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Natural Resource Advisory Committee
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AGENDA ITEM NO.: 7
NRAC MEETING DATE: November 20, 2013
SUBJECT: Inyo National Forest Plan Update/Revision – Draft Focus Papers

EXECUTIVE SUMMARY

The County is working with the Inyo National Forest (INF) on its update to the INF Plan. Plan Revision is currently in the Assessment phase and the Draft INF Assessment will be released for public review and comment soon. The Inyo County Board of Supervisors directed County staff to prepare Focus Papers on five topics. Draft versions of the Biology and Multiple Use Focus Papers will be presented and discussed with the NRAC and input may be solicited for the Planning Commission and the Board of Supervisors.

PROJECT INFORMATION

Supervisory District: County-wide
Recommended Action: Provide input and recommendations to the Planning Commission and the Board of Supervisors regarding the Draft Focus Papers
Project Planner: Joshua Hart, AICP, Planning Director

BACKGROUND

The INF is working on updating its Forest Plan.¹ Plan revision consists of three phases including: (1) Assessment, (2) Plan Revision, and (3) Monitoring. Currently, they are in the Assessment phase and the Draft INF Assessment will be released for public review and comments in the near future.

Per the Board's direction, staff has been working to prepare focus papers to focus the County's participation in the Plan Update on the most relevant topics. The five focus paper topics are (1) Multiple Uses, (2) Biology, (3) Socioeconomics, (4) Infrastructure/Public Services, and (5) Access. Draft focus papers for Multiple Uses and Biology are attached for review and feedback. The Focus Papers are intended to be routinely updated throughout the Plan Revision process. The Planning Commission reviewed the draft Biology Focus Paper at its regular meeting on September 25, 2013, and expressed support for the general approach; one suggestion provided was to include more focus on access issues in all of the Focus Papers.

¹ Refer to <http://www.inyoplanning.org/InyoNationalForest.htm> for more information about the County's participation in the Plan Update/Revision.

ANALYSIS

As discussed above, the Board directed staff to develop Focus Papers to assist in public understanding issues germane to the County. Staff is working on the following five Focus Papers: (1) Socioeconomics, (2) Multiple Uses, (3) Biology, (4) Infrastructure/Services, and (5) Access. Draft Focus Papers for Biology and Multiple Uses are attached and staff may solicit input for the Planning Commission and the Board of Supervisors.

NEXT STEPS

The Forest Service plans to release the Draft Assessment for review and public comments in the very near future, with a final Assessment later in the year, followed by an analysis of the need for change prior to development of the draft Plan and Environmental Impact Statement.

Attachment:

- Draft Multiple Use Focus Paper
- Draft Biology Focus Paper

Inyo National Forest Update/Revision

Draft Focus Paper – Multiple Uses

Prepared by Inyo County Planning Department

November 2013

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Introduction

The Inyo National Forest (INF) is updating its Land Resource Management Plan. This Focus Paper provides an overview of issues germane to the County of Inyo in the Update as of **??date??**. This Focus Paper will be updated periodically throughout the process to reflect current trends.

Purpose

The purpose of this Paper is to distill relevant information regarding Multiple Uses in the INF Plan and concentrate the County's input on important issues, focus the County's participation, and to provide better feedback to the Forest Service.

Roadmap

Following this Introduction, background information is presented, and then a description of the setting. Then, issues and trends and opportunities and constraints are presented, followed by a description of the Forest Service's approach to the relevant issues.

Background

The INF Plan was last comprehensively updated in 1988. Numerous addenda, errata, and other modifications have occurred since.

1988 Plan Update

The 1988 Plan addresses multiple uses by dividing such uses into a topic list, which are addressed in this manner throughout the document. These include discrete social, economic, and resource environments. The multiple use management goals include the following:

- economically efficient and cost-effective management that is responsive to economic and social needs;
- identification, evaluation, protection, and interpretation of historic resources as an integral management component;
- diverse plant and animal communities;
- fish habitat that is managed to provide species diversity to ensure viable populations of native vertebrates, and that the habitats of management emphasis species are maintained or improved;
- efficient transportation, administrative sites, and other facilities for planned uses and resource protection;
- provisions for geologic hazards;
- compatible relationships with adjacent non-federal lands;
- pest management;
- fire management that minimizes long-lasting adverse fire impacts;
- maximizing public benefits from mineral resources, including geothermal;
- sustained yield of forage, improved range condition, and increased grazing capacity;

- a broad range of developed and dispersed recreation, establishing research areas, including aquatic and geologic candidates;
- managing special interest areas; managing, protecting, and improving riparian areas;
- providing for a sustained yield of timber;
- maintaining and enhancing scenic resources;
- providing for sustained benefit of consumptive and nonconsumptive uses of water;
- managing and protecting wild and scenic rivers and wilderness, and;
- wildlife habitat managed to provide for species diversity for existing native vertebrates and invertebrates, and that habits of management emphasis species are maintained or improved.

Quantitative objectives are identified for a variety of infrastructure and planning projects. Management prescriptions, similar to zoning are identified for numerous specific areas, such as the Bristlecone Pine Forest, Developed Recreation Site, Dispersed Recreation, Multiple Resource Area, etc.

Planning Since 1988

Plan Amendments since 1988 include the South Sierra Wilderness Management Plan (1991), Motor Vehicle Direction (1993), Wild and Scenic River Management Plan: North and South Forks of the Kern (1994), Forest-wide Range Utilization Standards (1995), Management Direction for the Ansel Adams, John Muir, and Dinky Lakes Wildernesses (2001), Sierra Nevada Forest Plan Amendment (2004), and Management Indicator Species Amendment (2007). These Amendments provide for specific management direction for selected topics, and generally work to prescribe greater restrictions for multiple uses.

2012 Planning Rule

The Forest Service updated its Planning Rule in 2012. According to the Rule, consistent with the Multiple-Use Sustained-Yield Act of 1960, the Forest Service manages its lands to sustain the multiple use of its renewable resources in perpetuity while maintaining the long-term health and productivity. Resources are managed through a combination of approaches and concepts for the benefit of human communities and natural resources. The plan must provide for ecosystem services and multiple uses, including outdoor recreation, range, timber, watershed, wildlife, and fish, within Forest Service authority and the inherent capability of the plan area as follows:

- (1) integrated resource management for multiple use (aesthetic values, air quality, cultural and heritage resources, ecosystem services, fish and wildlife species, forage, geologic features, grazing and rangelands, habitat and habitat connectivity, recreation settings and opportunities, riparian areas, scenery, soil, surface and subsurface water quality, timber, trails, vegetation, viewsheds, wilderness, and other relevant resources and uses; renewable and nonrenewable energy and mineral resources; appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors; opportunities to coordinate with neighboring landowners to link open spaces and take into account joint management objectives where feasible and appropriate; habitat conditions; wildlife, fish, and plants commonly enjoyed and used by the public for hunting, fishing, trapping, gathering, observing, subsistence, and other activities; land status and ownership, use, and access patterns; reasonably foreseeable risks to ecological, social, and economic sustainability; system drivers, including dominant ecological processes,

- disturbance regimes, and stressors, such as natural succession, wildland fire, invasive species, and climate change; and the ability of the terrestrial and aquatic ecosystems on the plan area to adapt to change; public water supplies and associated water quality; and opportunities to connect people with nature), and
- (2) standards or guidelines to provide for sustainable recreation (including recreation settings, opportunities, and access), scenic character, recreation opportunities (including nonmotorized, motorized, developed, and dispersed recreation on land, water, and in the air), protection of cultural and historic resources, management of areas of tribal importance, protection of congressionally designated wilderness areas as well as management of areas recommended for wilderness designation to protect and maintain the ecological and social characteristics that provide the basis for their suitability for wilderness designation, protection of designated wild and scenic rivers as well as management of rivers found eligible or determined suitable for the National Wild and Scenic River system to protect the values that provide the basis for their suitability for inclusion in the system, appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas, and other plan components for integrated resource management to provide for multiple use as necessary.

The Forest Service's draft Directives to implement the Planning Rule include specific approaches to multiple uses, including outdoor recreation, range, timber, watershed, and fish and wildlife.

Current Update/Revision Effort

To date, the current Update effort includes a Science Synthesis, a Bioregional Assessment, and Topic Papers. Multiple uses are addressed in these documents throughout, although generally speaking not discretely. The Science Synthesis addresses specific topics selected for analysis throughout the Sierra Nevada based on a review of scholarly articles to identify common themes and disagreements; multiple uses topics include ecosystem services, fire, soils, water resources and aquatic ecosystems, wildlife, and socioeconomics, as well as related strategies. The Bioregional Assessment addresses fire resilience, sustainable recreation, ecological integrity, and community resilience at a Sierran scale. The Topic Papers are tailored to the INF and address the following topics (listed by the 15 chapters): (1) terrestrial, aquatic, and riparian ecosystems; water resources; (2) soil resources; (3) system drivers and stressors; (4) carbon stocks; (5) at-risk wildlife and plant Species; (6) social and economic conditions; (7) ecosystem services (8) multiple uses – timber, water, range, wildlife/fish/plants; (9) recreation settings, opportunities, and access; (10) mineral resources and renewable energy; (11) infrastructure; (12) areas of tribal importance; (13) cultural resources; (14) land ownership, land status, and land use policies and zoning, and; (15) designated areas.

County Priorities for Update/Revision

According to the Board of Supervisors' June 19, 2013 correspondence, the following priorities for the Update effort relevant to multiple uses are identified: access should be enhanced to accommodate vehicular use, packing, hunting, hiking, and other recreational opportunities, as well as mining and other uses of the Forest. Mitigation opportunities for potential environmental impacts resulting from increased access should be identified and implemented. Roads and trails should be protected and expanded to provide access for recreation and exploration for natural resources and other uses of the Forest, including grazing, mining, and the activities of native peoples (such as gathering). Conflicts between biological resources and human access should be identified and planned for. The Plan should

contribute substantially to the local economy, and support and encourage consumptive and sustainable uses of the Forest to contribute to the County's economy and culture. The Plan should support and enhance the culture of local communities to the extent social and cultural issues revolve around the forest and provide access to the Forest for gathering activities, prospecting, sightseeing, exploration, and camping.

Setting

Multiple uses of public lands are integral to Inyo County, particularly lands in the INF. The County's economy developed based on resource extraction and agriculture, which has transitioned towards a service economy particularly tied to tourist-oriented recreation. These historical ties have shaped the society and culture of the County.

Historical

Native peoples relied and prospered on the natural bounty of Inyo County since time immemorial. Resource extraction has always been and continues to be an integral component of the County's economy and culture. In the 19th century, mining provided opportunities for development of its communities; mines in the Sierra Nevada produced great quantities of precious metals and strategic resources. This was exemplified by the Pine Creek Mine, the primary commodity of which was tungsten. Agriculture initially drove development in the Owens Valley, including important shepherding and other animal husbandry components. Recreational opportunities from the Sierra Nevada through Death Valley always provided sustenance to those who lived here and drew visitors. Timber production in the Sierra Nevada provided important sources for local and regional wood supplies, including for heating people's homes. Water extraction and export to Los Angeles shaped the County's future in the early 20th century, and development of hydroelectric energy facilities for construction of the Los Angeles Aqueduct and later development of geothermal, wind, and solar resources provide a base for potential future renewable energy development.

The peoples of the County continue to rely on multiple uses of public lands in and adjacent to the County. The County's population is relatively skewed towards the elderly, including seniors with limited incomes who live here for affordability and lifestyle reasons, as well as more affluent retirees who choose to live here for the natural beauty and outdoor recreation possibilities. An increasing Hispanic population takes advantage of the low cost of living, employment opportunities (particularly in the service sector), and the setting. The government sector (which relies on recreation, natural resource management, and water export) provides important high-paying employment opportunities, partially offsetting losses of good jobs in the mining and agricultural sectors.

Current Uses and their Importance

The historic importance of multiple uses shapes today's Inyo County, and access to the Forest is vital to maintaining multiple uses. The following summarizes some of the more important multiple uses.

1. **Mining** – mining of various resources in the Forest provided the base of the County's development. One of the County's most important mines in the Forest in the last century was the Pine Creek Mine, from which tungsten and myriad of other precious metals vital to national

industrial prowess and wealth were produced. Gold, silver, and many other important minerals have been extracted from various mines in the Forest during human habitation of the region.

2. **Water** – the Forest provides water for multiple downstream uses, including agriculture, power production, domestic, industrial, recreational (fishing, water sports, boating, etc.), and export.
3. **Agriculture** – the Forest is utilized by agricultural interests for animal husbandry, particularly cattle and sheep. Animals such as these are kept at lower elevations during the colder months and are driven into the Sierra during the late spring, summer, and early fall. By this cycle, the ecological integrity of the lands can be maintained, while providing for thinning to minimize wildfire impacts and promote ecological heterogeneity. While crop production is now largely absent from the forest (with the exception of illegal marijuana cultivation), some people enjoy collecting forest products for holiday wreaths and other decorative displays. Beekeeping also occurs in the Forest.
4. **Packing** – many County residents make their livelihood leading tourists into the Sierra Nevada, and some operate the numerous pack stations and related businesses in the Forest and nearby areas. Of particular historic/cultural importance to the community are the guides leading pack trains into the backcountry, providing access for a multitude of activities. Due to the decline in motorized access, these “packers” provide one of the few means of access for equipment-laden pursuits and those with limited mobility. Pack stations in Horseshoe Meadow, Onion Valley, Big Pine Canyon, Bishop Creek Canyon, Pine Creek Canyon, and Rock Creek Lake are important starting-points to locations and treks in the Forest; additional support facilities can be found in nearby communities.
5. **Sightseeing** – many tourists visit Inyo County for its breathtaking scenery, dramatic locales, and intriguing history. Popular destinations in the Forest include Mt. Whitney, Horseshoe Meadows, Bishop Creek, Big Pine Creek, Onion Valley, Pine Creek Canyon, the Bristlecone Pine Forest, and routes to Death Valley National Park (including Saline and Eureka valleys). Nine-mile Canyon Road provides access from the County into popular Forest destinations via Tulare County, and Rock Creek Road provides access from the County into the Forest via Mono County.
6. **Hiking** – the County provides hiking trails and exploration unsurpassed. Popular trails accessed in the Forest include the Pacific Crest Trail, John Muir Trail, Whitney Portal Trail, and High Sierra Trail. Hikers stay in local accommodations and buy supplies in the County,
7. **Fishing** – fishing has always been and continues to be integral to most people living in Inyo County, particularly in the Owens Valley. Life in the Valley in the past in many ways revolved around fishing season, and Opening Day is still an important event.
8. **Climbing** – the Forest provides varied opportunities for technical climbing pursuits, from routes well-suited to novices to rock climbing requiring extensive experience and technical skills. The Buttermilk and Pine Creek Canyon are particularly well known locations for these adventures.
9. **Off-highway Vehicle Recreation** – OHV use has been and continues to be important to the psyche of many County residents, who often spend free time exploring nearby roads and trails on OHVs. OHV recreation draws tourists to the Sierra Nevada, the White/Inyo mountains, the Owens Valley, Death Valley, and other locations. Popular OHV destinations in the Forest include Bishop Creek, Coyote Flat, and the White/Inyo Mountains.
10. **Wooding** – peoples of the County have and continue to collect wood for heating and energy generation for their homes. The Sierra Nevada provides this resource primarily, although the White/Inyo Mountains also provide timber that is utilized for these purposes. Many families enjoy searching for a perfect Christmas tree for the holidays, and local school harvest Christmas trees for fundraising purposes.
11. **Others** – myriad of other multiple uses take place in the Forest, including rock collecting, filming, photography, bouldering, pine nut and cone gathering, hang-gliding, spelunking, mountain

biking/fatbiking/unicycling, enjoying historic and cultural resources, religious activities, limited commercial timber production, renewable energy production (solar, wind, biomass, geothermal) and transmission, etc.

Multiple Uses Sustained Yield Act

According to the Multiple Uses Sustained Yield Act of 1960, it is the policy of the Congress that the national forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. The Act authorizes and directs that the national forests be managed under principles of multiple use and to produce a sustained yield of products and services, and for other purposes. Multiple use means the management of all the various renewable surface resources of the national forests so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output. Sustained yield of the several products and services means the achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of the national forests without impairment of the productivity of the land. The Act authorizes the Secretary of Agriculture to cooperate with interested State and local governmental agencies and others in the development and management of the national forests.

County Policies

The County's General Plan supports the concept of multiple uses throughout. The following summarizes the most relevant references.

Land Use Element

The Land Use Element encourages evaluation of the Forest Service's land holdings for potential land sales and/or exchange to create new private holdings suitable for commercial, industrial, and residential uses; provision of adequate utilities, infrastructure, and services, and; coordinating fire protection.

Government Element

The Government Element provides a positive guide for the County to coordinate efforts with federal land management agencies in development and implementation of land use plans and management actions which are compatible with the best interests of the County and its citizens to facilitate continued, revitalized, and varied use of federally managed lands. With more than 98 percent of the land area of Inyo County managed by federal, state and city governments, it is clear that the economic viability of the County is inextricably tied to operational decisions made on public lands. Goals, policies, and implementation measures are included towards the following:

- ensure no net loss from federal land acquisitions;
- encourage public agencies to develop new tourist serving facilities or otherwise enhance their capacity to serve visitors on the public lands they manage;

- encourage public land management and service agencies, including the Forest Service, to increase their capacity to serve visitors on properties they manage;
- ensure opportunities for agriculture on federal land be continued, or expanded at levels consistent with historical custom and culture and the protection of equitable property rights, and sound management practices;
- ensure that federal and state governments shall not unreasonably obstruct agricultural opportunities on lands managed by them;
- support of varied use of public and private recreational opportunities: support for OHV use, use areas, and new OHV opportunities;
- continue maintenance of roads and expansion of motorized access to public lands;
- preserve the four-wheel and OHV network;
- enhance and protect the existing network of hiking, backpacking, and stock trails in the Sierra Nevada – no existing trail should be closed, and where trails and natural habitat coincide, human use of the trails should be preserved;
- support wildlife management that enhances populations of game and non-game species, recognizes that enhancing non-native game and non-game species may negatively impact native species and rangeland ecosystems, increases wildlife numbers where practicable that is not in conflict with existing economic uses or ecosystem health, recognizes that large game animals compete for forage and water with other economic uses, and supports the need for a private property compensation program for certain wildlife damages;
- encourage the exploration, development and reclamation of these resources, expansion of lands available for exploration for mineral development, and that access to public lands be maintained, expanded or altered to allow mineral exploration and prospecting activities;
- act to preclude additions to Wilderness and remove wilderness study areas and identified roadless areas in the County in order to preserve economic opportunity of federal lands and maintenance of mining opportunities;
- discourage incompatible developments on lands identified as containing significant mineral resources, and support uses that will not preclude future mining activities;
- encourage development of energy resources on both public and private lands, including, but not limited to geothermal, wind, biomass, and solar, and development of adequate utility corridors necessary for the transmission of newly generated energy, and maintaining energy opportunities on state and federal lands maintaining and expanding access, and;
- develop and maintain a transportation system that optimizes accessibility and that minimizes the cost of movement connecting corridors consistent with County, State, and federal roadways and travel ways – all routes causing no actual resource damage should remain open, and off-road closure policies must contain adequate exemptions for administrative, management, public functions, livestock, and scientific research.

Economic Development Element

The Economic Development Element works to enhance the County's economy and prosperity of its people. The County's wealth is highly dependent on economic activities occurring on public lands, including grazing, mining, and water transportation/management. Goals, policies, an implementation measures are identified to promote increased capacity to serve tourists, enhance tourist serving facilities and increase tourism on public lands, bring more destination spending into the County, encourage retirees to move to the County, and support expansion of industry, including mining.

Housing Element

The Housing Element works to provide adequate housing for the range of needs in the County, including working with the Forest Service to identify lands for release and discourage public acquisition, and encouraging employer assisted housing, such as for Forest Service employees.

Circulation Element

The Circulation Element works to provide for a comprehensive transportation system. Goals, policies, and implementation measures are identified to improve capacity; provide for transit (particularly for the transportation disadvantaged), including for access to tourist attractions; encourage and promote greater use of non-motorized means of personal transportation, and; work with federal land management agencies to coordinate trail efforts and ensure connections.

Conservation Element

The Conservation Element works towards the following:

- provide and maintain a diverse agricultural industry, including to support continued use and expansion of public lands for agriculture;
- protect the current and future extraction of mineral resources;
- provide an adequate and high quality water supply, and protect and preserve water resources for the maintenance, enhancement, and restoration of environmental resources;
- encourage appropriate access for recreation;
- promote hunting and fishing activities within the County;
- provide and support passive recreational opportunities and interpretive education in the natural environment;
- identify degraded biological resource areas that may be suitable for restoration or enhancement activities;
- provide access points, trails, and roads into and through resource-managed lands;
- development of interpretive facilities that educate the public about natural environmental resources;
- support and promote interpretive facilities to highlight the County's cultural resources;
- develop a public parks, recreation, and open space system that provides adequate space and facilities to meet the varied needs of County residents and visitors;
- encourage the use of the natural environment for passive recreation opportunities;
- encourage the continued management of existing recreational areas and open space, and appropriate expansion of new recreational opportunities on federal lands;
- work with federal agencies that manage land to ensure that appropriate access to open space and recreational areas are provided, and;
- to minimize hazards from floods, fire, avalanches, and other natural hazards that might originate in the Forest.

Issues and Trends

Multiple uses of public lands are vital to the County's economy and culture, and played integral roles in its history. Recreational use of the dramatic lands in the County has always been and continues to be part of the psyche of the peoples who inhabited and visited the area. Geopolitical and national social movements have combined to reduce the output of local natural resources and create pressure to diminish multiple uses of the land. The decline in multiple uses has led to stagnation of the economy over the last several decades.

Community Vibrancy Tied to Multiple Uses

The County's communities have typically relied upon activities on public lands, and the Forest in particular, for their well-being. Growth and development of Owens Valley towns revolved around resource-based industries, such as mineral resources (including precious metals), water extraction and export, agriculture, and tourism (which has become a more important sector in recent history). Primary and induced spending effects from these pursuits drove development of the towns and the County's culture and character. As the trend to restrict multiple uses became more strenuous in the 1970s, the towns' vibrancy stagnated, reflected by the lack of population growth that has occurred since.

Separating Uses

Forest zoning has existed for some time, and includes zones for Wilderness, Concentrated Recreation, specific management areas, and many others. Through the current update effort, zoning could be utilized to further segregate multiple uses spatially. Depending on how this may develop, the outcomes could be supportive of multiple uses. For example, if intensive recreation is focused into certain areas, other areas can be reserved for less-intensive and dispersed recreation. Multiple use zoning can also provide a balance to areas where multiple uses have been eliminated (e.g., Wilderness). On the other hand, expansion of Wilderness into areas accommodating multiple uses and/or insensitive zoning could further degrade the Forest's multiple use mission with potentially devastating effects to local peoples.

Evolving Economy

The economy continues to transition towards more service-oriented industries. This phenomenon is expected to further accentuate the tourist-serving sectors, prioritizing the need to accommodate recreational uses in the Forest. The County's attraction for retirees and others drawn to the local lifestyle provides opportunities to capitalize on the Forest's phenomenal natural beauty and attractive local environment. However, changes in commodity prices and increasing world demand for natural resources could increase the need for locally available mineral resources. Interest in renewable energy (e.g., solar, wind, geothermal, biomass) could lead to development of such resources, although the potential is somewhat limited in the Forest in Inyo County due to a number of factors (e.g., inappropriate slopes for solar, military incompatibility for solar thermal and wind, lack of geothermal or biomass resources, aesthetic impacts from wind, etc.). The ever increasing demand for water is not expected to abate either.

Emerging Uses

New recreational uses are constantly evolving at an ever faster pace in our modern world, including such uses as bouldering, trail running, fatbiking, unicycling, zip lines, etc. Undoubtedly, new uses will

evolve over the lifetime of the Plan. There is a need to accommodate such uses, while being sensitive to resource protection and minimizing displacement of existing uses.

Demand for Water

As California's population increases, demand for water is anticipated to continue to increase. Persistent long-term drought in the southwest potentially threatens supplies via the Colorado Aqueduct. Demand for conservation water, both locally as well as State-wide, is expected to continue to grow. Limits to water through the Bay-Delta for environmental purposes have and will continue to limit supplies via the California Water Project. Catastrophe, such as severing water conveyance by earthquake or terrorism, or saltwater intrusion into the Delta, could interrupt water supplies for extended periods. Demand for conservation water for dust abatement and habitat enhancement at Owens Lake and elsewhere constricts local supply. All of these factors are expected together to work to increase demand for water from the Forest.

Regulatory Impediments

The ever-increasing regulatory demands threaten a variety of multiple uses. Well-intentioned laws to protect the environment can instead damage resources and work to limit multiple uses. Some regulations are intended to displace multiple uses, such as Wilderness legislation. Local, regional, and State regulations can also work to diminish multiple uses.

Regulatory burdens by the federal government include the National Environmental Policy Act (NEPA) and permitting procedures for mining, agricultural uses, recreation, concessions, access, research, wildlife stocking, and other Forest-dependent activities important to the County. Despite efforts to the contrary, the trends seem to point to greater and greater regulatory burdens. Expensive time-consuming NEPA review adds costs to doing business, particularly for small businesses that rely on the Forest for their practitioners' livelihoods. NEPA review can effectively make infeasible permits for those need them for their livelihoods, such as businesses that provide guide services (i.e., packers, fishing/hiking/hunting guides, etc.), agricultural operations, student researchers, and others with limited financial means.

The Endangered Species Act works to eliminate threats to selected classes of plants and animals; if the perceived threats are beneficial to the local community, conflicts arise between the dependent multiple uses. Examples include restrictions on sheep, trout, mining, guzzlers, and access. The current amphibian proposals are especially problematic in their potential to decimate the fishing industry, which is integral to the local economy and culture.

The intentions of some regulations include eliminating multiple uses. For example, the Wilderness Act purposely precludes a wide spectrum of multiple uses that existed prior to Wilderness designation. Post-Wilderness, these multiple uses are displaced and focused into the diminished share of the Forest available, thereby concentrating impacts into smaller geographic areas and reinforcing perceptions that such uses can result in resource damage.

Other regulations are instituted in such a manner to make it impossible to continue certain activities. Often these regulations are instituted on such a scale that even though they are not necessary locally, they are applied through broad brush strokes. An example includes the Sierra Nevada Forest Plan amendments that applied regulations tailored for west-side forests to the INF.

Local, regional, and State regulations can also work to diminish multiple uses. For example, air quality regulations can make mining and road maintenance infeasible. State environmental and endangered species laws can complicate permitting in the Forest, thereby impacting the viability of existing and potential multiple uses. Local regulations required by the State can slow permit processing, such as building permits and surface mining and reclamation requirements.

Diminishing Access

Social pressures exist to reduce and eliminate access to the Forest, primarily due to perceptions that human activities are unnatural and damage natural resources. Vehicular access is seen by many as particularly detrimental. The 2009 Travel Management Decision eliminated over 600 miles of roads in the Forest. Wilderness designations have eliminated mechanical access to over half the Forest in Inyo County in less than 40 years. Inventoried Roadless Areas, which are treated like Wilderness, cover another approximately one-third of the Forest in Inyo County. Non-vehicular access may also be considered by some a threat, leading to access closures, road and trail rerouting, and other means to encourage human avoidance of areas deemed sensitive. Examples of this include closing trails through Big Horn Sheep habitat and restricting pack stock use in the vicinity.

Fire Management

Fire has the potential to disrupt multiple uses through direct destruction and division, and also indirectly through smoke and economic impacts. Fire can also result in ecological and social benefits that encourage multiple uses, such as by providing new and enhance recreational opportunities. The Plan's approach to fire management will be important in shaping future trends.

Opportunities

Excellent opportunities for enhancing multiple use aspects of the Forest are afforded by the present Plan Update effort. A variety of existing uses can be enhanced and diversified to take advantage of the bountiful natural resources the Forest offers, while maintaining and improving the environment. New multiple uses can be accommodated through thoughtful planning about future trends. Accommodation of multiple uses can be pursued by encouraging such uses and reducing regulatory impediments.

Existing Uses

A variety of existing uses in the Forest provide livelihoods for the County's peoples, as well as draw visitors to the natural splendor. These include the many recreational amenities related to fishing, hiking, backpacking, nature viewing, rockclimbing, packing, boating, etc. A number of resorts and campgrounds exist in the Forest that could be upgraded to attract tourists to the area, including at Whitney Portal, Big Pine Canyon, Bishop Creek, and Rock Creek. Improved roads, parking facilities, and trailheads could be provided for the Shepherds, Taboose, Baxter, Sawmill, and Olancho pass trails, as well as the Sacatar Trail. Modernized equestrian facilities could entice better utilization of high country trails by trekkers and local packing businesses. These facilities could be expanded upon to enhance the local economy, through leases, concessions, or other mechanisms, thus improving access for locals and visitors to further the intent of the various applicable multiple use policies. Existing access could also be improved and expanded to provide greater opportunities to utilize recreational resources, including new and

improved transit service. Water management of reservoirs could be improved to more efficiently provide for multiple uses, including recreation and fisheries. Streamlined permitting can reduce administrative burdens for existing permittees, thereby energizing their businesses and organizations.

Mining and sensitive water projects could provide additional opportunities for local economic development while lessening the County's reliance on tourism. Strategic minerals and precious metals available in the Forest can be accessed, if the economics support their extraction. Streamlining regulatory burdens can reduce costs and thereby facilitate development of these resources. Water conservation projects and development of water resources in the Forest can provide hydrological benefits for other users. Streamlined permitting can facilitate water infrastructure projects.

Agriculture is an important component of the history of Inyo County, and continues to be vital to local custom and culture. The County's Fair, rodeos, festivals, and educational programs highlight this connection to the land. The Forest's role historically in agriculture production lay in animal husbandry and water provision to the valleys. Today, these resources still provide the base of the local agricultural industry, which potentially could expand to provide locally grown/raised fresh food for the region. Pastoral landscapes also can enhance the visitor experience, thus leading to greater tourism revenues. Expanded beekeeping and associated research is an opportunity for further local economic development with potential beneficial impacts to the Forest. Streamlined permitting can facilitate agricultural production for the benefit of all.

Due to the dramatic scenery, the County offers excellent filming opportunities, which are exploited for numerous venues, such as movies, television, advertising, internet, and social media. Some locations in the Forest, such as Mt. Whitney, are well-known and familiar throughout the world due to their extensive portrayals. This resource is important in the modern economy and could be enhanced due to the proximity to major media production facilities in southern and northern California.

Potential New Uses/Diversification

Repurposing existing recreational uses on the Forest works to improve the vitality of local culture and the economy. The Pine Creek Mine is an excellent example of a facility that could be converted to recreational or other uses to capitalize on the dramatic scenery in already disturbed areas, and new campgrounds in the vicinity could further entice other visitors. The Ashram Temple near Whitney Portal is a prime candidate for enhanced trail access and signage that potentially could provide a new destination for more locals and visitors alike. Zip lines have become popular, and can provide recreational opportunities for thrill seekers in areas with diverse scenery and wildlife viewing. New campgrounds could be provided at the Shepherds, Taboose, Baxter, Sawmill, and Olancho pass trailheads, as well as improved access, equestrian, and other visitor amenities. Enhanced snowmobiling opportunities could be provided in Bishop Creek and the White Mountains. Lower reaches of the entire Forest provide excellent winter hiking opportunities. Better marketing and facilities could be provided for cross country skiing, snowshoeing, and other winter sports in the Sierra Nevada, such as Mount Tom via the Elderberry Trail, thereby working to balance the now predominantly summer tourist season. A wayfinding program and consistent signage throughout the County (and potentially adjacent counties) could be developed with local interests in concert with other transportation networks to provide a variety of seamless hiking and other travel opportunities for the ever more diverse population. Synergies with the proposed Adventure Trails network could be capitalized to encourage seamless OHV recreation with resources outside of the Forest. These and other actions to enhance recreational uses, particularly reduced regulatory burdens, can also work to offset past impacts to such resources.

The Forest provides excellent research opportunities for scientific advancement; for example, high-altitude studies are conducted at the White Mountain Research Station. Flora and fauna from the Forest potentially could be utilized further for biomedical purposes. Educational opportunities are vast, exemplified by the curricula offered by Deep Springs College that takes advantage of its remoteness in the vicinity of the Forest. Improved coordination with educational and research institutions in California and Nevada should be pursued to expand the body of knowledge of local conditions.

Grazing opportunities have been curtailed and/or eliminated throughout wide swaths of the Forest. Research indicates that grazing has minimal adverse impacts and potentially beneficial effects if properly managed. New grazing allotments could be provided, and existing areas closed to grazing could be reopened, particularly in the Kern Plateau – Ramshaw, Templeton, Brown, Big Whitney, and Little Whitney meadows. Animal husbandry elsewhere could provide pastoral settings for sightseeing opportunities and scientific research, such as studies into livestock behavior and improvement of best management practices to better protect resources. Overall reduction in permitting requirements could energize the industry.

Although timber production is minimal in Inyo County, locally collected foliage could be utilized to a greater degree for artistic design and food production (e.g., pine nuts). Limited timber production could work to reduce fire hazards and remove blowdown.

The concept of ecosystem services perpetuated by the 2012 Planning Rule affords opportunities to embrace multiple uses. All of the multiple uses provide for social benefits and costs, and by equating these factors, the net social benefits of the multiple uses can be evaluated to derive ecosystem services. Since benefits and costs valuations can be objective, care must be taken in assigning value.

Mixed Use Policies/Zoning

New zoning designations for the Forest could embrace the multiple use concept. Rather than zone out uses in the few remaining areas that still allow for multiple uses, zoning could be utilized to sensitively provide for multiple uses. Multiple use categories could be constructed to allow for greater intensity of uses while providing for less intensive uses elsewhere.

Forest Service lands may also be officially designated and the Forest Plan and/or specific management plans may be developed to encourage and sustain multiple uses. Botanical, Geological, Historical, Paleontological, Recreational, Scenic, and/or Zoological areas may be designated at the local, regional, or national level (depending on size) administratively. Congress can designate National Trails, National Scenic Trails, National Historic Trails, National Scenic Areas, National Recreation Areas, and National Heritage Areas. Presidential Executive order or Congressional action can designate a National Monument. Other designations may also be available or could be crafted to encourage multiple uses.

Information Technology/Digital 395

The greatest social change of late is the information technology revolution. Connecting locations in the Forest to information technology services offers economic, cultural, and social benefits. For example, resorts that offer wifi and high-speed internet may be more attractive to visitors. Digital 395 provides opportunities for local economic development, including in the Forest, by making linked locations more attractive for conferences, retreats, and migration of those not connected to place by their livelihood.

The natural setting and history of the County provides wonderful themes for education, which can be more easily accessed via the web. Young people in particular enjoy being connected, and providing internet access in campgrounds may be a means to bond the next generation to the land. On the other hand, some locations in the Forest offer respite from constant digital connection, and maintaining such a void in certain areas may be attractive to some.

Streamlining

Streamlining could work to enhance multiple uses consistent with environmental protection. Habitat conservation plans provide one tool to eliminate regulatory duplication for multi-species protection, even for species that may become listed after the Plan is finalized. Programmatic environmental documentation can reduce and eliminate subsequent environmental review. Clear, consistent permitting requirements can balance the need to provide adequate oversight of potential resource-damaging activities while providing clarity to applicants, advocates, and the public.

Constraints

Potential future constraints on mixed uses in the Forest are well known based on past trends, including direct actions to limit multiple uses in the Forest (e.g., Wilderness). Evolving trends could result in greater constraints or unexpected demands for multiple uses.

Constrained Use Policies/Zoning

Zoning and official designations could be structured to diminish and potentially eliminate multiple uses, which given the recent history of eliminating multiple uses throughout most of the Forest in Inyo County could be potentially devastating. Various mechanisms could be utilized for such task. The most simple approach would be to design the zoning and/or designations to explicitly prohibit multiple uses. Other zoning tools, like further Wilderness, IRAs, and other limiting designations, can also eliminate multiple uses.

Social Change

Social change continues to move towards broader external pressures to restrict uses in the Forest. This seems especially acute in cities, which due to vast numbers of residents with limited or no connection to the Forest, can influence policy in the Forest detrimental to local residents.

Regulation

Despite efforts to the contrary, it is likely that the existing regulatory environment will continue to become more and more complex and burdensome. Although programs may be established to assist permittees and others navigate the maze of regulations that continue to be developed, it is anticipated that entitlement and permit compliance will continue to work to further and further limit multiple uses and discourage new activities. The interaction between this phenomenon and economies of scale will work to make it more difficult for small entities and individuals and favor larger organizations with significant resource bases, such as corporations and interest groups.

The Unknown

Pressure to diminish multiple uses in the Forest since the mid-twentieth century is well documented, and can be expected to continue or even increase. However, what changes in trends will the future bring that could reverse the stagnation of the County's economy? Although it seems as if the trend to reduce multiple uses in the Forest will continue, new trends or sudden changes could occur. For example, social change or upheavals could result in significant increases to immigration, completely altering the demand for multiple uses in the Forest. In the past, interest in outdoor recreation has ebbed and flowed, and it is unclear what the future will bring in this regards. Demand for minerals could rise significantly, resulting in greater mining activity and related issues. Interest in renewable energy resources is high lately. Of course it is difficult if not impossible to predict changes to future trends with any accuracy. Thus the County must remain vigilant to detect trend development and work with the Forest Service to revise and update the Plan if necessary.

Forest Service Approach to Date

To date, the current Update effort includes a Science Synthesis, a Bioregional Assessment, and Topic Papers. The Science Synthesis and Bioregional Assessment focused on west-side issues, and lack relevance in many instances. The approach to managed fire and smoke impacts is generally adequate. However, the documents approach to the following topics relative to multiple uses should be improved:

- The role of multiple uses has minimized.
- The Healthy Forest Restoration Act should be better addressed.
- The identification of species of conservation concern is too broad.
- The private sector's role in the Forest is lacking, particularly the potential to address declining public resources, attract private investment, and benefit nearby economic development.
- The discussion about sustainable recreation, mining, agriculture, and other multiple uses minimally addresses permitting issues.
- Access and search and rescue discussions should be expanded.
- Positive activities taking place on the Forest should be better addressed, emphasizing what's working.
- Elaboration of the benefits of agricultural activities should be undertaken.
- Transmission for renewable energy development should be better addressed.
- More focus should be provided for State-wide, regional, and local planning efforts.
- Public services and infrastructure should be addressed more specifically.

Conclusion

To be completed after preliminary review

Inyo National Forest Land and Resources
Management Plan Update/Revision

Biological Resources Focus Paper

DRAFT

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Executive Summary

Inyo County (County) is compiling information on a variety of topics to help guide coordination with the U.S. Department of Agriculture, Forest Service (Forest Service) during the planning process for updating the Inyo National Forest (Inyo NF or Forest) Land and Resources Management Plan (LRMP). This focus paper about biological resources has been prepared to provide an overview of issues and trends for biological resources of interest to the County on the Inyo NF and identify opportunities and constraints associated with management of those resources. The County has a keen interest in the updates to the Inyo NF LRMP because management of the resources on the Forest could affect activities in the county that contribute to its economy and way of life, such as recreational and agricultural uses. Its key priorities relating to the Inyo NF LRMP update are providing access on the Forest, contributing to a vibrant economy, and enhancing the local culture through use of the Forest. Specific biological priorities include planning for conflicts between biological resources and human access, restoring degraded wilderness areas, and encouraging use of biological resources on the Forest for recreation and other purposes. An overview of the findings and recommendations discussed in the focus paper is presented below.

Findings Summary

Biological resources are important in Inyo County because of their contribution to the local economy and culture through recreation and tourism opportunities. The key opportunities are hunting, fishing, and wildlife and nature viewing, all of which are available on the Inyo NF. The continued management of biological resources to support and promote recreational opportunities, as well as the continued provision of access to recreational areas, is important to the County. Overall, recreational opportunities are expected to continue to be abundant in the county, although some limitations or restrictions may arise as management for biological resources, such as protection of sensitive species and habitat restoration, becomes more of a priority in some areas (e.g., alpine lakes where Sierra Nevada yellow-legged frog, a species proposed for listing under the Endangered Species Act, is found).

The County has many opportunities to contribute to the management of biological resources in order to balance recreational uses with the conservation and enhancement of habitats and species diversity. Agency coordination and partnerships with others are key to establishing common goals and implementing management activities. Examples of beneficial activities include enhancing access to prime recreational areas while protecting sensitive biological resources, protecting habitats on the Forest to enhance viewing opportunities, continuing to provide diverse hunting and fishing opportunities across the Forest, expanding and enhancing education and interpretation programs to better inform visitors about the important biological resources and their trends on the Forest, and identifying other uses of resources on the Forest that are sustainable and beneficial to the management of biological resources (e.g., timber cutting/thinning, grazing).

Constraints may arise with implementing management activities for biological resources and enhancing or expanding wildlife-dependent recreational uses, such as man-made influences, disease, natural hazards, and habitat modifications and changes. Permitting and regulatory compliance requirements can constrain or limit certain activities, particularly when sensitive species or habitats are affected. Population growth

with its accompanying increase in visitation can lead to increased concerns with the protection of resources and can result in unnecessary impacts on biological resources or unnecessary constraints on the utilization of the forest without proper management of recreational areas and opportunities. Natural hazards and disease will continue to be present in the environment and need to be managed to protect the resources on the Forest while ensuring the long-term enjoyment of nature by visitors without unnecessary constraints.

Recommendations

The County should continue to be involved in the planning and development process for the Inyo NF LRMP update and provide comments and input to the Forest Service throughout the process. Ongoing coordination with the Forest Service will be key to ensuring the agency understands the County's key priorities and shares a common understanding of the County's goals and objectives related to biological resources management and the provision of associated recreational opportunities. The County may consider identifying specific management actions, such as those noted in the Opportunities section of this focus paper, that it can contribute to over the long term to improve management of biological resources.

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1. Introduction

Inyo County (County) is compiling information on a variety of topics to help guide coordination with the U.S. Department of Agriculture, Forest Service (Forest Service) during the planning process for updating the Inyo National Forest (Inyo NF or Forest) Land and Resources Management Plan (LRMP). To date, the Forest Service has completed a science synthesis on landscape-scale issues specific to Sierra Nevada forests, a bio-regional assessment for the Sierra Nevada, and various topic papers to describe the current conditions and trends of the various resources on the Inyo NF that are anticipated to be addressed in the updated LRMP. The draft LRMP is expected to be available for public review in 2015-2016. This focus paper about biological resources has been prepared to provide an overview of issues and trends for biological resources of interest to the County on the Inyo NF and identify opportunities and constraints associated with management of those resources.

1.1 Purpose

The primary purposes of this focus paper are to document information on biological resources of interest to the County and provide baseline information for the County to coordinate with the Forest Service during the planning process for the Inyo NF LRMP update. The County has a keen interest in the updates to the Inyo NF LRMP because management of the resources on the Forest could affect activities in the county that contribute to its economy and way of life, such as recreational and agricultural uses. This paper also presents a brief overview of the issues and trends associated with biological resources that may be the subject of management direction in the LRMP.

1.2 Road Map

The focus paper is organized into the following sections:

- Background: discusses the Forest Service planning process and County priorities for the LRMP update.
- Setting: briefly describes the biological resources of interest to the County and applicable management policies.
- Issues and Trends: identifies the current issues and trends of the biological resources of interest to the County on the Inyo NF.
- Opportunities: discusses opportunities available to improve management or use of biological resources on the Inyo NF and in the county.
- Constraints: identifies concerns or potential constraints associated with management or use of biological resources on the Inyo NF and in the county.
- Forest Service Approach: provides an update on the Forest Service planning process to date.
- Conclusions: summarizes the key opportunities and constraints.

2. Background

2.1 1988 Planning Update

The Forest Service previously updated the Inyo NF LRMP in 1988, which is the current version of the plan, as amended by subsequent decisions relating to the Inyo NF. The 1988 LRMP provided similar management guidance as the previous 1982 LRMP, but it emphasized recreational values, including uses based on fish and wildlife. Standards and guidelines were identified to provide for diverse and productive fish and wildlife populations in order to ensure habitat diversity. Specific guidance was provided for habitat for threatened and endangered species in order to meet recovery goals for the species and for mule deer and mountain sheep habitat.

2.2 Planning Since 1988

The Forest Service has issued several amendments to the 1988 Inyo NF LRMP to update or refine management guidance for the Forest. These amendments contain management direction for wilderness, wild and scenic rivers, motor vehicle use, range, vegetation management, and species management. Specific to biological resources, the 2004 Sierra Nevada Forest Plan Amendment modifies management direction for fuel treatments to avoid California spotted owl and northern goshawk protected activity centers wherever possible; improves protection and enhancement of old forests; and provides additional protections for aquatic, riparian, and meadow ecosystems, specifically the willow flycatcher and Yosemite toad. The 2007 Sierra Nevada Forests Management Indicator Species Amendment modified the management indicator species direction by updating the list of species to consider. The updated list includes 11 terrestrial habitats and ecosystem components with 12 associated management indicator species and one aquatic habitat (lakes, rivers, streams) with one associated management indicator species group (aquatic macroinvertebrates).

2.3 2012 Planning Rule

The Forest Service is implementing the 2012 National Forest System land management planning rule, which provides updated guidance on the development, amendment, and revision of LRMPs. One aspect of the new planning rule relevant to biological resources is the designation of species of conservation concern in each plan area, which are to be managed to maintain viable populations of the species within the plan area. These species are defined as: “a species, other than federally recognized threatened, endangered, proposed, or candidate species, that is known to occur in the plan area and for which the regional forester has determined that the best available scientific information indicates substantial concern about the species’ capability to persist over the long-term in the plan area” (36 CFR Sec. 219.9(c)). The list of species of conservation concern may replace the lists of Forest Service sensitive and management indicator species. Other aspects of the planning rule enhance management of biological resources to provide ecological sustainability, a diversity of plant and animal communities, and multiple uses.

Implementation of the planning rule is guided by directives in the Forest Service Handbook 1909.12 and Forest Service Manual 1900, as amended. The revised handbook provides new guidance for conducting an assessment as part of the planning process for the development of an LRMP or updates or amendments to an existing LRMP. The assessment involves a detailed review of existing information and

coordination with the public and other agencies. The approach for assessing biological resources considers the ecological integrity of the terrestrial, aquatic, and riparian ecosystems and at-risk species in the plan area. As part of the assessment, issues and trends for the resources are characterized, and a list of species of conservation concern is established. Management of the Forest will then be based on the information contained in the assessment, which will be used to establish specific policies to guide management of the resources in the LRMP.

2.4 County Priorities for LRMP Update

On June 19, 2012, Inyo County sent a letter to the Forest Service regarding its priorities for the update/revision of the Inyo NF LRMP. The key priorities are providing access on the Forest, contributing to a vibrant economy, and enhancing the local culture through use of the Forest. Specific biological priorities include planning for conflicts between biological resources and human access, restoring degraded wilderness areas, and encouraging use of biological resources on the Forest for recreation and other purposes.

3. Setting

3.1 Importance of Biological Resources

The settlement of the county was based on the beneficial uses of the land and the diverse natural resources it provides, such as timber, wildlife, grazing lands, water, and minerals. Recreation and tourism are prominent uses in the county and contribute to its economy and culture as a result of the location of the county in the Sierra Nevada within a short drive from major cities, such as Los Angeles and Las Vegas. The county's extensive forests, wide elevation ranges, and unique setting appeal to a wide range of people and offer diverse recreational opportunities. Many wildlife-based recreational opportunities are available, such as hunting, fishing, and wildlife viewing, particularly on the Inyo NF. The provision of these uses and management of deer herds, recreational fisheries, and a diversity of wildlife are important to Inyo County because they affect the future economy and culture of the county. With most of the land in the county being managed by other agencies, the integration of county-dependent uses into federal and other land management plans is important, as is the need to ensure that other agencies' management actions do not impede the use of wildlife and other biological resources for the enjoyment of visitors and residents in the county.

3.2 Policy Direction

Inyo County seeks to collaborate with other land managers and owners in the county and integrate the County's General Plan into their management guidelines and policies. The County is in the process of updating its General Plan, which was last updated in 2001, except for the Government Element, which was updated in 2010, and the Housing Element, which was updated in 2009. The Government and Conservation/Open Space Elements identify specific policies for management and protection of biological resources, and the Public Safety Element identifies policies relating to hazards, such as wildfires and floods, that could affect biological resources. The draft update of the General Plan (May 2013) and the 2001 General Plan identify policies to protect and recover special-status species, manage

game and non-game wildlife species, protect riparian areas and wetlands, protect wildlife corridors, reduce the spread of invasive weeds, and promote wildlife-dependent recreational opportunities. Some of these policies include:

- **Policy GOV-7.1a-g:** The County supports and encourages varied use of public and private recreational opportunities:
 - The County requests coordination of federal, state, wildlife and fishery management and enforcement agencies with the County.
 - The County will work closely with any agency with which it shares jurisdiction.
 - Off road vehicle use is a significant recreational activity in the County. Existing off-road vehicles use areas should be continued and additional off-road vehicle areas should be developed.
 - The County approves any retention of revenues proposed under the authority of the Federal Lands Recreation Enhancement Act or similar law.
 - The County strongly supports and requests continuing maintenance of roads and expansion of motorized access to public lands.
 - The existing network of off-road vehicle routes on public lands in the County is of paramount importance to the recreational and resource goals of the County. All existing four-wheel and off-highway-vehicle drive routes should be maintained and the resource should be expanded where possible, subject to the avoidance of environmental or cultural harm. The four-wheel and off-highway vehicle drive network, as shown on USGS maps and maps referenced in Appendix B (of the General Plan), should be preserved.
 - The existing network of hiking, backpacking and stock trails in the Sierra Nevada must be enhanced and protected. Sierra Nevada tourism involving access to the backcountry is a fundamental ingredient to the economic and social health of the County. No existing trail should be closed. Where trails and natural habitat coincide, human use of the trails should be preserved.
- **Policy GOV-8.1a:** The County should cooperate with federal and state agencies who oversee the protection and recovery of federal and state listed threatened, endangered, sensitive or candidate species and their habitat.
- **Policy GOV-8.1c:** Federal and state agencies shall prepare a plan in coordination with the County before the introduction or re-introduction of any species onto public or private land that is likely to impact the planning area.
- **Policy GOV-8.1d:** The County supports wildlife management that:
 - Enhances populations of game and non-game species native to the project area.
 - Recognizes that enhancing non-native game and non-game species may negatively impact native species and rangeland ecosystems.
 - Increase wildlife numbers where practicable that is not in conflict with existing economic uses or ecosystem health.
 - Recognizes that large game animals compete for forage and water with other economic uses.
 - Supports the need for a private property compensation program for certain wildlife damages.
- **Policy BIO-1.3:** Encourage the restoration of degraded biological communities.

- **Policy BIO-1.5:** The County shall work to preserve and protect existing wildlife corridors where appropriate.
- **Policy BIO-2.1:** Work with other government land management agencies to preserve and protect biological resources while maintaining the ability to utilize and enjoy the natural resources in the County.
- **Policy BIO-2.2:** Encourage appropriate access to resource-managed lands.
- **Policy BIO-2.3:** Promote hunting and fishing activities within the County pursuant to appropriate regulations of the California Fish & Game Code.
- **Policy BIO-2.4:** Provide and support passive recreational opportunities and interpretive education in the natural environment.

4. Issues and Trends

This section discusses the current issues and trends associated with management and use of biological resources on the Inyo NF, with a focus on resources of importance to Inyo County. Biological resources on the Inyo NF in Inyo County are important because of their recreational and aesthetic values and their contribution to the local culture and economy. Specific issues of concern to the County are the management of deer herds, other game species, and fisheries to provide wildlife-dependent recreational opportunities and the provision of diverse flora and fauna to support wildlife and wildflower viewing opportunities and the local culture and economy of the county. Maintaining access to recreational areas is also important to ensure such opportunities continue to be available to the public.

4.1 Overall Biological Issues and Trends

Inyo County has extensive undeveloped land with few developed areas due to the limited amount of private lands available. Because of the limited development, the expansive habitats support a diversity of plant and wildlife species and provide contiguous tracts of land that are managed by federal agencies, such as the Forest Service. In addition, the wide elevation range of the county, from below sea level to more than 14,000 feet above mean sea level, provides for a diversity of ecosystem types and associated habitats and species. With its diversity of natural resources, Inyo County offers a wide range of uses for visitors and residents and attracts people from all over the country and other countries, with the primary visitors coming from nearby urban areas in southern California and Nevada. A network of Forest Service, County, and other roads provide access to the Forest and other areas of the county. More than half of the Forest is designated as wilderness and has limited access for motorized vehicles to protect the resources. Trails provide access to some of the wilderness areas as well as to other areas without designated roads. Road maintenance is an ongoing management issue because of the varying conditions of the roads and the inadequate funds to properly maintain roads on the Forest.

Wildlife-dependent recreational uses are a key attraction for visitors, who travel to the county to hunt; fish; view wildlife, wildflowers, and the changing seasons; and collect native plants. Tourism is a staple of the county economy, and the provision of a variety of uses is important to maintain the tourism base. Visitation to the Inyo NF has been fairly constant since 2006 with more than 2.8 million visitors in 2006 and more than 2.5 million visitors in 2011, according to the Forest Service National Visitor Use Monitoring program (<http://apps.fs.usda.gov/nrm/nvum/results/>). The primary use of the Forest has been

for day use at developed sites, with a smaller number of visitors staying overnight and fewer visitors going to designated wilderness areas. Skiing, viewing natural features, hiking, fishing, and relaxing were the most common reported activities during both sample years. Increased growth in nearby urban areas, such as Los Angeles and Las Vegas, would also be expected to increase visitation to the county, thereby increasing use of the Inyo NF. Increased use of the Forest needs to be properly managed to avoid unacceptable overuse and degradation of resources or over regulation of the resources, particularly if the use is focused in specific areas or “hot spots” where the public prefers to go, such as popular day use areas, campgrounds, or trails.

Other key uses of the resources in the county include water supply for the Los Angeles Department of Water and Power, mineral extraction, and energy development using renewable resources for power supply. These uses are also important to the economy of the county, but they must remain compatible with the County’s goals and policies. The County reviews applications for minor building permits or conditional use permits on private lands and for larger projects, such as solar energy, water development, and habitat restoration, and prepares plans for its resources and uses, such as the Regional Transportation Plan, Collaborative Bikeways Plan, and Lower Owens River Project Recreational Use Plan. Ongoing projects contribute to the county economy, but some can result in adverse effects on the trends of biological resources, such as deer, sensitive habitats, and special-status species. Access (e.g., roads, trails) to support the various uses in the county and on the Inyo NF can be an issue for biological resources because roads, while providing opportunities for visitors to experience nature, create unvegetated corridors through migration routes and disturb habitat.

The Forest Service discusses trends of the ecosystems on the Inyo NF, which are fairly representative of Inyo County, in its topic paper for “Terrestrial, Aquatic, and Riparian Ecosystems,” which is primarily extracted from the “Inyo National Forest” section of Chapter 1, Assessing Terrestrial Ecosystems, Aquatic Ecosystems, and Watersheds, of the Sierra Nevada Bioregional Assessment (<http://livingassessment.wikispaces.com/Chapters>). Primary issues identified in that paper relate to climate, fire, insects, disease, invasive species, human activities, and air pollution, and the general trends in the terrestrial, aquatic, and riparian ecosystems vary based on those influences. Future changes in ecosystems are predicted to be the greatest where vegetation types transition into other vegetation types (e.g., at the edge of a forest). Higher elevation ecosystems are predicted to decline as vegetation types migrate upward.

The following issues have affected and can affect biological resources:

- Wildfire, such as the Inyo Complex fires in 2007 that burned 35,200 acres, including 1,600 acres of forests on the Inyo NF (<http://www.fs.fed.us/r5/rsl/projects/postfirecondition/2007/>);
- Major wind storms, such as the November 2011 blow down that affected 300-400 trees in the Mammoth Lakes Basin (<http://www.fs.usda.gov/detail/inyo/home/?cid=stelprdb5341073>);
- Other natural hazards, such as earthquakes, flooding, landslides, and mudflows that can dislodge or knock down trees and modify habitats;
- Prescribed burns, which may benefit some habitats and species, while adversely affecting others;
- Fire suppression, which can lead to greater intensity fires and overgrown understories in forests;
- Increased use of the Forest, which could lead to overuse of resources and increased effects from recreationists;

- Increased access, which would benefit recreationists, can be designed to minimize impacts on habitats and species; and
- Grazing activities provide a form of fuels treatment, but overgrazing may not be compatible with native species.

4.2 Game Species

Hunting, including big game, upland game, and waterfowl hunting, is an important use in Inyo County. Wildlife populations are managed by the California Department of Fish and Wildlife (CDFW), but wildlife habitat on NFS lands is managed by the Forest Service. The Forest Service discusses issues and trends related to hunting on the Inyo NF in its topic paper for “Multiple Uses.” Little information is available on population trends of upland game and waterfowl. Most species appear to have stable populations, although their presence on the Forest fluctuates annually based on habitat conditions and migration trends. Population trends of big game species, such as mule deer, elk, and bighorn sheep, are generally stable, but some local populations or herds are experiencing declines. A key issue identified by the Forest Service is the availability of quality forage on winter ranges, which increases competition between species and affects migration routes.

Mule deer hunting is an important wildlife-dependent use in Inyo County. The county supports multiple deer herds that use both summer and winter habitats in the county, and it encompasses several hunt zones established by the CDFW. Overall populations of deer in the Sierra Nevada have declined since the early to mid 1900s, but they appear to have stabilized since the 1990s (CDFW 1998; Forest Service 2013c). Population trends of the deer herds in the county vary based on their summer and winter ranges, the availability and quality of habitats, and the availability of migration corridors. The Inyo-White Mountains deer herd appears to be slightly declining, while the Goodale deer herd appears to be stable to slightly increasing (CDFW 2013). The Round Valley deer herd appears to be stable to slightly declining.

Habitat modifications are the primary threat to deer herds and other big game species in the county. Development on private lands can fragment habitat, reduce migration corridors, and affect foraging availability in winter and spring ranges (Forest Service 2013c). Wildfire suppression has reduced forage habitat by reducing wildfire potential; wildfires result in new growth that provides quality forage for deer. These changes in habitat, as well as competition with other species (e.g., elk, wild horses, livestock), have affected the distribution of deer across the county.

Hunting opportunities are regulated by CDFW through the issuance of hunting licenses. Licenses are issued by CDFW or its vendors for one or two days, the entire year, or lifetime, and tags are issued for specific animals, such as elk, mule deer, or bighorn sheep (<http://www.dfg.ca.gov/licensing/statistics/>). In 2011, CDFW issued more than 7,000 licenses and tags to Inyo County residents in locations across California, including an estimated 1,310 annual licenses, more than 170 tags for bighorn sheep, and more than 2,000 tags for deer. (Note that these data are based on sales across the state where the licensee reported being from Inyo County.) A total of more than 4,300 licenses were sold in Inyo County to both residents and non-residents, which appears to indicate that many Inyo County residents purchased licenses and tags outside the county and may hunt in other areas. In 2012, CDFW issued more than 8,000 licenses and tags to Inyo County residents, including an estimated 1,320 annual licenses, more than 190 tags for bighorn sheep, and more than 2,300 tags for deer, which was an increase from the previous year.

A total of more than 4,900 licenses were sold in Inyo County to residents and non-residents. Data from 2011 and 2012 indicate similar statistics in licenses being issued across the state to Inyo County residents compared with those issued in the county to residents and non-residents. These statistics appear to show that many residents purchase licenses outside the county and fewer licenses are issued within the county.

4.3 Fisheries

Fishing is available in the many streams and lakes on the Inyo NF. As with game species, the Forest Service manages habitat for fish on the Forest, and the CDFW manages fish populations, mostly through stocking. Stocked fish have included hatchery-raised rainbow, brook, brown, and golden trouts (Forest Service 2013c). CDFW primarily stocks streams, and fish populations in lakes are a result of past stocking or other fish introductions from streams or other sources. Cottonwood Creek was the only stream noted on the Forest that had been stocked as of February 2013, according to the Forest Service (2013c). The source of stocked fish varies and has included the Mount Whitney (Black Rock) fish hatchery, which is no longer operating as a hatchery, and the Hot Creek and Fish Springs hatcheries in Inyo County. The Forest Service recognizes fishing as an important economic factor and plans to continue managing habitat to provide fishing opportunities.

Some issues have arisen with stocking of high alpine lakes because of potential effects on native species diversity, such as native amphibians and fish. Fishing opportunities are expected to continue to be available in lakes across the Forest that are not identified for habitat restoration as part of the CDFW's effort to restore habitat for native amphibians or for other restoration activities once the Sierra Nevada yellow-legged frog and Yosemite toad become listed by the U.S. Fish and Wildlife Service (USFWS). According to the Forest Service (2013c), less than 10 percent of high alpine lakes across the Sierra Nevada will be restored and no longer stocked as part of the CDFW habitat restoration plans. Additional restrictions on stocking may become effective once the frog and toad are listed. Remaining lakes and streams would continue to be managed for fishing, and fishing opportunities would remain similar to current conditions, but with fewer alpine lakes available for fishing.

CDFW and its vendors issue fishing licenses for single or multiple days, the entire year, or lifetime and records information on the number of licenses sold each year (<http://www.dfg.ca.gov/licensing/statistics/>). In 2011, more than 4,700 licenses were sold to Inyo County residents, most of which were annual licenses (3,157). A total of more than 23,000 licenses were sold in Inyo County to residents and non-residents. In 2012, more than 4,900 licenses were sold to Inyo County residents, which was more than the previous year and included about 3,300 annual licenses. A total of more than 22,000 licenses were sold in Inyo County to residents and non-residents, which was an overall decrease from the previous year. In contrast to hunting licenses, fishing licenses appear to be purchased by Inyo County residents in the county more often than outside the county, and a substantial number of licenses are sold to non-residents in the county.

4.4 Species Diversity

The Forest Service manages for species diversity on the Inyo NF by focusing on federally listed species and species of conservation concern (which are currently being identified and will be listed in the updated LRMP). The diversity of species found on the Forest provides excellent opportunities for wildlife

viewing, birding, wildflower viewing, nature photography, and gathering. These opportunities are popular for day-use visitors and local residents.

Federally listed species are protected under the Endangered Species Act, and the USFWS and National Marine Fisheries Service are responsible for implementing the act and issuing take permits. The USFWS has prepared recovery plans for most federally listed species to provide guidance on the efforts needed to recover the species and allow them to be removed from the list of endangered and threatened species. The Forest Service incorporates guidance from these plans in its LRMPs to manage for species diversity on NFS lands. Examples of federally listed species on the Inyo NF in Inyo County are Owens tui chub, which is only found in the Owens River Valley, and Sierra Nevada bighorn sheep, which is native to the Sierra Nevada. Species that are candidates or proposed for listing include the mountain and Sierra Nevada yellow-legged frogs, Yosemite toad, greater sage-grouse, and whitebark pine. Population trends of these species vary, but are generally declining across the species' ranges.

The USFWS designates critical habitat for federally listed species as part of its recovery efforts to identify habitat that is important to the species. Federal actions in designated critical habitat may be subject to additional management restrictions or mitigation measures to ensure the habitat quality is maintained for the species. Critical habitat for the Sierra Nevada bighorn sheep has been designated on the Inyo NF, but critical habitat for other federally listed species in the county does not overlap the Forest. The USFWS is proposing to designate critical habitat for the Sierra Nevada yellow-legged frog and Yosemite toad on the Forest in Inyo County (78 Federal Register 24516-24574). The species are proposed for listing, and the critical habitat designation would take place once the species are listed and the final rule is published by the USFWS. For the yellow-legged frog, portions of Subunits 3D and 3E and all of Subunit 3F are in Inyo County. A total of 1,105,400 acres of critical habitat would be designated across the Sierra Nevada. For Yosemite toad, portions of Units 12 and 13 are in Inyo County. A total of 750,926 acres of critical habitat would be designated across the central and southern Sierra Nevada. In addition to the critical habitat designation for these proposed species, recovery plans may be implemented that identify objectives or management guidance to help recover the species, which could also restrict some management activities or reduce recreational opportunities on the Forest (e.g., fishing opportunities in alpine lakes).

In accordance with the 2012 National Forest System Land Management Planning Rule, the Forest Service is required to identify species of conservation concern when it updates the Inyo NF LRMP. These species will become the subject of focused management on the Forest and will likely require additional consideration when evaluating Forest Service actions. The Forest Service has preliminarily identified about 72 species that appear to meet the requirements for species of conservation concern. This list is expected to be refined during the planning process. Not all of the species are found in Inyo County. Species that may be of the most interest to the County include bald eagle, northern goshawk, willow flycatcher, American marten, several bats, and various plants.

5. Opportunities

As the Forest Service updates its Inyo NF LRMP, the County has an opportunity to influence the management and use of biological resources on the Forest to improve its economy through increased or enhanced uses of biological resources. This section outlines potential opportunities that may benefit the County and could be incorporated into the goals and policies of the LRMP.

5.1 Conservation and Protection of Biological Resources

The County has an opportunity to work closely with the Forest Service, other agencies, and private entities to conserve and protect biological resources on the Inyo NF and in the county. The management of biological resources needs to be balanced with the provision of wildlife-dependent recreational uses to sustain the economy of the county. Access is an important aspect of providing recreational opportunities, although it can be a management challenge because of the need to protect resources, such as sensitive habitats or native plant populations. Directing travelers to designated roads and trails and establishing access routes to recreational areas and other destinations regularly used by visitors can help protect biological resources while maintaining access. Additional discussion on access is provided under Section 5.3, Expanding Opportunities for Use of Biological Resources.

Hunting and fishing can help manage game and fish populations, as dictated by the CDFW. These activities may increase as populations increase or become more diverse, which would benefit the County's economy. However, fish may need to be stocked in lakes or streams that do not have self-sustaining populations in order to continue to provide diverse fishing opportunities. Big game populations would also need to continue to be monitored and managed to maintain or increase the populations, which is primarily the responsibility of CDFW. Habitat management by land management agencies can provide for increased game populations, as well. Also, the preservation of special-status species and unique biological resources provides for species diversity, which enhances recreational opportunities. The protection of migratory habitat for birds and native habitats with wildflowers, for example, can enhance bird viewing and wildlife and plant observation opportunities in the county.

Other opportunities are also available to educate the public on the importance of biological resources and the need to protect them for future generations. The County could coordinate with the Forest Service and other agencies that manage land in the county to establish an education program, which may entail preparation and distribution of brochures, posting signs at strategic locations, working with local schools, or establishing interpretive trails. The County and Forest Service also have an opportunity to identify popular use areas on the Forest, determine the need for new recreation areas to avoid overuse of resources in specific areas, and develop new recreation areas with consideration for sensitive biological resources.

5.2 Enhancement of Biological Resources

In addition to the conservation and protection of biological resources, the County has opportunities to coordinate with the Forest Service and other agencies to restore and enhance habitats across the county. Forest Service actions often include fuels treatments, thinning projects, invasive plant treatments, and other activities to improve forest conditions. Fuels treatments in the wildland urban interface protect properties from wildfires, while also reducing the potential for higher intensity fires in adjacent forests.

Prescribed burns and a reduction in fire suppression can also benefit wildlife habitats, particularly for mule deer that forage on new growth following a fire. The Forest also provides an opportunity for mitigation in the form of biological resource enhancement to offset development impacts elsewhere in the County.

5.3 Expanded Opportunities for Use of Biological Resources

With the conservation, protection, and enhancement of biological resources, recreational and other opportunities associated with the use of biological resources can be expected to expand or be enhanced. Access to recreational areas is critical to providing and enhancing opportunities for visitors to enjoy and use biological resources on the Forest. Key opportunities include hunting, fishing, wildlife and wildflower observations, nature viewing, education and interpretation, and grazing.

5.3.1 Access

In order to expand or enhance recreational opportunities in the county and on the Inyo NF to benefit the County economy, access to some areas may need to be improved, while access to other areas should be maintained or enhanced. Public access roads are needed in areas with resources that are used for recreational purposes, such as trails, campgrounds, wildlife viewing areas, and hunting areas. Existing roads may need to be evaluated to determine if they provide adequate access or if they need to be improved or modified to enhance access. In roadless areas, trails should be provided to allow backcountry hikers the opportunity to enjoy the more pristine settings of the county. The County may also need to improve access to federal lands by improving County-maintained roads. Any improvements to roads can be accomplished with consideration for protecting sensitive biological resources, such as native plant populations or habitat for listed species, by aligning roads around sensitive areas or implementing seasonal closures to avoid disturbance to wildlife species, such as mule deer and bighorn sheep migrating between winter and summer ranges. Regular road maintenance and paving roads can also benefit biological resources by stabilizing the road base and reducing erosion from vehicle use, which can protect water quality of streams near the roads. Off-highway vehicle use is increasing in popularity, and few designated areas exist that allow this use. The County could work with other agencies and private landowners to designate trails or roads for off-highway vehicle use. The designation of a formal off-highway vehicle use area would also help protect biological resources by focusing the use in an area that is less sensitive or already disturbed and reducing the potential for unnecessary and illegal vehicle travel off designated roads.

5.3.2 Hunting

Hunting opportunities are expected to continue to be available in the county, including in hunt units on the Inyo NF. These opportunities are managed by CDFW, which has established take limits and permit restrictions for species allowed to be hunted, and the populations of game species are primarily managed by CDFW. The Forest Service has a responsibility to manage habitat on the Forest and continue to provide hunting opportunities for big game and other game species. The County can coordinate with these agencies to continue to provide hunting opportunities and identify ways to improve habitat and expand populations of game species to further enhance the opportunities, as discussed above. In addition,

the County may have an opportunity to coordinate with private landowners to provide hunting opportunities on private lands, such as for waterfowl or small game.

5.3.3 Fishing

Fishing is expected to continue to be available for visitors to the county in lakes, streams, and ponds on the Inyo NF and other lands. CDFW is expected to continue stocking fish consistent with its current plans, which include some restrictions on stocking to protect native amphibians and fish, and the Forest Service is expected to continue to manage fisheries on the Forest as it has in the past. Increased stocking may be an option in some lakes or streams if they have capacity and would not degrade habitat quality for native species. With some high alpine lakes being closed to fishing to protect native amphibians, improved opportunities, such as through increasing fish diversity or populations, may be an option to enhance fishing opportunities in other areas of the Forest. Popular fishing spots should be prioritized for stocking or improved fishing while other less popular areas may be prioritized for habitat restoration or enhancement to benefit native species. Should stocking by CDFW not be feasible, other opportunities may be available through private partnerships to establish a stocking plan for select lakes or streams. The former fish hatchery facility at Mount Whitney, which is currently managed by the Friends of Mt. Whitney Fish Hatchery, may have an opportunity to become re-established and used to introduce fish into lakes or streams in the county if it can operate again as a hatchery. In addition, the County may have an opportunity to coordinate with private landowners and other agencies to provide fishing opportunities on other lands, where they may not currently be provided.

5.3.4 Nature Tourism and Education/Interpretation

Inyo County will continue to offer diverse recreational opportunities with its diverse ecosystems, seasonal changes, plants, and wildlife. Nature tourism is not expected to decline in the county because of the diverse opportunities, wide range of locations where the opportunities are available, and the relatively inexpensive nature of wildlife or wildflower viewing. These opportunities are also less disturbing to wildlife or damaging to biological resources in general because of their passive nature. For example, visitors can remain in their vehicles on designated routes to view the resources or remain distant from the resource by using designated viewing areas. Another opportunity for visitors to experience nature without disturbing wildlife or traveling to remote areas is the establishment of web-cameras at remote locations where wildlife can be viewed at a visitor center or recreation area via a television screen or monitor. Such cameras are used in a variety of settings, such as in nests of California condors in Big Sur, California and at watering troughs for bighorn sheep in southern Nevada, and can offer unique experiences for visitors to see wildlife in action.

New opportunities for visitors to enjoy nature may become available as habitats are enhanced and restored to more closely resemble historic conditions (e.g., with reduced fire suppression or by removing and controlling invasive species). The establishment of new viewing areas or scenic routes would expand nature tourism opportunities with minimal disturbance to biological resources. Other ways of expanding or enhancing nature tourism include disseminating information on the resources in the county and on the Forest to a wider audience, including places outside of the county, to encourage people to get outdoors and visit nature; expanding education and interpretation of biological resources; and enhancing access to make it easier for people to visit the Forest and enjoy nature. Topics that could be integrated into an

education and interpretation program include invasive species concerns and prevention/eradication techniques (e.g., quagga mussels, non-native plants), benefits of fire to wildlife and the natural regeneration of habitats, benefits of using local firewood, and seasonal changes in vegetation that generate inspiring views of the county.

Opportunities are available for the County to coordinate with other agencies to improve habitat management and benefit the diversity of recreational opportunities available on the Inyo NF and in the county, as discussed above. In addition, the County may consider contributing additional resources to expand the education and interpretation program available on the Forest, such as at the Ancient Bristlecone Pine Forest Visitor Center and other information centers; improve inspections for non-native species, such as quagga mussels on watercraft; expand information provided at the Eastern California Museum; and provide sponsorships for wildlife-dependent recreational uses. Partnerships with local environmental groups and private landowners can also help enhance wildlife-dependent recreational opportunities.

5.3.5 Agriculture

Agriculture, particularly grazing, is an important use of private lands in the county. Grazing can also benefit wildlife habitat by reducing understory vegetation and controlling invasive plants. The continuation of current grazing activities will help maintain the county's agricultural economy, and opportunities may be available to enhance or expand grazing into new areas or in formerly used areas to use grazing as a management tool.

5.3.6 Other Uses

The County may also have opportunities to enhance or expand other uses on the Inyo NF or in the county. Timber production is not a major use in the county, but it can contribute to the local economy and may be an option to assist the Forest Service with forest thinning projects or removal of downed trees, such as from the major wind storm in 2011. A minor use of timber is wood cutting for fires, which may be another option to remove downed trees. The use of water and other natural resources for energy and water supply are also not major uses on the Inyo NF, but waters from the Forest are significant components of downstream use, and the County's economy is partially dependent on this water supply. Opportunities may be available to establish new energy sources using renewable resources or to establish a new water source for meeting water demands in parts of the county with less water. These uses would need to be coordinated between the County and other agencies and would need to be compatible with the land management plans.

6. Constraints

Management and use of biological resources could be constrained by a number of factors. Some of the key issues are discussed above under "Issues and Trends" and include man-made influences, disease, natural hazards, and habitat modifications and changes. This section outlines potential constraints to management and use of biological resources on the Inyo NF and in the county.

6.1 Permitting/Regulatory Constraints

Projects or activities on the Inyo NF require authorization from the Forest Service. Proposed projects require environmental evaluations in compliance with the National Environmental Policy Act and need to demonstrate compliance with the National Forest Management Act, as updated, and the Inyo NF LRMP. To demonstrate compliance, minimization or avoidance measures may be necessary and could restrict certain aspects of a proposed project. Possible restrictions could include a need to protect specific habitat for a special-status species or to implement a limited operating period to avoid disturbance during a species' sensitive period (e.g., breeding, nesting). Some activities may be authorized with a condition of restoring or offsetting project impacts.

Other permitting requirements may also be imposed on projects or activities if they could adversely affect a federally or state-listed species, sensitive habitat, or waters of the United States. These impacts could trigger the need for an incidental take permit or consultation with the USFWS (Endangered Species Act) or CDFW (California Endangered Species Act), a Section 404 Clean Water Act permit from the U.S. Army Corps of Engineers, a Section 401 Clean Water Act water quality certification from the Lahontan Regional Water Quality Control Board, or a Lake or Streambed Alteration Agreement with the CDFW (Section 1602 of the Fish and Game Code). All of these permits will likely impose additional mitigation measures. An additional level of complexity arises for projects on federal lands or with other federal approvals that are proposed in designated critical habitat for a federally listed species. These projects may be subject to more stringent requirements to protect the habitat and the species.

Some specific concerns relating to the regulatory environment include the increasing number of species afforded special status, such as those being proposed for federal listing and the new species of conservation concern being identified by the Forest Service; the new proposed designations of critical habitat in the county for Yosemite toad and Sierra Nevada yellow-legged frog; and the ongoing modifications to management plans that may restrict certain types of activities. The expanded management requirements for special-status species on the Inyo NF could result in new habitat protections or management actions that may restrict certain types of recreational uses. One example is the designation of Sierra Nevada yellow-legged frog critical habitat in areas where fishing has been available in the past; fish may no longer be stocked in high alpine lakes, preventing this use. Other concerns may arise in areas where wildflower viewing is popular if recreational uses are restricted because of the need to protect habitat or individuals of plants identified as species of conservation concern. This could result in the designation of formal trails to prevent cross-country hiking in order to ensure compatibility of the uses. Alternatively, some trails may be removed and restored to native conditions to restrict access to some areas, which could decrease the overall number of trails.

6.2 Man-Made Influences

As populations grow in nearby urban areas, such as Los Angeles, use of National Forests and other natural areas is expected to increase. With this increase in use, the protection of biological resources becomes a concern, and greater restrictions may be placed on protecting habitat and species on the Inyo NF. Fewer areas may remain pristine with little human influence, and species and habitat diversity could be threatened by overuse of the lands. Access to natural areas may become restricted to protect the resources, which could reduce the ability of the public to recreate and benefit from the opportunities

available on the public lands. Restrictions to some areas could also result in increased use in other areas, which in turn could cause wildlife populations to move away from heavily used areas and could lead to damage to native plants from trampling and other activities. These activities could affect management of the Forest and priorities for the Forest Service when planning projects and identifying compatible uses.

Other man-made influences that may continue to threaten biological resources and affect use of the Forest include increased air pollution from the Central Valley and southern California as populations grow, new development or other projects that involve construction and removal of native habitats, introduction of invasive species (plants and aquatic invertebrates) that can threaten native species, and introduction or transmittal of diseases that can be transferred between humans and wildlife (e.g., white-nose bat syndrome). These issues can lead to increased management requirements to protect species and their habitat, which may in turn restrict or reduce opportunities for recreation and other uses of the resources on the Forest. Any reductions in use could affect the County economy because of its reliance on tourism.

6.3 Natural Hazards and Influences

Natural hazards are difficult to predict and can lead to devastating consequences on biological resources. A major fire, for example, can substantially alter habitat types and shift species diversity in the affected area. Past management has emphasized fire suppression, which, in many areas, has resulted in increased intensity wildfires. Prescribed burns and other fuels treatments have been increasing as management strategies on National Forests. These activities can generally benefit biological resources; however, they also restrict access for recreational uses in the treated areas for a short time. If prescribed burns get out of control, they can lead to more damage than intended. Other hazards, such as major wind storms, floods, landslides, and earthquakes, can also affect biological resources and lead to a change in habitat and species diversity on the Forest. Substantial changes to the Forest can affect recreation, as well, by altering uses and possibly reducing visitor experience, leading to a decline in uses.

Climate change is an ongoing concern that is the subject of much research and management. At the Forest level, the Forest Service can monitor trends and adapt management direction to respond to local changes in the environment influenced by climate change, but the effects of climate change are otherwise considered an outside influence. As discussed in the Forest Service topic papers, climate change has the potential to shift habitat types at higher elevations and could threaten many species dependent on specific habitat requirements.

Other natural influences include the spread of invasive plants, introduction or spread of disease from animal vectors, and natural changes in habitat types and species populations. Natural fluctuations in species populations, such as mule deer and other game species, occur on an annual basis in response to environmental conditions. These fluctuations may not necessarily mean that a species is at risk of declining, but they could have inadvertent effects on associated uses of the species (e.g., hunting levels would decline if populations decline). Invasive plants threaten native plant populations and overall habitat diversity and are often difficult to control. Likewise, disease transmitted by animals and insects (e.g., mosquitoes with West Nile virus, rodents with hantavirus, ticks with Lyme disease) is difficult to manage and control, but can be monitored to track issues and identify management strategies to control outbreaks. The Forest Service may identify management actions to protect species and their habitats on

the Forest in order to reduce adverse impacts from natural hazards and influences, which could restrict access or other uses of the Forest by the public.

7. Forest Service Planning

7.1 Inyo National Forest LRMP Update/Revision

The Forest Service is in the process of updating the Inyo NF LRMP. To date, this process has included gathering background information on the resources that need to be managed on the Forest. The Forest Service has prepared a Science Synthesis and a Bioregional Assessment to discuss regional trends of biological and other resources across the Sierra Nevada. These reports were used to guide the topics addressed in Inyo NF topic papers. Three of the topic papers focus on biological resources:

- Chapter 1: Terrestrial, Aquatic, and Riparian Ecosystems
- Chapter 5: At-Risk Species
- Chapter 8: Multiple Uses

Chapter 1 focuses on the current conditions and trends of terrestrial, aquatic, and riparian ecosystems across the Inyo NF. It presents details on each of the diverse ecosystems found on the Forest based on mapping and inventory efforts. Chapter 5 discusses the current conditions and trends of at-risk species, which include federally listed species and species of conservation concern. It identifies those species that would be subject to management requirements on the Forest, including the proposed species of conservation concern. Chapter 8 describes the various uses of biological resources on the Forest and discusses the conditions and trends of the uses. It focuses on hunting, fishing, nature watching, and native plant collection.

After the Forest Service has reviewed available information, it is expected to prepare an updated LRMP that will be available for public review and comment. Opportunities will be available for the County to submit comments to the Forest Service and provide input on the management guidance throughout the planning process.

7.2 Critique

The Forest Service has solicited comments on its topic papers and other published documents during the initial steps of the planning process. North State Resources, Inc. (NSR) reviewed the three topic papers listed above and submitted a technical memorandum on August 16, 2013, to the County to provide comments on the At-Risk Species, with a focus on the species identified as potential species of conservation concern. The focus of that topic paper is on those species that would be subject to specific management direction on the Forest. Such management direction may apply to 24 aquatic and terrestrial wildlife species and more than 50 plant species and could restrict activities on the Forest or require additional mitigation measures for activities that may affect the species or their habitat once the updated LRMP is implemented. NSR evaluated the information presented by the Forest Service to verify if that information justified listing species as species of conservation concern using the criteria identified in the topic paper. Most of the plant species appeared to satisfy the criteria; however, only a few of the wildlife

species were demonstrated to meet the criteria. NSR provided comments on the species that did not appear to meet the criteria and identified where additional information would need to be presented in order to justify listing the species as species of conservation concern. In summary, the Forest Service should conduct more research or provide more evidence to support its new list of species of conservation concern and any updated management direction for those species in the updated LRMP.

The other two topic papers presented background information on biological and related resources, but did not present potential management guidance or direction that might affect the County. Additional comments may be warranted when the Forest Service publishes its proposed management direction in the updated LRMP. At this time, the Forest Service has not distributed information on its proposed management guidance for the Inyo NF, which will be important to the County to review and provide comments on.

8. Conclusion

Inyo County has an excellent opportunity to participate in the Inyo NF LRMP update/revision and incorporate appropriate goals and policies of its own General Plan. Opportunities are available to protect, conserve, and enhance biological resources on the Inyo NF and in the county, which will also enhance recreational opportunities. Opportunities may also be available to improve access to areas of the Forest for recreation, expand or enhance other uses of natural resources, and offer ways to continue uses in a compatible manner. Constraints that may arise with regard to management and use of biological resources relate to ongoing and evolving permitting and regulatory requirements, compatibility of human uses with protection and management of biological resources, and natural hazards and influences that can be detrimental to biological resources.

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