Resource Protection:**
  - Commenters strongly urged the establishment of clear guidelines and mitigation measures to protect sensitive species and habitats from potential overharvesting.
- **Inclusion of Non-Federally Recognized Tribes:**
  - Advocacy was expressed for the inclusion of non-federally recognized Tribes in discussions and decision-making processes related to plant gathering rights.
- **Community Building:**
  - Comments reflected a strong desire to foster improved relationships and collaboration between the NPS and Tribal Nations, promoting mutual understanding and respect.
- **Benefits and Potential Effects:**
  - **Beneficial Effects:**
    - Enhanced Cultural Continuity: Maintaining traditional practices contributes to the cultural survival and revitalization of Tribal communities.
    - Promotion of Ecological Health: Tribal members' deep understanding of local ecosystems can lead to more effective and sustainable stewardship practices.
    - Support for Well-Being: Reconnecting with traditional practices enhances the physical, spiritual, and emotional well-being of Tribal members.
  - **Potential Negative Effects:**
    - Ecological Disruption: Without careful management, plant gathering could potentially lead to ecological imbalances and disruptions.
    - Resource Strain: Increased access and gathering activities may place strain on resources if not adequately monitored and managed.

## Conclusion:

The overwhelming support expressed during the public scoping period for permitting Tribal plant gathering underscores a strong desire to recognize and affirm Indigenous cultural practices and ecological knowledge within the context of national park management. The comments received provide valuable insights into the potential benefits and challenges associated with this proposed activity. Concerns about overharvesting and resource impacts have influenced the analysis and development of stipulations and mitigations for the Tribal Gathering Alternative. Ongoing collaboration and resource monitoring among the NPS and the Traditionally Associated Tribes would be critical for the Tribal Gathering Alternative. Additionally, utilizing existing NPS visitor education infrastructure and ongoing collaboration with the Traditionally Associated Tribes will

provide avenues for visitor education concerning traditional gathering in the park. The NPS is committed to fostering meaningful collaboration with Tribal Nations and stakeholders to ensure that the final decision reflects a balanced and sustainable approach to resource management.

# CHAPTER 5: LIST OF PREPARERS AND CONTRIBUTORS

The persons responsible for the development and review of the proposed action, the supporting information and analyses, and preparation of this EA are listed below:

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# APPENDIX A: YOSEMITE NATIONAL PARK TRADITIONAL PLANT GATHERING LIST

Annuals (43 taxa)

- Plant parts to be collected: seeds, leaves, entire plant
- At a minimum (50) or more individual plants should be present in the observable population before gathering.
- When removing the entire plant, less than an estimated 20% of plants will be gathered from any one population.

| Scientific Name[2] | Common Name | Growth Habit | Duration | Notes | Wetland Indicator[3] | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland[4] | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Calandrinia ciliata* | fringed redmaids | Forb/herb | Annual | None | FACU | February-May | grasslands, meadows, and disturbed areas | 500-1400 | Y | Y | N | N | N |
| *Castilleja attenuata* | attenuate Indian paintbrush | Forb/herb | Annual | None | NA | March-May | dry, open, grassy flats and ridges in oak-grassland, foothill chaparral, and gray pine/chaparral-oak woodland communities | 500-1250 | Y | N | N | N | N |
| *Castilleja exserta* ssp. *exserta* | exserted Indian paintbrush; purple owl's clover | Forb/herb | Annual | None | NA | March-May | dry, open, grassy slopes and flats | 500-1400 | Y | Y | N | N | N |
| *Castilleja lacera* | cutleaf Indian paintbrush | Forb/herb | Annual | None | NA | May-July | open, grassy, damp places | 1100-2600 | N | Y | Y | Y | N |
| *Castilleja lineariloba* | sagebrush Indian paintbrush; pale owl's-clover | Forb/herb | Annual | None | NA | April-June | damp, open, grassy places | 900-1650 | Y | Y | N | N | N |
| *Castilleja tenuis* | hairy Indian paintbrush | Forb/herb | Annual | None | FACU | May-August | damp, submontane meadows | 1200-1550 | N | Y | N | N | N |
| *Chamaesyce serpyllifolia* ssp. *serpyllifolia* | thymeleaf sandmat | Forb/herb | Annual | None | NA | August-October | dry, open, distrubed areas, roadsides | 500-2150 | Y | Y | N | N | N |
| *Clarkia biloba* ssp. *biloba* | twolobe clarkia | Forb/herb | Annual | None | NA | May-June | dry, open, grassy and rocky places | 1300-1450 | Y | N | N | N | N |

[2] Plants in Yellow-highlighted rows are to be gathered with caution because they need to be distinguished from a closely related CNPS-rated species, they are a lower-priority Yosemite special status species, or they may be in a small population less than 50 individual plants.

[3] Wetland Indicator Abbreviations: FAC is Facultive; FACU is Facultive Upland; FACW is Facultive Wetland; OBL is Obligate Wetland; and NA is non-applicable.

[4] Y for Yes; N for No

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Clarkia purpurea* ssp. *viminea* | winecup clarkia | Forb/herb | Annual | None | NA | May-July | open grasslands and canyonsides, usually on south- and southwest-facing slopes | 500-1200 | Y | Y | N | N | N |
| *Clarkia unguiculata* | elegant clarkia | Forb/herb | Annual | None | NA | May-July | dry, open, grassy places | 500-1150 | Y | N | N | N | N |
| *Claytonia parviflora* ssp. *parviflora* | Siberian miner's lettuce | Forb/herb | Annual | None | FACU | February-May | moist, shady areas | 500-1600 | Y | Y | N | N | N |
| *Claytonia perfoliata* ssp. *perfoliata* | miner's lettuce | Forb/herb | Annual | None | FAC | February-May | shady, moist areas, often drying out in summer | 500-1700 | Y | Y | N | N | N |
| *Conyza canadensis* | Canadian horseweed | Forb/herb | Annual, Biennial | None | NA | June-September | disturbed areas around developments | 500-1525 | Y | Y | N | N | N |
| *Daucus pusillus* | American wild carrot | Forb/herb | Annual | None | NA | April-June | dry, mostly south-facing slopes, often in rocky areas | 600-1550 | Y | Y | N | N | N |
| *Epilobium densiflorum* | denseflower willowherb | Forb/herb | Annual | None | FACW | May-August | wet meadows, seeps, streambanks, and marshy areas | 1200-2000 | N | Y | N | N | N |
| *Epilobium torreyi* | Torrey's willowherb | Forb/herb | Annual | None | FACW | June-August | seeps and marshy places | 1200-1550 | N | Y | N | N | N |
| *Holocarpha virgata* ssp. *virgata* | yellowflower tarweed | Forb/herb | Annual | None | NA | May-November | foothills, grassland | 500-800 (1100) | Y | N | N | N | N |
| *Lotus strigosus* | strigose bird's-foot trefoil | Forb/herb | Annual | None | NA | March-June | dry, open hillsides and talus | 500-1550 | Y | Y | N | N | N |
| *Lupinus microcarpus* var. *densiflorus* | whitewhorl lupine | Forb/herb | Annual | None | NA | April-June | open, grassy hillsides, in dry areas | 500-675 | Y | N | N | N | N |
| *Madia elegans* | common madia | Forb/herb | Annual | None | NA | March-August | two subspecies: elegans dry to damp, open, grassy areas; vernalis open areas in chaparral/oak woodland communities | 500-2150 | Y | Y | N | N | N |
| *Madia gracilis* | grassy tarweed | Forb/herb | Annual | None | NA | April-August | forest openings and meadow borders in dry-to-damp situations | 500-2000 (2400) | Y | Y | Y | N | N |
| *Mentzelia dispersa* | bushy blazingstar | Forb/herb | Annual | None | NA | May-August | dry, exposed, sandy or rocky places | 500-2000 | Y | Y | N | N | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Mimulus guttatus* | seep monkeyflower | Forb/herb | Annual, Perennial | None | OBL | March-August | seeps, streambanks, and moist, rocky and gravelly areas | (500) 1200-2250 (3050) | Y | Y | Y | Y | N |
| *Mimulus layneae* | Layne's monkeyflower | Forb/herb | Annual | None | NA | May-August | dry, sandy flats and ridges in the open | (900) 1370-1800 (2300) | N | Y | N | N | N |
| *Mimulus torreyi* | Torrey's monkeyflower | Forb/herb | Annual | None | NA | May-August | damp to dry, open to partially-shaded places | 1050-2100 | N | Y | N | N | N |
| *Monardella lanceolata* | mustang monardella | Forb/herb | Annual | None | NA | May-August | dry, rocky, sandy, or gravelly areas in sun or partial shade | 1050-3050 | N | Y | Y | Y | N |
| *Navarretia capillaris* | miniature gilia | Forb/herb | Annual | None | FAC | July-August | moist, sandy places in the open, seeps, and gravelly places such as open ridges | 1850-3000 | N | Y | Y | Y | N |
| *Navarretia divaricata* ssp. *divaricata* | divaricate navarretia | Forb/herb | Annual | None | NA | June-August | dry ridges and flats, meadow borders | 1200-2600 | N | Y | Y | Y | N |
| *Navarretia leptalea* ssp. *bicolor* | Bridges' pincushionplant | Forb/herb | Annual | None | NA | June-August | dry to moist, open, gravelly and sandy places | 1600-3100 | N | Y | Y | N | N |
| *Navarretia leptalea* ssp. *leptalea* | Bridges' pincushionplant | Forb/herb | Annual | None | NA | June-August | dry to moist, open, gravelly and sandy places | 1200-2100 | N | Y | Y | N | N |
| *Nicotiana acuminata* var. *multiflora* | many-flowered tobacco | Forb/herb | Annual | None | NA | June-October | open or partially-shaded disturbed areas | 500-1200 | Y | Y | N | N | N |
| *Nicotiana attenuata* | coyote tobacco | Forb/herb | Annual | None | FACU | May-October | dry, disturbed ground | 500-2250 | Y | Y | Y | N | N |
| *Plagiobothrys nothofulvus* | rusty popcornflower | Forb/herb | Annual | None | FAC | Mar-May | grassy hillsides | 500-1200 | Y | Y | N | N | N |
| *Pseudognaphalium macounii* | Macoun's cudweed | Forb/herb | Annual, Biennial | few observations, possible waif | NA | July-October | open slopes, meadows, floodplains | 800-2300 | Y | N | N | N | N |
| *Rorippa curvisiliqua* | western yellow cress | Forb/herb | Annual, Biennial | None | OBL | June-September | wet or damp meadows and streambanks, usually on open ground | 1200-3050 | N | Y | Y | Y | N |
| *Silene antirrhina* | sleepy silene | Forb/herb | Annual | None | NA | April-August | open, sandy or gravelly places and disturbed areas | 500-1500 | X | X | N | N | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Trichostema lanceolatum* | vinegarweed | Forb/herb | Annual | None | FACU | August-October | dry, open, and often disturbed places, usually sparsely vegetated | 500-1200 | Y | Y | N | N | N |
| *Trifolium ciliolatum* | foothill clover | Forb/herb | Annual | None | NA | March-June | open, grassy, and often rocky areas | 500-1675 | Y | N | N | N | N |
| *Trifolium microcephalum* | smallhead clover | Forb/herb | Annual | None | FAC | April-August | wet and dry meadows and open grassy fields | 500-2430 | Y | Y | Y | N | N |
| *Trifolium obtusiflorum* | clammy clover | Forb/herb | Annual | None | FAC | April-July | seeps and other moist areas | 500-1525 | Y | Y | N | N | N |
| *Trifolium variegatum* | whitetip clover | Forb/herb | Annual | None | FAC | April-July | open, grassy places | 500-2130 | Y | Y | N | N | N |
| *Trifolium willdenovii* | tomcat clover | Forb/herb | Annual | None | NA | March-June | open, grassy places or open forest | 500-1300 | Y | Y | N | N | N |
| *Trifolium wormskioldii* | cows clover | Forb/herb | Annual, Perennial | None | FACW | May-September | wet meadows | 1200-2600 | N | Y | Y | N | N |

**Perennials (120 taxa)**

- Plant parts to be collected: stems/shoots, leaves, flowers, fruits, seed, entire plant/roots
- At a minimum (50) or more individual plants should be present in the observable population before gathering.
- No single plant loses more than an estimated 50% of its available aboveground biomass in stems, leaves, flowers, or fruits.
- May collect entire plant (above-ground) when plant has died back to the ground for the year (e.g. milkweed, dogbane).
- When removing the entire plant/roots, bulbs, bulbets, less than an estimated 20% of plants will be gathered from any one population. Root parts that are not gathered will be replanted.
- No more than an estimated 20% of the seed is to be collected from a population of over 50 individuals on a single day.

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Achillea millefolium* | common yarrow | Forb/herb | Perennial | None | FACU | June-August | dense forest on moist ground | 900-1850 | Y | Y | N | N | N |
| *Achnatherum lemmonii* | Lemmon's needlegrass | Graminoid | Perennial | None | NA | May-July | dry, open forest and gravel flats | 1000-2700 | N | Y | Y | Y | N |
| *Achnatherum occidentale* ssp. *occidentale* | western needlegrass | Graminoid | Perennial | None | NA | June-August | dry, open ridges and slopes | 2800-3500 | N | N | N | Y | Y |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Achnatherum occidentale* ssp. *pubescens* | pubescent western needlegrass | Graminoid | Perennial | None | NA | June-August | dry, open areas such as gravelly flats, ridges, and road-sides | 1200-2600 | N | Y | Y | Y | N |
| *Adiantum jordanii* | California maidenhair | Forb/herb | Perennial | None | FAC | -- | shaded, moist, rocky areas, usually on north-facing slopes | 500-650 | Y | N | N | N | N |
| *Agastache urticifolia* | nettleleaf giant hyssop | Forb/herb, Subshrub | Perennial | None | FACU | June-August | wet meadows, springs, seeps, and riparian areas | 1200-2740 | N | Y | Y | N | N |
| *Allium* spp. | onions--six species | Forb/herb | Perennial | NOT *A. tribracteatum* (CNPS 1B) or *A. yosemitense* (CNPS 1B) | NA | -- | -- | -- | N | N | N | N | N |
| *Allium campanulatum* | Sierra onion | Forb/herb | Perennial | None | NA | June-August | dry, gravelly and rocky areas in open slope or forest | 500-3100 | Y | Y | Y | Y | N |
| *Angelica breweri* | Brewer's angelica | Forb/herb | Perennial | None | NA | June-September | meadow borders and moist, rocky areas | 1050-2000 | N | Y | Y | N | N |
| *Angelica lineariloba* | poison angelica | Forb/herb | Perennial | None | NA | June-August | meadows and open, rocky slopes | 1850-3250 | N | N | Y | Y | N |
| *Apocynum cannabinum* | dogbane, Indianhemp | Forb/herb | Perennial | None | FAC | June-August | damp to wet places near marshes or streams | 1000-2000 | N | Y | N | N | N |
| *Aquilegia formosa* | western columbine | Forb/herb | Perennial | None | FAC | June-August | moist woods, especially along streams and meadow borders | 900-3200 | N | Y | Y | N | N |
| *Artemisia douglasiana* | Douglas' sagewort | Forb/herb | Perennial | None | FACW | June-October | meadows and disturbed areas | 500-1830 | Y | Y | N | N | N |
| *Artemisia ludoviciana* ssp. *incompta* | white sagebrush | Forb/herb, Subshrub | Perennial | None | NA | July-September | open, dry, rocky areas, montane, subalpine and alpine zones. | 1200-3540 | N | N | Y | Y | Y |
| *Asarum hartwegii* | Hartweg's wild ginger | Forb/herb | Perennial | None | NA | May-June | dry, shaded forest floor | 600-2100 | Y | Y | N | N | N |
| *Asarum lemmonii* | Lemmon's wild ginger | Forb/herb | Perennial | SSP Category 10 | OBL | May-June | damp, shaded forest floor. Sierra Nevada endemic | 1200-1900 | N | Y | N | N | N |
| *Asclepias californica* | California milkweed | Forb/herb | Perennial | None | NA | April-July | dry, open, rocky, and grassy slopes | 500-1000 | Y | N | N | N | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Asclepias cordifolia* | heartleaf milkweed; purple milkweed | Forb/herb | Perennial | None | NA | May-July | open, rocky, and grassy areas, meadow borders, and talus slopes | 500-2000 | Y | Y | N | N | N |
| *Asclepias fascicularis* | narrow-leaved milkweed | Forb/herb | Perennial | None | FAC | June-September | dry, rocky areas in the open | 500-2000 | Y | Y | N | N | N |
| *Asclepias speciosa* | showy milkweed | Forb/herb | Perennial | None | FAC | May-July | damp to dry, open areas, meadow borders, and meadows | 500-2000 | Y | Y | N | N | N |
| *Balsamorhiza sagittata* | arrowleaf balsamroot | Forb/herb | Perennial | None | NA | June-July | deep soil in openings or partially-shaded forest | 1200-2800 | N | Y | Y | Y | N |
| *Brodiaea coronaria* | crown brodiaea | Forb/herb | Perennial | few observations | FACW | April-July | vernal pools, grassland, oak woodland | 500-760 | Y | N | N | N | N |
| *Brodiaea elegans* ssp. *elegans* | harvest brodiaea | Forb/herb | Perennial | None | FACU | April-July | meadows and damp, grassy areas | 500-2300 | Y | Y | Y | N | N |
| *Calochortus* sp. | mariposa lilies--four species | Forb/herb | Perennial | None | NA | -- | -- | -- | N | N | N | N | N |
| *Calochortus luteus* | yellow mariposa lily | Forb/herb | Perennial | None | NA | April-June | heavy soils in grassland, woodland, mixed-evergreen forest | 500-700 | Y | N | N | N | N |
| *Calochortus venustus* | butterfly mariposa lily | Forb/herb | Perennial | None | NA | May-July | open ponderosa pine forest, dry ridges, rocky areas, and dry meadows | 900-1850 | N | Y | N | N | N |
| *Carex* spp. | sedges--many species | Graminoid | Perennial | NOT *C. buxbaumii, C. congdonii, C. davyi, C. incurviformis var. danaensis, C. limosa, C. praticola, C. scirpoidea* var. *pseudoscirpoidea, C. tahoensis, or C. tomkinsii.* Collect leaf widths >4mm when unsure of species. | NA | -- | use caution gathering on talus slopes and boulder fields to avoid accidental collection of *C. congdonii.* | -- | N | N | N | N | N |
| *Carex amplifolia* | large-leaved sedge | Graminoid | Perennial | None | OBL | May-July | seeps, marshy areas, and streams | 1200-1900 | N | N | Y | N | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Carex douglasii* | Douglas' sedge | Graminoid | Perennial | None | FAC | June-August | dry sandy and gravelly places, alkaline ground | 1200-2650 | N | Y | Y | Y | N |
| *Carex feta* | green-sheathed sedge | Graminoid | Perennial | None | FACW | May-August | wet meadows and streambanks | 900-2450 | N | Y | Y | N | N |
| *Carex fracta* | fragile sheath sedge | Graminoid | Perennial | None | FAC | May-August | meadows and moist forest | 1200-2750 | N | Y | Y | Y | N |
| *Carex lanuginosa* | wooly sedge | Graminoid | Perennial | None | NA | May-August | wet meadows, marshes, and shallow ponds | 1200-3050 | N | Y | Y | Y | N |
| *Carex nebracensis* | Nebraska sedge | Graminoid | Perennial | None | OBL | May-August | wet meadows | 1200-2750 | N | Y | Y | Y | N |
| *Carex senta* | rough sedge | Graminoid | Perennial | None | OBL | April-June | marshes, sloughs, wet meadows, and lake borders | 1150-1550 | N | Y | N | N | N |
| *Carex utriculata* | bladder sedge | Graminoid | Perennial | None | OBL | May-September | shallow ponds, sloughs, marshes, and bogs | 1200-2750 | N | Y | Y | Y | N |
| *Carex whitneyi* | Whitney's sedge | Graminoid | Perennial | None | NA | June-August | dry, sandy flats, meadow borders, and open forest | 1200-3100 | N | Y | Y | Y | N |
| *Castilleja applegatei* ssp. *pinetorum* | wavyleaf Indian paintbrush | Forb/herb, Subshrub | Perennial | None | NA | May-August | dry, rocky, or gravelly places | 500-1500 (3200) | Y | Y | Y | Y | N |
| *Castilleja lemmonii* | Lemmon's Indian paintbrush | Forb/herb | Perennial | None | FACW | July-August | moist meadows | 2400-3350 | N | N | N | Y | Y |
| *Chlorogalum pomeridianum* var. *pomeridianum* | wavyleaf soap plant | Forb/herb | Perennial | None | NA | May-August | dry openings in chaparral, talus, and other rocky places | 500-1300 | Y | Y | N | N | N |
| *Cirsium occidentale* var. *californicum* | cobwebby thistle | Forb/herb | Biennial | None | NA | April-July | dry slopes, especially rocky areas and talus in the open | 500-2150 | Y | Y | N | N | N |
| *Clematis lasiantha* | pipestem clematis | Vine | Perennial | None | NA | March-June | along streams and moist places; chaparral/oak-woodland zone | 900-1220 | Y | N | N | N | N |
| *Cyperus eragrostis* | tall flatsedge | Graminoid | Perennial | None | FACW | May-November | moist ground, disturbed areas around roads and developments | 500-1700 | Y | Y | N | N | N |
| *Cyperus esculentus* | yellow nutsedge | Graminoid | Perennial | None | FAC | Jul-August | wetland-riparian, disturbed places, many plant communitites | -- | N | N | N | N | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Cyperus niger* | black flatsedge | Graminoid | Annual, Perennial | one observation in YOSE | FACW | Jul-November | marshes, swamps, moist roadsides | 500-1500 | Y | Y | N | N | N |
| *Cyperus squarrosus* | bearded flatsedge | Graminoid | Annual | None | OBL | June-November | meadows, seeps, and other moist ground | 1200-1700 | N | Y | N | N | N |
| *Cyperus strigosus* | strawcolored flatsedge | Graminoid | Perennial | few observations | FACW | Jul-October | moist soils, pond margins, roadsides | 500-1000 | N | Y | N | N | N |
| *Darmera peltata* | Indian rhubarb | Forb/herb | Perennial | None | OBL | April-July | streambanks and streambeds | 1200-1980 | N | Y | N | N | N |
| *Datisca glomerata* | Durango root | Forb/herb | Perennial | None | FACW | May-July | along ephemeral or perennial streams | 500-1500 | Y | Y | N | N | N |
| *Datura wrightii* | jimson weed | Forb/herb, Subshrub | Annual, Perennial | None | UPL | June-September | dry roadsides and other disturbed places | 500-1300 | Y | Y | N | N | N |
| *Dichelostemma capitatum* ssp. *capitatum* | bluedicks | Forb/herb | Perennial | None | NA | March-May | grassy hillsides and dry to damp meadows | 500-1300 | Y | Y | N | N | N |
| *Dichelostemma multiflorum* | roundtooth snakelily | Forb/herb | Perennial | None | NA | May-July | openings in chaparral or mixed conifer forest, submontane meadows | 500-1550 | Y | Y | N | N | N |
| *Dichelostemma volubile* | twining snakelily | Forb/herb | Perennial | None | NA | May-July | meadow borders, chaparral, and dry, rocky openings in the mixed conifer forest | 500-1400 | Y | Y | N | N | N |
| *Equisetum arvense* | field horsetail | Forb/herb | Perennial | None | FAC | -- | streambanks, marshes, and other wet places | 500-3000 | Y | Y | Y | Y | N |
| *Equisetum hyemale* ssp. *affine* | scouringrush horsetail | Forb/herb | Perennial | None | NA | -- | streambanks and other moist places | 500-26000 | Y | Y | Y | Y | N |
| *Equisetum laevigatum* | smooth horsetail | Forb/herb | Perennial | None | FACW | -- | springs, marshes, and other wet places | 500-2000 | Y | Y | Y | N | N |
| *Erigeron foliosus* var. *hartwegii* | Hartweg's fleabane | Forb/herb | Perennial | None | NA | May-August | brushy and rocky places, river canyons | 500-1200 | Y | Y | N | N | N |
| *Fragaria vesca* | wood strawberry | Forb/herb | Perennial | None | FACU | March-June | damp, shaded forest | 1200-2150 | N | Y | N | N | N |
| *Fragaria virginiana* | mountain strawberry | Forb/herb | Perennial | None | FACU | May-July | damp, shaded places | 1200-3200 | N | Y | Y | Y | N |
| *Galium triflorum* | fragrant bedstraw | Vine, Forb/herb | Perennial | None | FACU | May-July | wet meadows and damp, shaded places; mixed conifer zone | 1100-1900 | N | Y | N | N | N |
| *Grindelia nana* | Idaho gumweed | Forb/herb | Perennial | None | FACW | June-October | roadsides and dry hillsides | 500-1200 | Y | Y | N | N | N |
| *Heuchera micrantha* | crevice alumroot | Forb/herb | Perennial | None | NA | May-July | moist, shaded, rocky places | 750-2140 | Y | Y | N | N | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Hoita macrostachya* | large leather-root | Forb/herb | Perennial | None | OBL | May-August | moist meadows and riparian areas, rocky areas | 500-1200 | Y | Y | N | N | N |
| *Hypericum scouleri* | Scouler's St Johnswort | Forb/herb | Perennial | None | NA | June-August | wet meadows, seeps, and streambanks, in shade or sun | 1200-2300 | N | Y | Y | N | N |
| *Iris hartwegii* ssp. *hartwegii* | rainbow iris | Forb/herb | Perennial | None | FACU | May-July | dry forest openings | 900-1850 | N | Y | N | N | N |
| *Iris missouriensis* | Rocky Mountain iris | Forb/herb | Perennial | None | FACW | May-June | wet meadows | 900-3050 | N | Y | Y | Y | N |
| *Juncus balticus* | Baltic rush | Graminoid | Perennial | None | FACW | May-August | wet meadows and seeps, often in alkaline places | 1200-2750 (3200) | N | Y | Y | Y | N |
| *Juncus effusus* var. *exiguus* | soft rush | Graminoid | Perennial | None | FACW | July-August | wet meadows, ditches, springs | 1050-1850 | N | Y | N | N | N |
| *Juncus effusus* var. *pacificus* | soft rush | Graminoid | Perennial | None | FACW | July-August | wet meadows and other moist places | 1050-1850 | N | Y | N | N | N |
| *Juncus mertensianus* | Mertens' rush | Graminoid | Perennial | None | OBL | July-August | marshy areas, especially in alkaline soil | 2600-3500 | N | N | N | Y | Y |
| *Juncus occidentalis* | Western rush | Graminoid | Perennial | None | FACW | May-July | moist to wet meadows | 1200-1650 (2300) | N | Y | Y | N | N |
| *Lilium parvum* | Sierra tiger lily | Forb/herb | Perennial | None | FACW | July-September | wet meadows, marshes, springs, riparian areas, and willow thickets | 1200-3050 | N | Y | Y | Y | N |
| *Lithophragma affine* | San Francisco woodland-star | Forb/herb | Perennial | None | NA | March-May | moist to dry, open or partially-shaded slopes | 500-1200 | Y | Y | N | N | N |
| *Lonicera interrupta* | chaparral honeysuckle | Vine, Shrub | Perennial | None | NA | May-July | dry, usually rocky and brushy areas; chaparral/oak-woodland and mixed conifer zones | 500-1675 | Y | Y | N | N | N |
| *Lupinus latifolius* | broadleaf lupine | Forb/herb | Perennial | None | FAC | May-September | meadows and along streams, seeps, and lakeshores | 900-3350 | N | Y | Y | Y | N |
| *Marah fabaceus* | California manroot | Forb/herb, Vine | Perennial | None | NA | April-June | dry, open places, primarily rocky slopes | 500-1650 | Y | N | N | N | N |
| *Marah horridus* | Sierra manroot | Vine, Forb/herb | Perennial | None | NA | March-April | dry, open areas; chaparral/oak-woodland zone | 500-900 | Y | N | N | N | N |
| *Mentha arvensis* | field mint | Forb/herb | Perennial | None | FACW | July-October | meadows and other damp, grassy areas | 500-1300 | Y | Y | N | N | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Mimulus lewisii* | purple monkeyflower | Forb/herb | Perennial | None | FACW | June-September | streambanks and seeps | 1200-2450 (3050) | N | Y | Y | Y | N |
| *Mimulus moschatus* | muskflower | Forb/herb | Perennial | None | OBL | June-August | damp, usually partially-shaded places | 1200-3150 | N | Y | Y | Y | N |
| *Mimulus primuloides* ssp. *primuloides* | primrose monkeyflower | Forb/herb | Perennial | None | NA | June-August | wet meadows | 1200-3000 (3660) | N | N | Y | Y | rarely |
| *Monardella sheltonii* | coyote mint, Shelton's monardella | Forb/herb, Subshrub | Perennial | None | NA | June-August | dry, open, sandy, or gravelly places | 1370-1680 | N | Y | N | N | N |
| *Mondardella glauca* | mountain pennyroyal | Forb/herb, Subshrub | Perennial | None | NA | June-August | dry, sandy and gravelly slopes and flats; mixed conifer, montane, and subalpine zones | 1800-3200 | N | Y | Y | Y | N |
| *Muhlenbergia rigens* | deer grass | Graminoid | Perennial | None | UPL | June-September | damp places along streams and meadow borders | 500-1600 | Y | Y | N | N | N |
| *Nuphar lutea* ssp. *polysepala* | Rocky Mountain pond-lily | Forb/herb | Perennial | None | NA | May-August | ponds, lakes, and slow-moving streams | 1200-2150 | N | Y | N | N | N |
| *Osmorhiza berteroi* | sweetcicely | Forb/herb | Perennial | None | FACU | April-July | shaded forest; mixed conifer and montane zones | 1050-2300 | N | Y | Y | N | N |
| *Osmorhiza brachypoda* | California sweetcicely | Forb/herb | Perennial | None | NA | March-May | shaded forest openings | 500-1850 | Y | Y | N | N | N |
| *Osmorhiza occidentalis* | western sweetroot | Forb/herb | Perennial | None | NA | May-July | shaded forest, meadow borders | 750-3100 | Y | Y | Y | Y | N |
| *Pellaea mucronata* | birdfoot cliffbrake | Forb/herb | Perennial | None | NA | -- | var. mucronata cliffs, talus, and other dry, rocky areas; var. californica dry , rocky slopes | 500-2600 | Y | Y | Y | N | N |
| *Pentagramma triangularis* | goldback fern | Forb/herb | Perennial | None | NA | -- | shaded rock crevices or in the shade of large boulders or ledges | 500-1500 | Y | Y | N | N | N |
| *Perideridia* spp. | yampahs--four species | Forb/herb | Perennial | None | NA | -- | -- | -- | N | N | N | N | N |
| *Phacelia heterophylla* ssp. *virgata* | varileaf phacelia | Forb/herb | Biennial, Perennial | None | FACU | May-July | dry, open, and often rocky places | 500-1200 | Y | N | N | N | N |
| *Polygonum bistortoides* | American bistort | Forb/herb | Perennial | None | NA | June-August | wet meadows and streambanks | 1200-3050 | N | Y | Y | Y | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Pteridium aquilinum* var. *pubescens* | hairy brackenfern | Forb/herb | Perennial | None | FACU | -- | open but shaded forests and meadow borders, in moist or dry situations | 1100-3000 | N | Y | Y | Y | N |
| *Pycnanthemum californicum* | Sierra mint | Forb/herb | Perennial | None | NA | June-September | marshy meadows and streambanks | 1200-1800 | N | Y | N | N | N |
| *Rorippa nasturtium-aquaticum* | watercress | Forb/herb | Perennial | None | NA | May-October | slow water in stream margins | 1200 | N | Y | N | N | N |
| *Rumex salicifolius* var. *denticulatus* | willow dock | Forb/herb | Perennial | None | NA | June-September | moist ground, meadow borders | 1200-3200 | N | N | Y | Y | N |
| *Rumex triangulivalvis* | triangular-fruited dock | Forb/herb | Perennial | None | FAC | June-September | moist ground, meadow borders | 1200-3200 | N | N | Y | Y | N |
| *Sanicula bipinnatifida* | purple sanicle | Forb/herb | Perennial | None | NA | March-May | open, grassy hillsides, and bear clover thickets | 500-1550 | Y | Y | N | N | N |
| *Sanicula crassicaulis* | Pacific blacksnakeroot | Forb/herb | Perennial | few observations | NA | Mar-May | open slopes, ravines, woodland | 500-1500 | Y | Y | N | N | N |
| *Schoenoplectus acutus* var. *occidentalis* | tule | Graminoid | Perennial | None | OBL | May-August | shallow ponds and marshes | 1200-2600 | N | Y | Y | Y | N |
| *Scirpus congdonii* | Congdon's bulrush | Graminoid | Perennial | None | FACW | July-August | wet meadows, marshes, and shallow ponds | 2150-2600 | N | N | Y | N | N |
| *Scirpus diffusus* | umbrella bulrush | Graminoid | Perennial | None | OBL | May-August | wet meadows, marshes, and streambanks | 1200-1800 | N | Y | N | N | N |
| *Scirpus microcarpus* | panicled bulrush | Graminoid | Perennial | None | OBL | May-August | wet meadows and streambanks | 1000-1900 | N | Y | N | N | N |
| *Scutellaria siphocampyloides* | narrowleaf skullcap | Forb/herb | Perennial | None | FACU | May-July | dry, rocky, and often grassy places in sun or partial shade | 500-1370 | Y | N | N | N | N |
| *Scutellaria tuberosa* | Danny's skullcap | Forb/herb | Perennial | None | NA | March-July | grassy areas | 500-1650 | Y | N | N | N | N |
| *Solidago californica* | California goldenrod | Forb/herb | Perennial | None | NA | July-August | dry to moist, open, grassy areas | 1000-1500 | N | Y | N | N | N |
| *Toxicodendron diversilobum* | aromatic sumac | Vine, Shrub | Perennial | None | FAC | April- May | rocky, shaded canyonsides, especially under canyon live oak, and alongside streams in vegetation zone | 500-1400 | Y | N | N | N | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Trifolium breweri* | forest clover | Forb/herb | Perennial | None | NA | May-August | damp to dry soil, usually in partial shade and on the edges of forest openings or meadow borders | 1050-2000 | N | Y | N | N | N |
| *Trifolium longipes* ssp. *hansenii* | Hansen's clover | Forb/herb | Perennial | None | FAC | June-September | wet meadows and streambanks | (1500) 2000-3100 | N | Y | Y | Y | N |
| *Trifolium monanthum* ssp. *monanthum* | mountain carpet clover | Forb/herb | Perennial | None | NA | June-August | wet to damp places, seeps, streambanks, meadows, and moist forest | 1300-3600 | N | Y | Y | Y | Y |
| *Triteleia hyacinthina* | white brodiaea | Forb/herb | Perennial | None | FAC | May-July | vernally-moist grassy areas and meadows | 1000-1850 | N | Y | N | N | N |
| *Triteleia ixioides* | prettyface | Forb/herb | Perennial | None | FAC | May-July | gravelly or sandy areas in forest openings and along meadow borders | 500-2750 | Y | Y | Y | Y | N |
| *Triteleia montana* | Sierra triteleia | Forb/herb | Perennial | None | NA | June-July | dry forest openings and decomposing granitic areas; mixed conifer, montane, and subalpine zones | 1200-2500 | N | Y | Y | Y | N |
| *Typha latifolia* | cattail | Forb/herb | Perennial | None | OBL | June-July | marshes | 1100-2000 | Y | N | N | N | N |
| *Urtica dioica* ssp. *holosericea* | stinging nettle | Forb/herb | Perennial | None | NA | July-September | moist places along streams and seeps in many plant communities | 1200-3200 | N | Y | Y | Y | N |
| *Veratrum californicum* var. *californicum* | California false hellebore | Forb/herb | Perennial | None | FAC | July-August | wet to moist meadows, streambanks, and seeps | (1100) 1830-2750 (3270) | N | Y | Y | Y | Y |
| *Vitis californica* | California wild grape | Vine | Perennial | None | FACU | May-June | rocky canyonsides, flats, and talus slopes; chaparral/oak-woodland and mixed conifer zones | 500-1370 | Y | Y | N | N | N |
| *Woodwardia frimbriata* | giant chainfern | Forb/herb | Perennial | None | NA | -- | around permanent seeps and springs | 500-1550 | Y | Y | N | N | N |
| *Wyethia angustifolia* | California compassplant | Forb/herb | Perennial | None | FACU | May-July | wet meadows | 1200-1980 | N | Y | N | N | N |
| *Wyethia helenioides* | whitehead mule-ears | Forb/herb | Perennial | few observations | NA | March-May (August) | open grassland, woodland, scrub | 500-2000 | Y | Y | N | N | N |

**Shrubs and Trees (113 taxa)**

- Plant parts to be collected: stems/branches less than 2 inch diameter, leaves, flowers, fruits, seeds**,** cones**,** bark, pitch/resin
- At a minimum (50) or more individual plants should be present in the observable population before gathering.
- No single plant loses more than an estimated 50% of its available aboveground biomass in stems, leaves, flowers, or fruits.
- No more than an estimated 20% of the seed is to be collected from a population of over 50 individuals on a single day.

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Abies concolor* | white fir | Tree | Perennial | None | NA | -- | mountainsides and canyon bottoms in moist to dry situations; mixed conifer and montane zones | 900-2500 | N | Y | Y | N | N |
| *Acer circinatum* | vine maple | Tree, Shrub, Vine | Perennial | few observations, planted in YOSE | FAC | May-June | shaded streambanks | 500-1500 | Y | Y | N | N | N |
| *Acer glabrum* var. *torreyi* | Torrey maple | Shrub, Tree | Perennial | None | NA | April-May | cool, shaded, and usually rocky areas along cliffs or streams; mixed conifer and montane zones | 1050-2550 | N | Y | Y | N | N |
| *Acer macrophyllum* | bigleaf maple | Tree | Perennial | None | FACU | April-May | along streams, especially along north-facing cliffs in gullies, and on talus slopes; chaparral/oak-woodland and mixed conifer zones | 500-1850 | Y | Y | N | N | N |
| *Adenostoma fasciculatum* | chamise | Shrub | Perennial | None | NA | May-June | dry slopes and flats, usually in thin, rocky soil | 500-1200 | Y | N | N | N | N |
| *Aesculus californica* | California buckeye | Tree, Shrub | Perennial | None | NA | May-June | dry slopes and flats in sunny or partially-shaded places; chaparral/oak-woodland zone | 500-1200 | Y | N | N | N | N |
| *Alnus incana* ssp. *tenuifolia* | mountain alder | Tree, Shrub | Perennial | None | FACW | April-June | streambanks and moist, poorly drained areas | 1350-2400 | N | Y | Y | N | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Alnus rhombifolia* | white alder | Tree | Perennial | None | FACW | January-April | along streams and poorly-drained areas; chaparral/oak-woodland and mixed conifer zones | 500-1525 | Y | Y | N | N | N |
| *Amelanchier alnifolia* var. *pumila* | dwarf serviceberry | Shrub | Perennial | None | FACU | Jun-Jul | open, often moist scrub, mountain slopes | 1400-2600 | N | N | N | N | N |
| *Amelanchier utahensis* | Utah serviceberry | Shrub | Perennial | None | UPL | April-June | mostly restricted to rather damp or dry, rocky places, but occasionally in deep meadow soil or along streams; mixed conifer, montane, and subalpine zones | 1200-2750 | N | Y | Y | Y | N |
| *Arctostaphylos mewukka* | Indian manzanita | Shrub | Perennial | one observation in YOSE | | May | slopes | | N | Y | N | N | N |
| *Arctostaphylos nevadensis* | pinemat manzanita | Subshrub, Shrub | Perennial | None | NA | May-July | dry, rocky slopes, often under Jeffrey pine | 1830-3050 | N | Y | Y | Y | N |
| *Arctostophylos patula* | greenleaf manzanita | Shrub | Perennial | None | NA | May-June | dry, open slopes, usually facing south or southeast | 1200-2700 | N | Y | Y | N | N |
| *Arctostophylos viscida* ssp. *mariposa* | Mariposa whiteleaf manzanita | Tree, Shrub | Perennial | None | NA | April | dry, open slopes | 600-1850 | Y | Y | N | N | N |
| *Arctostophylos viscida* ssp. *viscida* | whiteleaf manzanita | Tree, Shrub | Perennial | None | NA | April | dry slopes and canyonsides | 500-1800 | Y | Y | N | N | N |
| *Artemisia dracunculus* | tarragon | Subshrub, Forb/herb | Perennial | None | FACU | August-October | dry meadow borders and other open places | 500-2750 | Y | Y | Y | Y | N |
| *Artemisia tridentata* | sage | Tree, Shrub | Perennial | None | NA | August-October | dry, open areas, mostly in rocky areas, but also in dry meadows | 1200-3200 | N | Y | Y | Y | Y |
| *Calocedrus decurrens* | incense cedar | Tree | Perennial | None | NA | -- | moist or dry mountain slopes or valley bottoms; chaparral/oak-woodland and mixed conifer zones | 730-2000 | X | Y | N | N | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Calycanthus occidentalis* | western sweetshrub | Shrub | Perennial | None | FAC | April-August | moist places along streams and seeps; chaparral/oak-woodland and mixed conifer zones | 500-1375 | Y | Y | N | N | N |
| *Castilleja affinis* | coast Indian paintbrush | Subshrub, Forb/herb | Perennial | None | NA | -- | -- | -- | N | N | N | N | N |
| *Castilleja miniata* ssp. *miniata* | giant red Indian paintbrush | Subshrub, Forb/herb | Perennial | None | FACW | May-September | streambanks, wet meadows, seeps, and willow thickets | (1650) 1800-3350 | N | Y | Y | Y | Y |
| *Castilleja parviflora* | mountain Indian paintbrush | Subshrub, Forb/herb | Perennial | None | FAC | July-August | damp to wet meadows | 2600-3200 | N | N | N | Y | N |
| *Ceanothus cordulatus* | whitethorn ceanothus | Shrub | Perennial | None | NA | May-July | dry, rocky and gravelly places, usually in thin soils | (1200) 1950-2700 | N | Y | Y | Y | N |
| *Ceanothus cuneatus* var. *cuneatus* | buckbrush | Shrub | Perennial | None | NA | March-May | dry, open slopes | 500-1800 | Y | Y | N | N | N |
| *Ceanothus diversifolius* | pinemat | Subshrub, Shrub | Perennial | None | NA | May-June | open, mixed conifer forest; mixed conifer zone | 1050-1550 | N | Y | N | N | N |
| *Ceanothus integerrimus* | deerbrush | Shrub | Perennial | None | NA | May-June | dry slopes and flats, in well-developed or shallow soil | 500-1830 | Y | Y | N | N | N |
| *Ceanothus leucodermis* | chaparral whitethorn | Shrub | Perennial | None | NA | April-June | dry, rocky slopes in the submontane chaparral; chaparral/oak woodland zone. | 500-1520 | Y | N | N | Y | N |
| *Ceanothus parvifolius* | littleleaf ceanothus | Shrub | Perennial | None | NA | May-July | partially-shaded openings in the mixed conifer forest, usualy in well-developed soil; mixed conifer zone | 1200-2130 | N | Y | N | N | N |
| *Ceanothus velutinus* var. *velutinus* | snowbrush ceanothus | Tree, Shrub | Perennial | None | NA | July | dry, rocky places in montane chaparral and scattered in openings in the subalpine forest; montane and subalpine zones | 2430-3050 | N | N | Y | Y | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Cercis occidentalis* | western redbud | Tree, Shrub | Perennial | None | NA | March-May | dry canyonsides; chaparral/oak-woodland zone | 500-1200 | Y | N | N | N | N |
| *Cercocarpus betuloides* var. *betuloides* | birchleaf mountain mahogany | Tree, Shrub | Perennial | None | NA | March-May | dry slopes and flats in the submontane chaparral or chaparral/gray pine woodland; chaparral/oak-woodland zone | 500-1370 | Y | N | N | N | N |
| *Chamaebatia foliolosa* | mountain misery | Subshrub, Shrub | Perennial | None | NA | May-July | open ponderosa pine and mixed conifer forest; mixed conifer zone | 900-1850 | N | Y | N | N | N |
| *Chrysolepsis semperivirens* | Chinquapin | Shrub | Perennial | None | NA | July-August | dry, open or shaded slopes and ridges | 1675-2200 (3050) | N | Y | Y | Y | N |
| *Cornus nuttallii* | Pacific dogwood | Tree | Perennial | None | FACU | April-July | dry to moist, shaded forest understory | 1050-1850 | N | Y | N | N | N |
| *Corylus cornuta* var. *californica* | California hazelnut | Tree, Shrub | Perennial | None | FACU | January-April | damp, shaded forest | 1100-2130 | N | Y | N | N | N |
| *Epilobium canum* ssp. *latifolium* | hummingbird trumpet | Subshrub, Forb/herb | Perennial | None | NA | August-October | dry, rocky places | 1000-2070 | Y | Y | N | N | N |
| *Ericameria arborescens* | goldenfleece | Shrub | Perennial | None | NA | August-November | dry to moist areas, either on open chaparral slopes or in open forest; chaparral/oak-woodland and mixed conifer zones | 500-1675 | Y | Y | N | N | N |
| *Ericameria cuneata* var. *cuneata* | cliff goldenbush | Subshrub, Shrub | Perennial | None | NA | September-November | rock crevices along cliffs or other steep, rocky areas; chaparral/oak-woodland and mixed conifer zones | 900-2150 | Y | Y | N | N | N |
| *Eriodictyon californicum* | California yerba santa | Shrub | Perennial | None | NA | May-July | open slopes and ridges, usually in the lower mixed chapparal community or in the chaparral/mixed conifer ecotone, frequently in burned areas | 500-1675 | Y | Y | N | N | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Eriogonum nudum* | naked buckwheat | Subshrub, Forb/herb | Perennial | plus 3 varieties | NA | June-October | dry, open, sandy, or rocky areas | 700-3800 | Y | Y | Y | Y | Y |
| *Eriophyllum lanatum* | common woolly sunflower | Subshrub, Forb/herb | Annual, Perennial | Not *E. congdonii* (CNPS 1B) and *E. nubigenum* (CNPS 1B) | NA | May-August | dry, open, rocky ridge and slopes; dry, sunny, and often brushy places; open forest, in partial sun | 500-3400 | Y | Y | Y | Y | N |
| *Frangula californica* ssp. *cuspidata* | California buckthorn | Tree, Shrub | Perennial | None | NA | -- | -- | -- | N | N | N | N | N |
| *Frangula rubra* | red buckthorn | Shrub | Perennial | None | NA | -- | -- | 500-1740 | Y | Y | Y | N | N |
| *Fraxinus dipetala* | California ash | Tree, Shrub | Perennial | None | NA | April- May | mostly canyon bottoms on dry ground | 500-600 | Y | N | N | N | N |
| *Fraxinus latifolia* | Oregon ash | Tree | Perennial | None | FACW | March-May | along rivers and streams | 600 | Y | N | N | N | N |
| *Grindelia camporum* var. *camporum* | great valley gumweed | Subshrub, Forb/herb | Perennial | None | FACW | July-October | roadsides and dry hillsides | 500-1200 | Y | N | N | N | N |
| *Heteromeles arbutifolia* | toyon | Tree, Shrub | Perennial | None | NA | -- | -- | -- | N | N | N | N | N |
| *Juniperus occidentalis* | juniper | Tree | Perennial | None | NA | -- | rock crevices or thin soil on exposed canyonsides, ridges, or sometimes flats | (1370) 2200-3200 | N | Y | Y | Y | N |
| *Keckiella breviflora* | bush beardtongue | Subshrub, Shrub | Perennial | None | NA | May-July | dry rocky areas; mostly in the chaparral/oak-woodland and mixed conifer zones | 500-1525 | Y | Y | N | N | N |
| *Ledum glandulosum* | rhododendron | Shrub | Perennial | None | NA | June-August | meadow borders and damp, rocky places, along streams | 1800-3100 | N | Y | Y | Y | Y |
| *Lepechinia calycina* | woodbalm | Subshrub, Shrub | Perennial | SSP Category 13 | NA | April-June | open, grassy slopes in the foothill oak-woodland communities or in chaparral; chaparral/oak-woodland zone | 500-1310 | Y | N | N | N | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Lonicera involucrata* var. *involucrata* | twinberry honeysuckle | Shrub | Perennial | None | FAC | June-August | streambanks and other wet areas, usually in deep soil, but sometimes around rocks; mixed conifer, montane and subalpine zones | 1675-3100 | N | Y | Y | Y | N |
| *Lupinus spp.* | lupines--25 species | Subshrub, Forb/herb | Perennial, annual | Not *L. gracilentus* (CNPS 1B) | NA | -- | -- | -- | N | N | N | N | N |
| *Monardella odoratissima* ssp. *pallida* | mountain monardella | Subshrub, Forb/herb | Perennial | None | UPL | July-August | dry, sandy, and gravelly slopes and flats | 2150-3350 | N | N | Y | Y | Y |
| *Philadelphus lewisii* | mock orange | Shrub | Perennial | None | NA | May-July | rocky and frequently vernally-moist areas, in shade or sun; chaparral/oak-woodland and mixed conifer zones | 500-1370 | Y | Y | N | N | N |
| *Physocarpus capitatus* | Pacific ninebark | Shrub | Perennial | None | FACW | May-July | streambanks and moist slopes, usually north-facing; mixed conifer zone | 1050-1475 | N | Y | N | N | N |
| *Pinus jeffreyi* | Jeffrey pine | Tree | Perennial | None | NA | -- | dry flats and mountainsides, sparsely-vegetated domes, and open, glaciated, granitic areas | (1300) 1800-2400 (2750) | N | Y | Y | N | N |
| *Pinus lambertiana* | sugar pine | Tree | Perennial | None | NA | -- | variable wet to dry situations in both thin and more well-developed soils | (750) 1670-2300 (2750) | N | Y | Y | N | N |
| *Pinus monophylla* | singleleaf pinyon | Tree | Perennial | None | NA | -- | dry, rocky places; mixed conifer zone | 1670-2000 | N | Y | N | N | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Pinus ponderosa* | ponderosa pine | Tree | Perennial | None | FACU | -- | widespread in the lower mixed conifer zone and tending to favor drier south-to-west aspects and valley bottoms, where there is at least moderate soil development; mixed conifer and montane zones | (500) 1000-1850 (2600) | N | Y | Y | N | N |
| *Pinus sabiniana* | California foothill pine | Tree | Perennial | None | NA | -- | dry, rocky slopes, often associated with sub-montane chaparral | 500-1550 | Y | N | N | N | N |
| *Populus balsamifera* ssp. *trichocarpa* | black cottonwood | Tree | Perennial | None | NA | February-April | streambanks and river flats; chaparral /oak-woodland, mixed conifer, and montane zones | 500-2430 | Y | Y | Y | N | N |
| *Populus fremontii* ssp. *fremontii* | cottonwood | Tree | Perennial | None | NA | March-April | streambanks and river flats; chaparral /oak-woodland zone. mixed conifer, and montane zones | 500-600 | Y | N | N | N | N |
| *Populus tremuloides* | aspen | Tree | Perennial | None | FACU | April-June | streambanks, meadow borders, and other damp places | 1200-3050 | N | Y | Y | Y | N |
| *Prunus emarginata* | bitter cherry | Tree, Shrub | Perennial | None | FACU | April- May | rocky slopes, often in damp places | 1500-2500 | N | Y | Y | N | N |
| *Prunus subcordata* | Klamath plum | Tree, Shrub | Perennial | None | NA | March-June | dry to moist places, in rocky areas or in deep soil; mostly within the mixed conifer zone | 1200-2600 | N | Y | N | N | N |
| *Prunus virginiana* var. *demissa* | western choke-cherry | Tree, Shrub | Perennial | None | FACU | May-June | meadows, streambanks, and moist forest | 1060-2150 | N | Y | N | N | N |
| *Pseudotsuga menziesii* var. *menziesii* | Douglas fir | Tree | Perennial | None | FACU | -- | moist forested slopes, in Yosemite usually confined to north-facing talus slopes and canyonsides | 600-1900 | N | Y | N | N | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Quercus chrysolepis* | canyon live oak | Shrub, Tree | Perennial | None | NA | April-May | rocky canyonsides and talus slopes | 500-1980 | Y | Y | N | N | N |
| *Quercus douglasii* | blue oak | Tree | Perennial | None | NA | April-May | dry, rocky or grassy slopes, mostly south-facing in Yosemite area; chaparral/oak-woodland zone | 500-775 | Y | N | N | N | N |
| *Quercus garryana* var. *breweri* | Brewer's oak; Oregon white oak | Tree, Shrub | Perennial | None | NA | April-June | dry slopes | 500-800 | Y | N | N | N | N |
| *Quercus kelloggii* | California black oak | Tree, Shrub | Perennial | None | NA | April-May | dry ridges and slopes, and moist to dry alluvium and colluvium in valleys | 500-2450 | N | Y | Y | N | N |
| *Quercus lobata* | valley oak | Tree | Perennial | None | FACU | March-April | deep soil on slopes and in valleys; chaparral/oak-woodland zone | 500-720 | Y | N | N | N | N |
| *Quercus vaccinifolia* | huckleberry oak | Shrub | Perennial | None | NA | May-July | dry, rocky cliffs, ridges and slopes | 1370-2600 (3050) | N | Y | Y | Y | N |
| *Quercus wislizeni* var. *wislizeni* | interior live oak | Tree, Shrub | Perennial | None | NA | March-May | dry and often rocky slopes and valleys; chaparral/oak-woodland and mixed conifer zones | 500-1370 | Y | Y | N | N | N |
| *Rhamnus ilicifolia* | holly buckthorn | Shrub, Tree | Perennial | None | NA | March-June | dry, rocky places in the open | 500-2130 | N | Y | Y | N | N |
| *Rhamnus rubra* | Sierra coffeeberry | Shrub | Perennial | None | NA | June-July | dry slopes and flats in the submontane chaparral, oak-grassland, or mixed conifer forest; chaparral/oak-woodland and mixed conifer zones | 500-1740 | Y | Y | Y | N | N |
| *Rhododendron occidentale* | azalea | Shrub | Perennial | None | FAC | June-August | meadows and streambanks | 1050-2300 | N | Y | Y | N | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Rhus trilobata* | skunkbush sumac; sourberry | Shrub | Perennial | None | NA | March-April | variable; from moist streambanks to dry chaparral, in full sun to partial shade; chaparral/oak-woodland and mixed conifer zones | 500-1200 | Y | Y | N | N | N |
| *Ribes nevadense* | Sierra currant | Shrub | Perennial | None | FAC | May-July | damp to wet areas; mostly in shaded forest and along streams; chaparral/oak-woodland, mixed conifer, montane, and subalpine zones | (900) 1200-2600 (3050) | Y | Y | Y | Y | N |
| *Ribes roezlii* var. *roezlii* | Sierra gooseberry | Shrub | Perennial | None | NA | May-June | dry to moist, mostly shaded places on the forest floor; mixed conifer, montane, and subalpine zones | 1050-2600 | N | Y | Y | Y | N |
| *Ribes* spp. | gooseberries--seven additional species | Shrub | Perennial | None | NA | -- | -- | -- | N | N | N | N | N |
| *Rosa californica* | California wildrose | Subshrub | Perennial | None | FAC | May-August | meadow borders and other damp places, usually in deep soil | 1050-1840 | N | Y | N | N | N |
| *Rubus glaucifolius* | wild raspberry | Subshrub | Perennial | None | NA | June-July | dry, open forest; mixed conifer zone | 1200-1830 | N | Y | N | N | N |
| *Rubus leucodermis* | western raspberry | Subshrub, Vine | Perennial | None | FACU | April-July | damp to moist, shaded to open forest | 900-2120 | N | Y | N | N | N |
| *Rubus parviflorus* | thimbleberry | Subshrub | Perennial | None | FACU | April-August | shaded forest openings | 1100-2350 | N | Y | Y | N | N |
| *Rubus ursinus* | California blackberry | Subshrub | Perennial | None | FACU | March-July | damp, open places | 500-1300 | Y | Y | N | N | N |
| *Salix boothii* | Booth's willow | Shrub | Perennial | SSP Category 13 | FACW | June-July | streambanks; montane and subalpine zones | 2450-3200 | N | N | Y | Y | N |
| *Salix eastwoodiae* | mountain willow | Shrub | Perennial | None | FACW | June-July | streambanks and wet meadows; montane, subalpine, and alpine zones | 2150-3100 (3600) | N | N | Y | Y | Y |
| *Salix exigua* | narrowleaf willow | Tree, Shrub | Perennial | None | FACW | -- | -- | -- | N | N | N | N | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Salix geyeriana* | Geyer willow | Tree, Shrub | Perennial | None | FACW | May-June | streambanks; montane and subalpine zones | 2430-3200 | N | N | Y | Y | N |
| *Salix jepsonii* | Jepson's willow | Shrub | Perennial | None | OBL | May-June | streambanks and wet meadows; mixed conifer, montane, and subalpine zones | 1200-3050 | N | Y | Y | Y | N |
| *Salix laevigata* | red willow | Shrub | Perennial | None | FACW | March-May | streambanks | 500-1200 | Y | N | N | N | N |
| *Salix lasiolepis* | arroyo willow | Tree, Shrub | Perennial | None | FACW | February-April | streambanks and wet meadows | 500-1200 | Y | Y | N | N | N |
| *Salix lemmonii* | Lemmon's willow | Shrub | Perennial | None | FACW | May-June | streambanks and damp to wet meadows | 1200-3400 | N | Y | Y | Y | Y |
| *Salix ligulifolia* | strapleaf willow | Shrub, Tree | Perennial | None | FAC | April-May | streambanks and wet meadows; mixed conifer zone | 1200-2150 | N | Y | N | N | N |
| *Salix lucida* ssp. *lasiandra* | Pacific willow | Shrub, Tree | Perennial | None | FACW | March-May | streambanks; chaparral/oak-woodland, mixed conifer, and montane zones | 500-2350 | Y | Y | Y | N | N |
| *Salix lutea* | yellow willow | Tree, Shrub | Perennial | None | OBL | May-June | streambanks, lake borders, and wet meadows; mixed conifer and montane zones | 1525-2450 | N | Y | Y | N | N |
| *Salix melanopsis* | dusky willow | Tree, Shrub | Perennial | None | OBL | March-May | streambanks; chaparral/oak-woodland, mixed conifer, and montane zones | 500-2450 | Y | Y | Y | N | N |
| *Salix orestera* | Sierra willow | Shrub | Perennial | None | FACW | June-July | streambanks; lake borders, and wet meadows; montane, subalpine, and alpine zones | 2350-3400 | N | N | Y | Y | Y |
| *Salix petrophila* | alpine willow | Shrub | Perennial | None | NA | July-August | meadows and fellfields; subalpine and alpine zones | (2600) 3000-3560 | N | N | N | Y | Y |
| *Salix planifolia* ssp. *planifolia* | diamondleaf willow | Shrub, Tree, Subshrub | Perennial | None | OBL | June-August | streambanks, damp meadows, and fellfields; subalpine and alpine zones | 2600-3550 | N | N | N | Y | Y |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Salix scouleriana* | Scouler's willow | Tree, Shrub | Perennial | None | FAC | April-June | dry, shaded slopes, streambanks, and meadow borders; chaparral/oak-woodland, mixed conifer, and montane zones | 500-2440 | Y | Y | Y | N | N |
| *Sambucus mexicana* | blue elderberry | Tree, Shrub | Perennial | None | NA | June-September | dry, open areas; chaparral/oak-woodland and mixed conifer zones | 500-2150 | Y | Y | N | N | N |
| *Sambucus racemosa* var. *melanocarpa* | Rocky Mountain elder | Tree, Shrub | Perennial | None | NA | July-August | moist areas, especially around lakes and streams; montane and subalpine zones | 2750-3000 | N | N | Y | Y | N |
| *Sambucus racemosa* var. *racemosa* | red elderberry | Tree, Shrub | Perennial | None | FACU | June-August | moist, rocky places; montane and subalpine zones | 1830-3350 | N | N | Y | Y | N |
| *Sequoiadendron giganteum* | giant sequoia | Tree | Perennial | SSP Category 9 | NA | -- | moist, forested areas with high water tables; mixed conifer zone | 1600-2100 | N | Y | N | N | N |
| *Solanum xanti* | chaparral nightshade | Subshrub, Forb/herb | Perennial | None | NA | May-August | dry openings | 1200-2150 | N | Y | Y | N | N |
| *Staphylea bolanderi* | bladder bush | Shrub, Tree | Perennial | SSP Category 9 | NA | April-May | riparian areas and dry, mostly-shaded canyonsides, in interior live oak woodland, canyon live oak forest, mixed north slope forest, and associated riparian communities | 500-850 | Y | N | N | N | N |
| *Symphoricarpos albus* var. *laevigatus* | common snowberry | Subshrub, Shrub | Perennial | None | FACU | May-July | damp, shaded forest and streambanks; chaparral/oak-woodland and mixed conifer zones | 900-1600 | Y | Y | N | N | N |
| *Torreya californica* | California nutmeg | Tree | Perennial | None | NA | May | steep, rocky, and usually south-facing canyonsides, in either partial shade or full sun; chaparral/oak-woodland and mixed conifer zones | 730-1600 | Y | Y | N | N | N |

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Tsuga mertensiana* | mountain hemlock | Tree | Perennial | None | FACU | -- | moist, usually north-facing, subalpine slopes; subalpine zone | 2450-3350 | N | N | N | Y | N |
| *Umbellularia californica* | California laurel | Tree, Shrub | Perennial | None | FAC | December-May | mostly dry, rocky canyonsides and talus, but also in valleys with well-developed alluvium; chaparral/oak-woodland and mixed conifer zones | 500-2000 | Y | Y | N | N | N |

**Non-Native Plants (13 taxa)**

- Collection limits do not apply. Minimize transport of seed to other locations.

| Scientific Name | Common Name | Growth Habit | Duration | Notes | Wetland Indicator | Flowering seasons | Habitat (from Botti, Flora of Yosemite) | Elevation Range (m) | Chaparral/Oak Woodland | Mixed Conifer | Montane | Subalpine | Alpine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Avena barbata* | slender oat | Graminoid | Annual | None | NA | March-June | dry, open places | 500-1500 | Y | N | N | N | N |
| *Avena fatua* | wild oat | Graminoid | Annual | None | NA | April-June | dry, open places | 500-1300 | Y | N | N | N | N |
| *Avena sativa* | common oat | Graminoid | Annual | few observations | UPL | March-May | disturbed sites | 500-2200 | Y | Y | Y | N | N |
| *Briza minor* | little quakinggrass | Graminoid | Annual | None | FAC | April-July | dry to moist disturbed areas around developments | 500-1200 | Y | N | N | N | N |
| *Bromus diandrus* | ripgut brome | Graminoid | Annual, Perennial | None | NA | April-June | dry, disturbed places around developments | 500-1800 | Y | Y | N | N | N |
| *Dysphania ambrosioides* | Mexican tea | Subshrub, Forb/herb | Annual | None | FAC | July-September | disturbed places | 500-1400 | Y | N | N | N | N |
| *Malva parviflora* | cheeseweed mallow | Forb/herb | Annual, Biennial, Perennial | None | NA | May-September | disturbed and waste places | 500-1200 | Y | Y | N | N | N |
| *Marrubium vulgare* | horehound | Subshrub, Forb/herb | Perennial | None | FACU | May-August | disturbed areas around developments | 500-900 | Y | N | N | N | N |
| *Mentha spicata* | spearmint | Forb/herb | Perennial | None | FACW | July-October | wet meadows | 1200 | N | Y | N | N | N |
| *Rumex conglomeratus* | clustered dock | Forb/herb | Perennial | None | FACW | April-October | damp places such as meadow borders | 500-1370 | Y | Y | N | N | N |
| *Scirpus cyperinus* | woolgrass | Graminoid | Perennial | None | OBL | July-August | streambanks and marshes | 1200 | N | Y | N | N | N |

# APPENDIX B: BIANNUAL TRADITIONAL PLANT GATHERING MONITORING MEETING

*Spring meeting oriented toward sharing work plans (invasives treatments, NPS seed collecting, etc.)*
*Fall meeting oriented toward sharing fall gathering plans plus reporting out gatherers' observations*

The purpose of this meeting is to identify any emerging issues or improvements that could be made to the permit or NPS operations, and to optimize protection of park resources, while allowing for traditional gathering activities to occur. Objectives include:

- Review the preceding year's plant gathering processes
- Communicate observations about plant community condition, gathering sustainability, and tribal access
- Communicate NPS management actions that may affect traditional plant gathering
- Improve processes and identify additional future monitoring or management needed

Agenda Items:

1. How did it go? Discussion about process.
    a. Park entry
    b. Interactions between tribal gatherers and Law Enforcement Officers
    c. Interactions between tribal gatherers and the public
    d. Other feedback to NPS: what worked well? what could be improved?
2. Plant Condition Observations – locations and plant communities
    a. Poor condition, needing attention.
        i. Park management and visitor use impacts
        ii. Vegetation management/tending needed
    b. Improved condition related to plant gathering
    c. Impacts (if any) related to plant gathering
        i. Overharvesting, availability of plants and usability
        ii. Gathering access impacts, such as in popular gathering areas
        iii. How were tribal activities coordinated in areas used by multiple tribes?
3. Other Observations- wildlife, archeology, etc.
    a. Training for identifying Threatened and Endangered Species
    b. Observed threats/impacts
4. Planned NPS Management Actions
    a. Invasive plant treatments: invasive plant management annual workplan and maps
    b. Seed and willow collection plans and locations, for revegetation and ecological restoration.
    c. Known hazard tree and/or fire management activities
5. Suggestions for Improvement
    a. Proposals for additional monitoring or management/tending action
    b. Feedback on prescribed fire in gathering areas
    c. Feedback on other NPS activities/undertakings in areas of interest for gathering
    d. Interest in collaborative restoration research?
    e. Species to add or remove from the plant gathering list?