

Chapter 7 – Areas of High Ecological Significance

The problem, then, is how to bring about a striving for harmony with land among a people many of whom have forgotten that there is any such thing as land, among whom education and culture have become almost synonymous with landlessness.

— Aldo Leopold, 1949

Key Questions

- Which areas have particularly high ecological significance and what makes them significant?
- What factors threaten the ecological integrity of these areas?

This final chapter identifies areas of particularly high ecological significance in each of the assessment area's nine mountain regions. These "key places" include critical habitats for rare and vulnerable species, areas of high ecological integrity, and locations with unique ecological associations. Primarily they are places where a number of ecologically significant features overlap. Thus, the need for effective stewardship of these areas is particularly important.

The areas identified in this chapter clearly do not represent all areas of ecological importance and should not be interpreted as such. The purpose of highlighting these places is to increase public and agency awareness of their regional significance. They are key parts of the ecological heritage of southern California and should be recognized as such.

San Diego Ranges

The mountains and foothills of San Diego County contain a large number of rare species and habitats. The list of key ecological areas for this region is dominated by some of the best remaining occurrences of low-elevation ecosystems (e.g., riparian woodland, coastal sage scrub, grassland, and Engelmann oak woodland) that are poorly represented on

public lands and declining in the southern part of the assessment area (fig. 7.1).

Public lands and habitat reserves are patchily distributed in the San Diego ranges. As development intensifies in the foothills, far-sighted planning is needed to ensure that habitat connectivity is maintained between the mountains and the remaining natural areas in the coastal and inland valleys.

Upper San Luis Rey River and the Warner Basin

An approximately 4-mile stretch of riparian habitat along the San Luis Rey River below Lake Henshaw supports the largest southwestern willow flycatcher population in southern California. Above the lake, there are significant populations of arroyo toad and arroyo chub in the West Fork, North Fork, and Agua Caliente Creek. Extensive grasslands in the Warner Basin are occupied by Stephens kangaroo rat. The basin is also one of the few areas in southern California where the red-sided garter snake has recently been observed. Lake Henshaw supports a wintering population of approximately four to ten bald eagles. Gray vireos occur in redshank chaparral habitats on the north end of the basin.

Factors affecting the ecological integrity of this area include surface and groundwater extraction on private lands above Lake Henshaw. The San Luis Rey River below the lake is regulated by water releases from the dam. Much of the Warner Basin is intensively grazed by cattle. Brown-headed cowbirds are common in the area. Several roads and developed

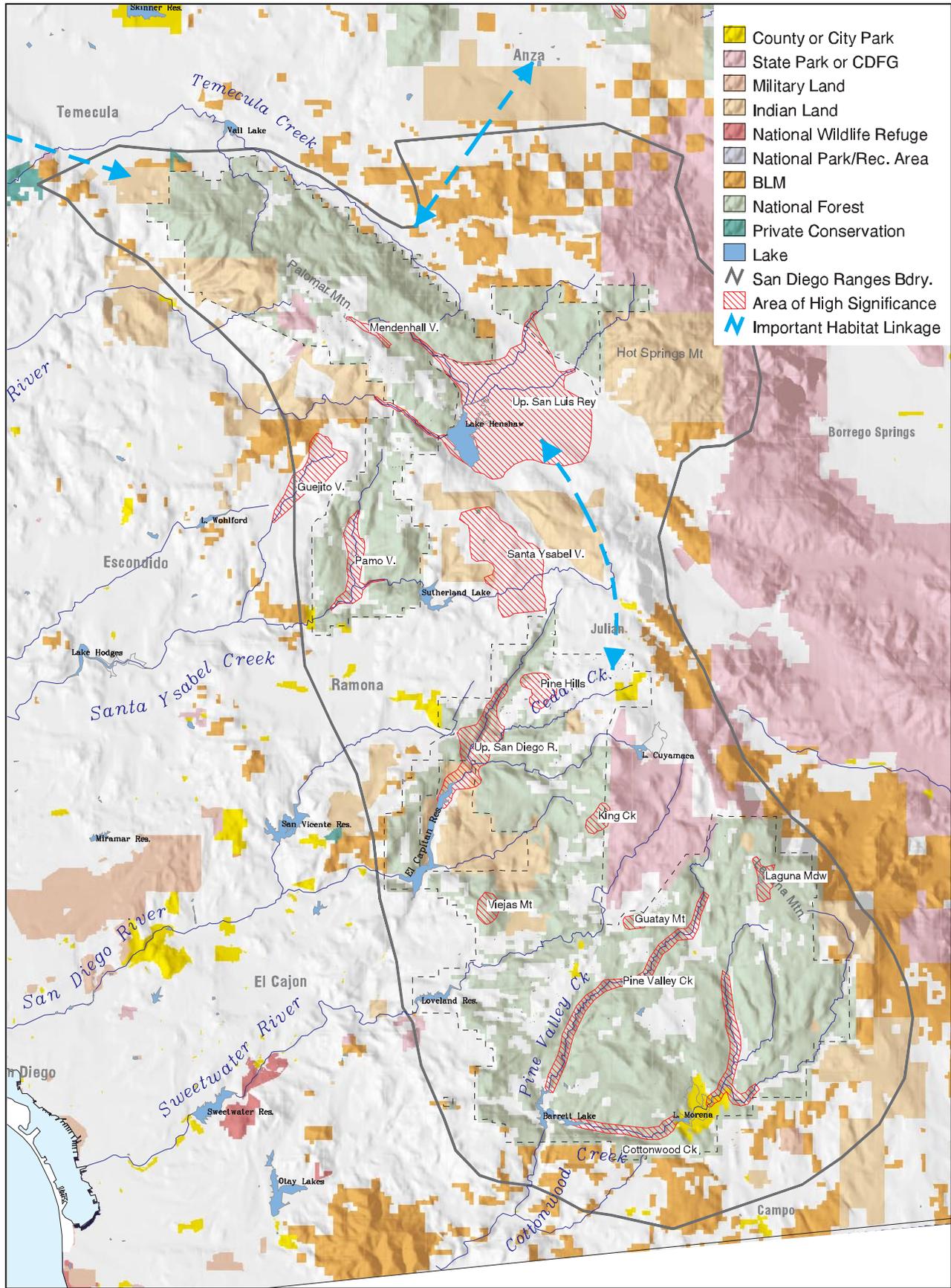


Figure 7.1. Areas of high ecological significance in the San Diego ranges.

recreation sites are located in riparian habitats occupied by willow flycatchers and arroyo toads.

Pine Valley and Cottonwood Creeks

Pine Valley and Cottonwood creeks are adjacent drainages that come together at Barrett Lake. Both have high-quality riparian habitat and significant populations of arroyo toads, least Bell's vireos, and pond turtles. The pond turtle population on Pine Valley Creek is one of the largest remaining in southern California (D. Holland, pers. comm.). The arroyo toad population on upper Pine Valley Creek is probably the largest aggregation of this species on the Cleveland National Forest. The population of least Bell's vireos on Cottonwood Creek is the largest on the Cleveland National Forest. Pine Valley Creek is undammed and one of the longest free-flowing, low-elevation streams in the assessment area. The lower portion of the creek is in a designated wilderness area.

Factors affecting ecological integrity include high recreation use, livestock grazing, and non-native species. The upper portions of Pine Valley and Cottonwood creeks are popular recreation areas. A recreation residence tract occurs along Pine Valley Creek as do several popular trails and trailhead facilities. These are popular areas for mountain bike and horseback riding. Several cattle grazing allotments exist in the area. Stream flows on Cottonwood Creek are regulated by dams at Morena and Barrett lakes. Invasive non-native species such as tamarisk, bullfrogs, sunfish, and cowbirds are a problem in some areas.

Upper San Diego River

The San Diego River canyon above El Capitan Lake contains extensive stands of coastal sage scrub vegetation that support a population (twenty to thirty pairs) of California gnatcatchers. Along the river are several stretches of high-quality riparian woodland and populations of arroyo toad and southwestern pond turtle. Coastal rosy boas, horned lizards, orange-throated whiptails, and two-striped garter snakes also occur in this area.

Factors affecting ecological integrity in the upper San Diego River include housing developments along the canyon's rim, increased fire starts, and non-native species. The area has burned several times in the last eight years, resulting in degradation of coastal sage scrub habitat.

Pamo Valley

Pamo Valley is a broad foothill valley that surrounds the confluence of Temescal and Santa Ysabel creeks. The area supports a large arroyo toad population and also contains high-quality riparian woodland, Engelmann oak woodland, and some coastal sage scrub. Least Bell's vireos, California gnatcatchers, and golden eagles occur in this valley. Red-legged frogs historically occurred in this area.

Most of Pamo Valley is owned by the City of San Diego, although the surrounding hills are part of the Cleveland National Forest. Factors affecting the ecological integrity of this area include year-round cattle grazing, unauthorized and unmanaged recreation use, illegal dumping of trash, and high numbers of invasive, non-native species. Aquatic habitats along Santa Ysabel Creek are highly impacted by bullfrogs, sunfish, bass, and crayfish.

Guejito Valley

Guejito Valley lies just to the west of Pamo Valley and is another broad foothill valley that contains extensive Engelmann oak savanna, grassland, and low-elevation riparian habitat. Arroyo toads, Stephen's kangaroo rats, and golden eagles occur here. The valley is privately owned and is heavily grazed by cattle.

Mesa Grande-Santa Ysabel Valley-Pine Hills Oak Woodlands

This area supports the largest remaining expanse of Engelmann oak woodland habitat in southern California. Most of this area is private or Indian land and the primary factor affecting its ecological integrity is the likelihood of increased subdivision and development of those lands. Cattle ranching is a common use of land in this area. Non-native annuals are the dominant grasses in the oak savannas and grasslands.

Mendenhall Valley

In this valley near the top of Palomar Mountain there is a large montane meadow that supports the largest known population of the Laguna Mountain skipper butterfly. Populations of Parish's meadowfoam and San Bernardino bluegrass also occur here. This valley is the headwaters for the West Fork of the San Luis Rey River. Downstream resources include arroyo toads, arroyo chub, and a self-sustaining wild trout fishery.

The primary land uses in Mendenhall Valley are cattle grazing and several private residences (over half of the valley is in private ownership). Altered fire regimes and non-native grasses and forbs may be affecting plant species composition in the meadow. Bullfrogs occur in several ponds within the valley and undoubtedly affect native amphibian populations.

Laguna Meadow

On top of Laguna Mountain is an extensive montane meadow that supports a number of rare plant species and the Laguna Mountain skipper butterfly. It is one of the few large montane meadows in the mountains of San Diego County that is predominately on public lands. Pine-oak forests surrounding the meadow contain spotted owls. Ecological integrity on Laguna Mountain is affected primarily by high levels of recreation use and cattle grazing.

Viejas, Poser, and Guatay Mountains and King Creek

These areas have gabbro soils that support several unique, endemic plants. The largest population of San Diego thorn-mint (*Acanthomintha ilicifolia*) occurs on Viejas Mountain. *Monardella hypoleuca lanata* and *Nolina cismontana* occur on Viejas and Poser mountains. Tecate cypress is found on Guatay Mountain and Cuyamaca cypress occurs along upper King Creek on the southwest flank of Cuyamaca Peak. Overly frequent fire is a threat to some of these plants, particularly cypress forests.

Santa Ana Mountains

The Santa Ana Mountains region is an island of wildland habitat that is nearly surrounded by urban development. It contains a number of important ecological areas. From an ecosystem conservation standpoint, the most significant areas are probably along the base of the mountains where imperiled low-elevation habitats extend up into the foothills. These habitats include Engelmann oak-grassland savanna, low-elevation riparian, and coastal sage scrub (fig. 7.2).

San Mateo Creek and Surrounding Uplands

San Mateo Creek is probably the most pristine coastal stream south of the Santa Monica Mountains. It flows unimpeded into the ocean. The upper watershed is mostly unroaded and primarily within the San Mateo Canyon Wilderness Area. Its lower reaches run through Camp Pendleton Marine Corps Base and San Onofre State Beach. The creek and its principal tributaries contain significant populations of arroyo toads, pond turtles, and California newts. In 1999, juvenile southern steelhead were documented in San Mateo Creek (A. Vejar, CDFG, pers. comm.).

Factors affecting ecological integrity include recreation use, military activities, and exotic species. However, this may be one of the few streams where conditions are conducive for extirpating aquatic exotic species.

Santa Rosa Plateau

The Santa Rosa Plateau contains a large expanse of undeveloped, Engelmann oak savanna that is well managed and in good condition. In this area is the only remaining red-legged frog population south of Los Angeles County. Several large vernal pools support fairy shrimp and a number of rare plant species.

The primary factor affecting ecological integrity in this area is the subdivision and development of private land on and around the Santa Rosa Plateau. Exotic species such as European grasses and bullfrogs are also a threat.

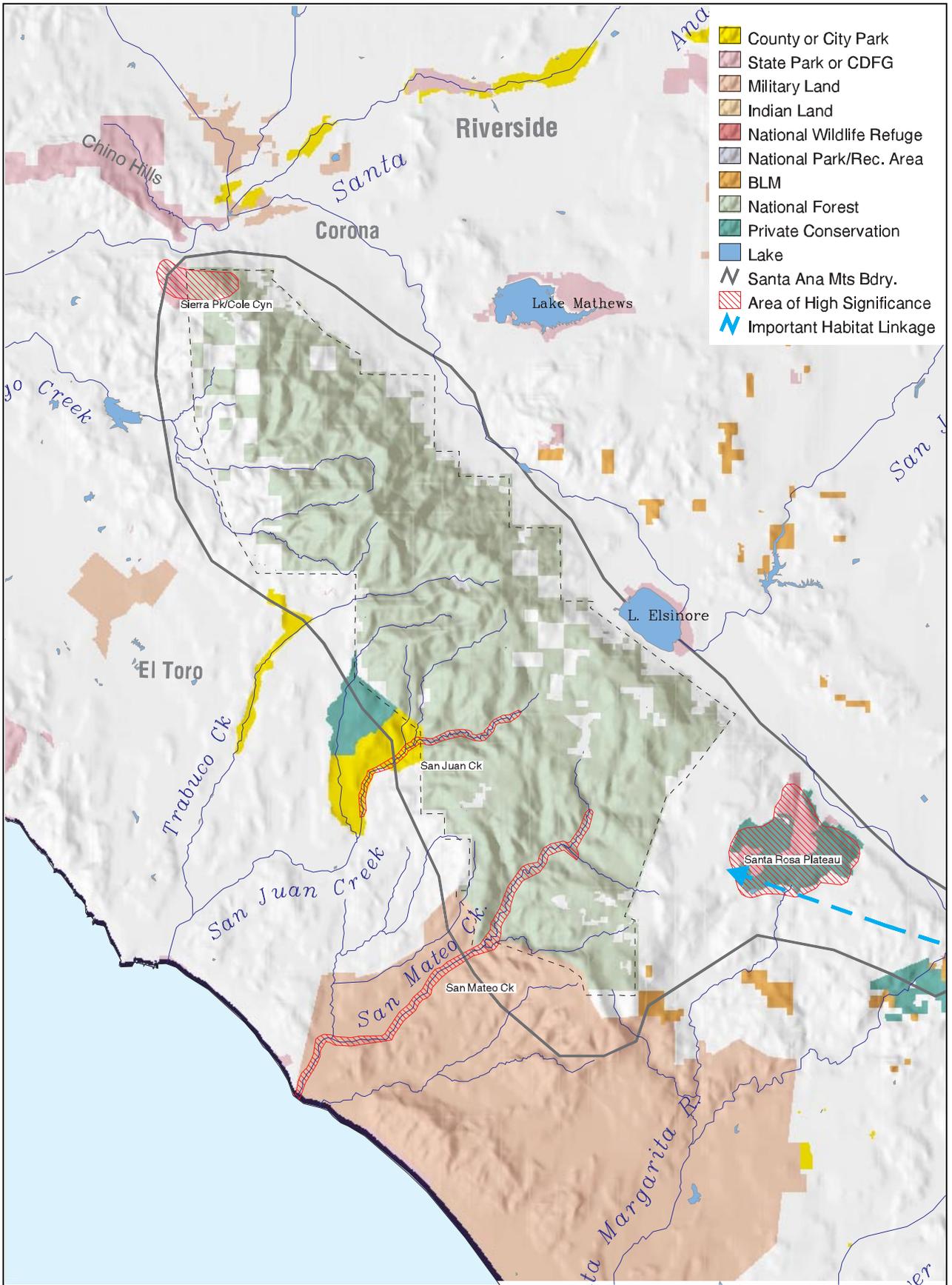


Figure 7.2. Areas of high ecological significance in the Santa Ana Mountains.

Sierra Peak/Cole Canyon Area

Unique soils in this area support a number of rare plants, including several large Tecate cypress groves. This area is also a key part of an important habitat corridor between the Santa Ana Mountains and the Chino Hills. Development on private lands in Cole Canyon threatens this unique habitat area. Overly frequent fire is also a threat.

San Juan Creek

This area contains significant populations of arroyo toad, *Dudleya viscida*, and *Tetracoccus dioicus*. At low elevations, coastal sage scrub is common along the slopes of San Juan Canyon. California gnatcatchers, cactus wrens, and orange-throated whiptails occur in the lower canyon. Recreation use, a major state highway, and non-native species are the primary factors affecting ecological integrity.

San Jacinto Mountains

This range contains a large expanse of montane wildland habitat that is becoming increasingly surrounded by urban development. The San Jacinto Mountains (and the adjoining higher peaks of the Santa Rosa Mountains) lie between the San Bernardino Mountains to the north and Palomar and Hot Springs mountains to the south. There are sizeable gaps in the distribution of public lands between these ranges, and coordinated land use planning will be needed to ensure that habitat connectivity between them is maintained. Another key issue is the establishment of wildland linkages that “connect” the San Jacinto Mountains to the habitat reserves being created in western Riverside County and Coachella Valley. Within the mountains themselves, areas of high ecological significance include montane meadows and habitats utilized by the mountain yellow-legged frog and the Peninsular Ranges’ bighorn sheep (fig. 7.3).

North Fork, San Jacinto River

The North Fork of the San Jacinto River and its upper tributaries contain high-quality mixed conifer and bigcone Douglas-fir forest

and hold some of the last remaining mountain yellow-legged frog populations in southern California. The watershed also contains four to five pairs of spotted owls, and the southernmost population of southern rubber boas.

Factors affecting ecological integrity in this area include concentrated recreation use, expanding development on private lands in the Pine Cove and Idyllwild areas, and altered fire regimes. Mixed conifer forests in this area have become increasingly dense over the last eighty years, prompting fears that the area is now more susceptible to a large stand-replacing fire.

Palm Canyon

Palm Canyon, on the desert side of the mountains, provides important habitat for the Peninsular Ranges’ bighorn sheep. Several factors threaten the survival of this sheep population, including disease and excessive predation by mountain lions, but development on private lands in and around the community of Palm Desert is of particular concern. As its name implies, Palm Canyon also contains several highly localized and rare palm oases.

Garner Valley

This large montane meadow contains several sensitive plant populations. It is also an important deer fawning area and productive habitat for many species. Housing developments on private land in the valley, water extraction and diversion, and non-native species are the primary factors affecting ecological integrity in this area.

Bautista Creek

This low-elevation stream contains some high-quality riparian habitat. Arroyo toads historically occurred in this drainage and may still be there. Swainson thrush and yellow-breasted chat are riparian-dependent birds that occur in this drainage. The greenest tiger beetle is a rare invertebrate that was collected along Bautista Creek in the 1970s and may still occur in the area.

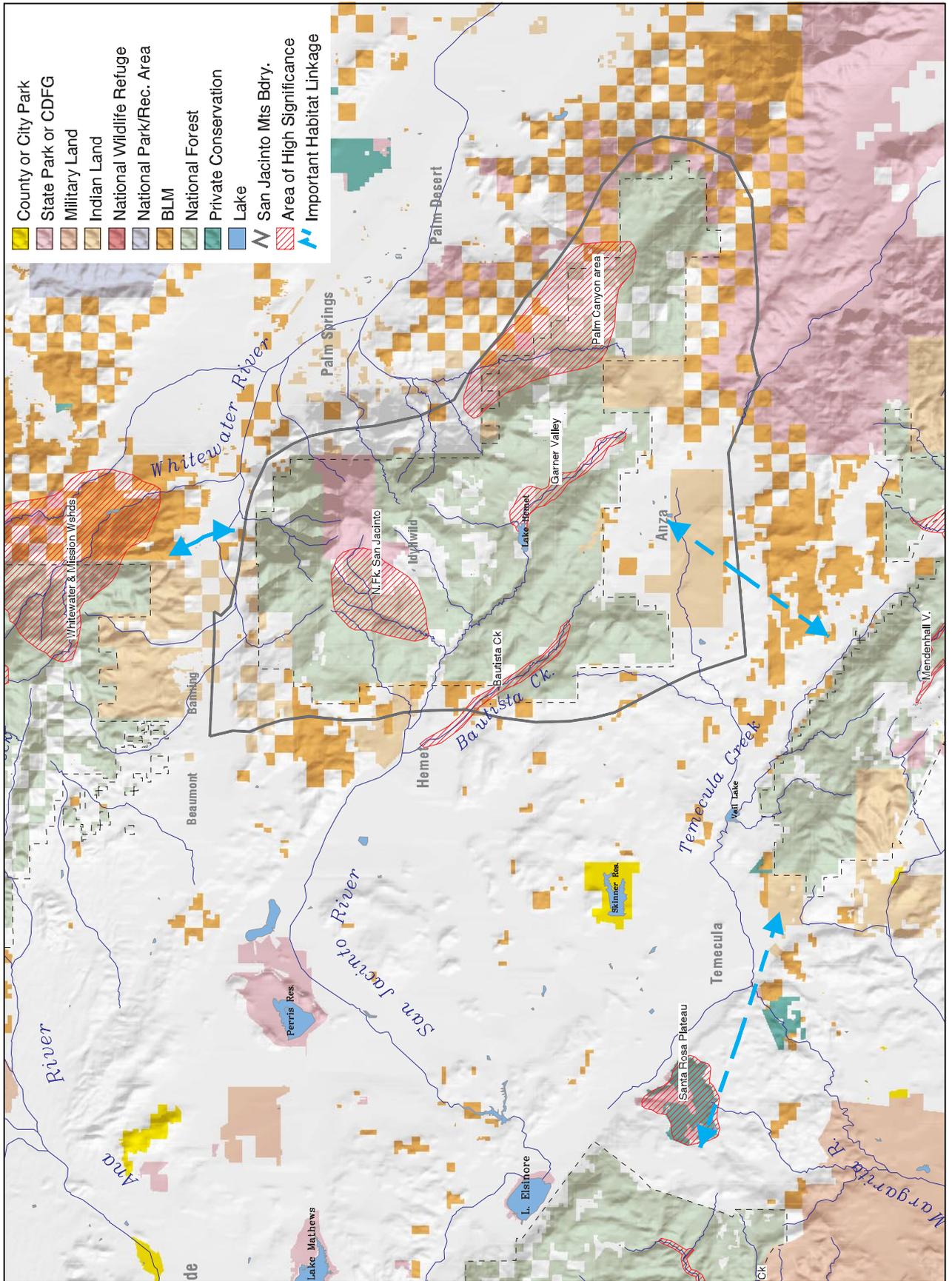


Figure 7.3. Areas of high ecological significance in the San Jacinto Mountains.

San Bernardino Mountains

The San Bernardino Mountains are the highest and most extensively forested range in the assessment area. This range contains an unusually large number of endemic plants as well as many rare animals. There are many areas of high ecological significance in this range (fig. 7.4), reflecting many unique vegetation associations and rare species occurrences.

Unique Habitats in the Big Bear-Baldwin Lake-Holcomb Valley Area

Pebble plains, carbonate outcrops, montane meadows, pinyon and Joshua tree woodlands, and a large ephemeral lake, all in close proximity to one another, combine to make this a unique and highly significant area. This area contains the largest concentration of endemic plants in California, eleven of which are now federally listed as threatened or endangered. Big Bear Lake supports the largest wintering population of bald eagles in southern California. Baldwin Lake and its primary tributary, Shay Creek, are home to a isolated and highly imperiled population of unarmored threespine stickleback fish. The Dammer's blue butterfly is endemic to the Baldwin Lake area and nearby Coxey Meadow supports one of the few known populations of the vernal blue butterfly. This area is also one of the few places in the assessment area where common nighthawks, gray vireos, and gray flycatchers breed. Nelson's bighorn sheep also occur on the northern edge of this area.

Big Bear and Holcomb valleys are popular recreation areas. There are many developed facilities and maintained roads that attract large numbers of recreationists. Mining is a major land use activity in high-grade carbonate deposits that extend from the north side of Holcomb Valley to the desert's edge.

Mid-Elevation Conifer Forests from Cedarpines Park to Barton Flats

The San Bernardino Mountains contain by far the largest expanse of coniferous forest in southern California. Of particular signifi-

cance are the mesic mid-elevation (4,500 to 7,000 feet) forests on the coastal side of the mountains. These productive pine- and fir-dominated forests are key habitats for the California spotted owl, San Bernardino flying squirrel, southern rubber boa, flammulated owl, and many other forest-dependent species. The large spotted owl population in the San Bernardino Mountains is reported to be critical to the continued viability of this species in southern California (Noon and McKelvey 1992).

The primary factor affecting the ecological integrity of these forests is an altered fire regime. The almost complete exclusion of fires in these forests for over eighty years has led to changes in stand structure, shifts in species composition, and an increased vulnerability to large stand-replacing fires. The area also receives a high level of recreation use and is interspersed with private lands that are becoming increasingly developed.

Deep Creek

This desert-flowing stream contains high-quality aquatic and riparian habitat. A population of arroyo toads and a hybridized population of Mojave chub occur in the lower portions of this drainage. Deep Creek is also a popular trout fishery and has been designated by CDFG as a wild trout stream.

Concentrated recreation use in portions of this drainage affects the ecological integrity of Deep Creek. Impoundments and water diversions in the upper watershed affect stream flow volume and seasonality. The Willows Fire in the summer of 1999 burned over 60 percent of this watershed and will trigger high rates of soil erosion and stream sedimentation in the next few years.

Onyx Summit

A high-elevation ecotonal area where desert and coastal influences meet, the Onyx Summit area contains a unique assemblage of vegetation types including old-growth western juniper and mountain mahogany mixed with pinyon and limber pine. There are many inholdings of private land in this area and houses are being constructed on some of these.

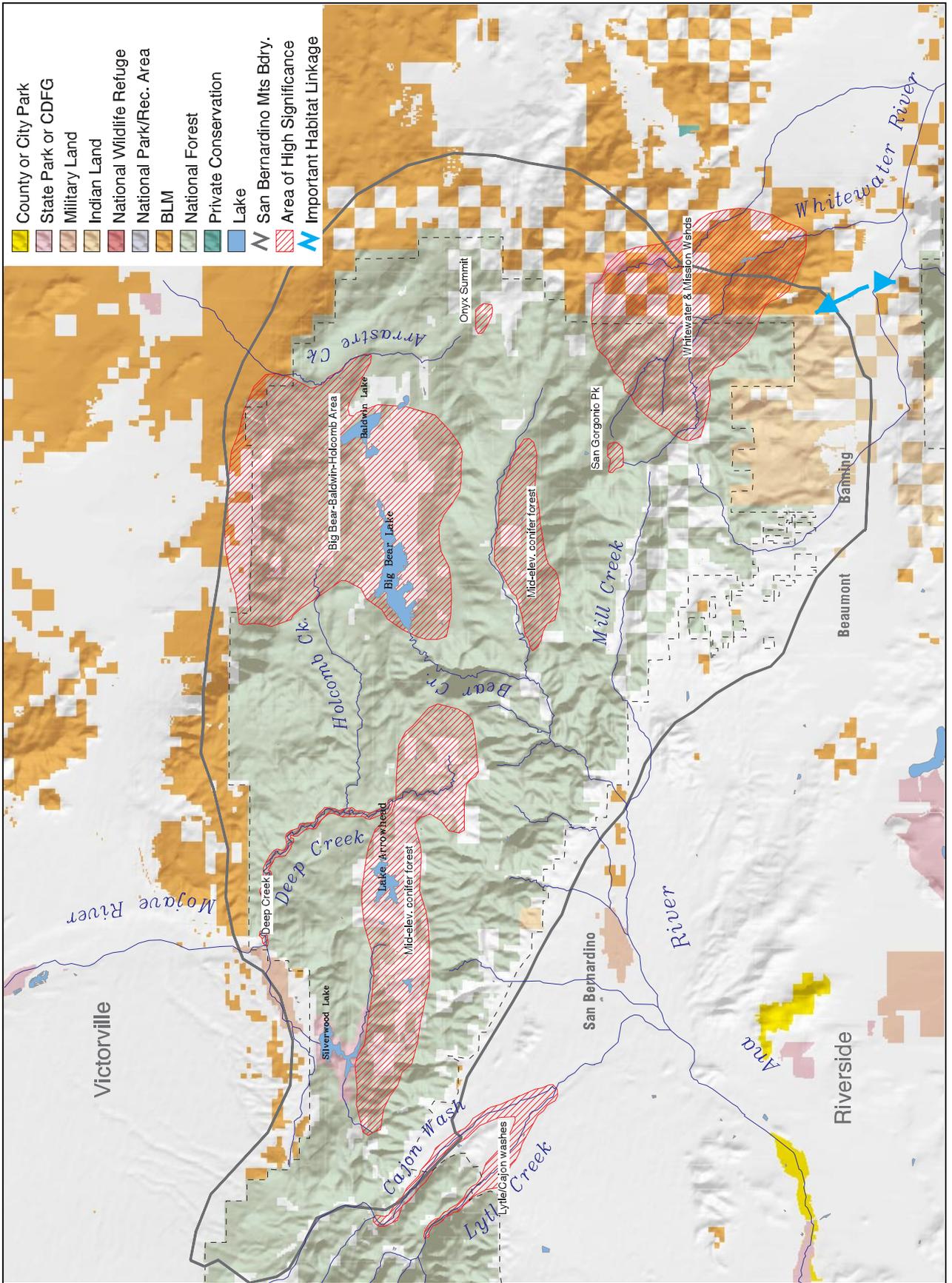


Figure 7.4. Areas of high ecological significance in the San Bernardino Mountains.

Increased development could degrade the unique habitats in this area and will reduce fire management options.

Whitewater River

The upper watershed of the Whitewater River is one of the most remote, unroaded places in the assessment area. As such, it is relatively pristine and is an important area for bighorn sheep and mule deer. Arroyo toads occur on this drainage at low elevations near the base of the mountains.

San Gorgonio Peak

The tallest peak in southern California, it is the only place in the region that contains significant amounts of alpine habitat. The water pipit potentially breeds here and a variety of sensitive alpine plants occur in this area. Completely within a designated wilderness area, the primary threat to this peak is degradation of fragile habitats from overuse of areas by backcountry hikers.

San Gabriel Mountains

The San Gabriel Mountains are steep and rugged, with many areas not easily accessible by road. This has helped maintain a high level of ecological integrity in some of the upper canyons. This remote character is probably why mountain yellow-legged frogs and Nelson's bighorn sheep still occur in these mountains. The range also contains some important aquatic and forest habitats (fig. 7.5).

Upper San Gabriel River

The three primary forks of the San Gabriel River (West, North, and East forks) and their tributaries contain highly significant aquatic habitats. Low-elevation portions of these streams are key refugia for imperiled native fish, including the Santa Ana sucker, Santa Ana speckled dace, and arroyo chub. The West Fork is a high-quality rainbow trout stream and supports a large pond turtle population. High-elevation tributaries in the Sheep Mountain Wilderness Area support several mountain yellow-legged frog populations.

Moyle et al. (1995) suggested that the upper San Gabriel River be designated as an "Aquatic Diversity Management Area" similar to ones being proposed in the Sierra Nevada.

The primary factors affecting the ecological integrity of these aquatic habitats are (1) irregular releases of water and sediment from Cogswell Dam on the West Fork, (2) suction dredging on the East Fork, and (3) concentrated recreation use on the East and North forks.

Little Rock Creek

This long, desert-flowing drainage contains a substantial arroyo toad population along its lower reaches and a mountain yellow-legged frog population near its headwaters. Little Rock Creek also contains high-quality riparian habitat. Upper parts of the drainage are remote and unroaded, which has helped maintain a high level of ecological integrity.

Recreation activities are the primary land uses in this drainage. Camping and OHV use are popular activities in the lower drainage near Little Rock Reservoir. Rock climbing and hiking are common activities in the upper headwaters near the Angeles Crest Highway.

Mount Wilson/Monrovia Peak Area

The steep canyons and north-facing slopes that extend from west of Mount Wilson to just east of Monrovia Peak contain the region's largest and most continuous stands of bigcone Douglas-fir, a tree that is endemic to southern California. These forests are highly productive for spotted owls. The recently discovered San Gabriel Mountain slender salamander also occupies these forests. Bigcone Douglas-fir forests are at risk to stand-replacing fire and have been declining in extent over the last century.

Lytle and Cajon Washes

Low-elevation, alluvial areas along Lytle and Cajon creeks and their adjacent floodplain terraces contain several imperiled species and vegetation types. The San Bernardino kangaroo rat, California gnatcatcher, slender-horned spineflower, and Santa Ana woollystar are

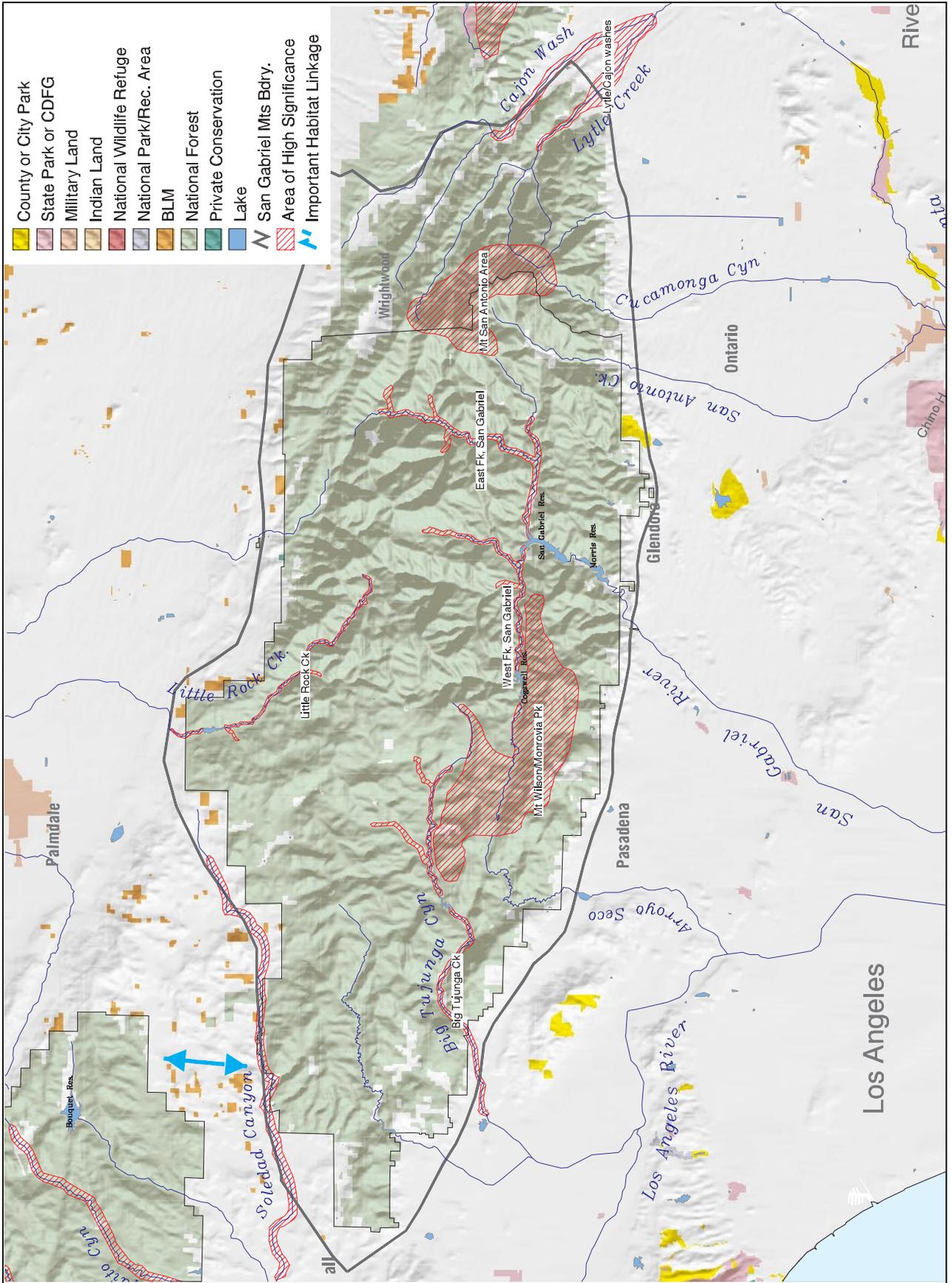


Figure 7.5. Areas of high ecological significance in the San Gabriel Mountains.

known to occur in this area. It is a historic locality for the Los Angeles pocket mouse, coastal black-tailed jackrabbit, and badger, and these species may still occur here.

Urban development is occurring at a rapid rate along the border of the national forest in the uplands surrounding Lytle and Cajon washes. Sand and gravel mining is also a major activity in portions of these washes.

Big Tujunga Creek

Although this stream is dammed at an elevation of approximately 2,400 feet, there is still important riparian and aquatic habitat both upstream and downstream of the reservoir. Big Tujunga Creek continues to support populations of the Santa Ana sucker and arroyo chub. Santa Ana speckled dace historically occurred in the drainage but may have been extirpated. Arroyo toads, pond turtles, and Swainson's thrush also occur here.

Introduced red shiners occur below the reservoir and have been blamed for the decline of native fish in this drainage and the possible extirpation of speckled dace. Non-native aquatic species are a large problem in this drainage due to the mid-elevation reservoir. Variable and sometimes extreme releases of water from the dam are a threat to downstream fish and aquatic amphibian populations. Recreation use is high along this stream, particularly in the lower canyon, and has resulted in habitat degradation in some areas.

Upper San Antonio and Lytle Creek Watershed

The steep slopes around Mount San Antonio (also known as Mount Baldy) and in the upper forks of Lytle Creek are important habitat for Nelson's bighorn sheep. The recently discovered San Gabriel Mountain slender salamander also occurs in this area.

The remoteness of these upper watershed areas is critical to the continued existence of bighorn sheep in the San Gabriel Mountains. Increased demand for recreation developments in this area threatens the remote character. Altered fire regimes also may be changing the

distribution and availability of some habitat types that are important to bighorn sheep.

Castaic Ranges

The mountains and foothills north of Castaic are dominated by chaparral-covered hills, but they also contain several low-elevation streams that have high-quality riparian and aquatic habitats (fig 7.6). In addition, the upper elevations of Liebre and Sawmill mountains contain unique and important montane habitats. The geographic position of this region—between the San Gabriel Mountains to the east, the Tehachapi Mountains to the north, and the Los Padres ranges to the west—makes it a key wildland linkage. A 4- to 6-mile break in the connectivity of public lands exists between the San Gabriel Mountains and the westernmost part of this region, the Sierra Pelona Mountains. Protected habitat corridors will be needed between these ranges as development intensifies along Interstate 14.

Soledad Canyon

Soledad Canyon contains high-quality riparian and aquatic habitat. Portions of the upper Santa Clara River in this canyon are designated as critical habitat for the unarmored threespine stickleback fish. Santa Ana suckers, southwestern willow flycatchers, and summer tanagers also occur in this area.

A principal factor affecting the ecological integrity of Soledad Canyon is that most of the area is on private land and subject to increasing development. Invasive, non-native species are also a problem, particularly arundo and warm-water fish.

San Francisquito Creek

San Francisquito Creek contains high-quality, low-elevation riparian and aquatic habitat. The unarmored threespine stickleback, California red-legged frog, southwestern willow flycatcher, Swainson's thrush, yellow-breasted chat, and Nevin's barberry all occur along this drainage.

The primary factors affecting ecological integrity in the area are water diversions,

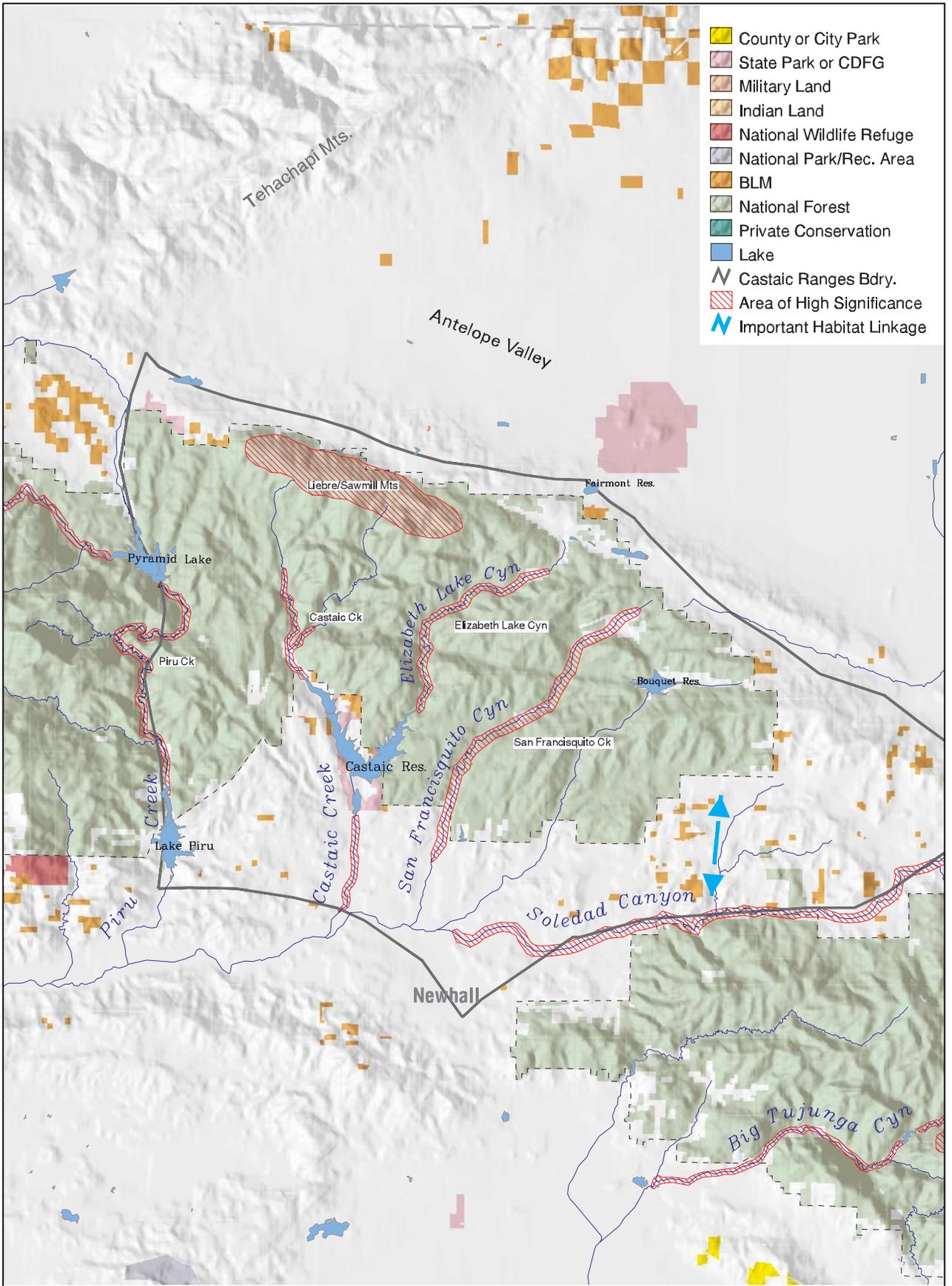


Figure 7.6. Areas of high ecological significance in the Castaic Ranges.

encroachment of non-native species, and land uses associated with a major paved road that runs the length of this canyon.

Castaic Creek

Although much of this creek is now covered by Castaic Lake, there are still areas of important riparian habitat. Arroyo toads occur upstream and downstream of the lake. A pond turtle population also exists in the upper reaches of Castaic Creek.

Streamflows below Castaic Lake are controlled by releases from the dam. The lake contains a wide variety of non-native species that can disperse both up and down stream. Bullfrogs and warm-water fish in particular are a threat to arroyo toads and pond turtles.

Elizabeth Lake Canyon

Elizabeth Lake Canyon contains some high-quality riparian and aquatic habitat. Swainson's thrush and yellow-breasted chat are known to occur along this drainage. It is also a historic locality for the Tehachapi white-eared pocket mouse and the foothill yellow-legged frog.

A paved road runs the length of this canyon and several campgrounds are located along it. The stream flows into Castaic Lake, which makes it more susceptible to infestations of bullfrogs and warm-water fish.

Liebre and Sawmill Mountains

Liebre and Sawmill mountains support several forest types and some unique dry meadow-grassland habitats. A series of north-facing canyons contain bigcone Douglas-fir/canyon live oak forests, with a pair of spotted owls in almost every canyon. Ponderosa pine and black oak blanket the mountain crest but are interspersed with large grass-dominated openings. The only known occurrences of Forest Camp sandwort (*Arenaria macradenia* var. *kuschei*) are on Liebre Mountain. Bigcone Douglas-fir stands in this area are at risk to stand-replacing fires.

Southern Los Padres Ranges

The southern Los Padres region is a large, highly intact block of natural habitat, with relatively few areas of human development within it (see figure 1.4 in chapter 1). This characteristic, in and of itself, makes the area unique in coastal southern California and highly significant from an ecological perspective. In general, the mountains and streams in this region are less heavily utilized by people than are the mountain ranges to the south.

Sisquoc River

A relatively large, remote, free-flowing stream, the Sisquoc River is arguably the most pristine stream in the assessment area. It has few exotic species and contains populations of southern steelhead, California red-legged frogs, arroyo toads, and pond turtles. A least Bell's vireo was also observed along this river in 1999 (K. Cooper, Los Padres NF, pers. comm.).

The Sisquoc River has high ecological integrity because it is unregulated, there is no road access to most of the drainage, and the watershed is almost entirely undeveloped and lightly used public land.

Sespe Creek

Sespe Creek is a major undammed stream that contains high-quality riparian habitat and important populations of southern steelhead, red-legged frogs, pond turtles, and arroyo toads. It is a tributary of the Santa Clara River, and its connection to the ocean is affected by intensive land use along that river. Portions of Sespe Creek are extremely remote, while others can be easily accessed by roads and contain several popular developed recreation sites.

Mono Creek, Indian Creek, and the Upper Santa Ynez River

Mono and Indian creeks are undammed tributaries of the Santa Ynez River. They support high-quality riparian habitat and contain important populations of arroyo toads, red-legged frogs, and pond turtles. Mono Creek is essentially free of bullfrogs and predatory fish. A substantial least Bell's vireo population is concentrated around the confluence of these

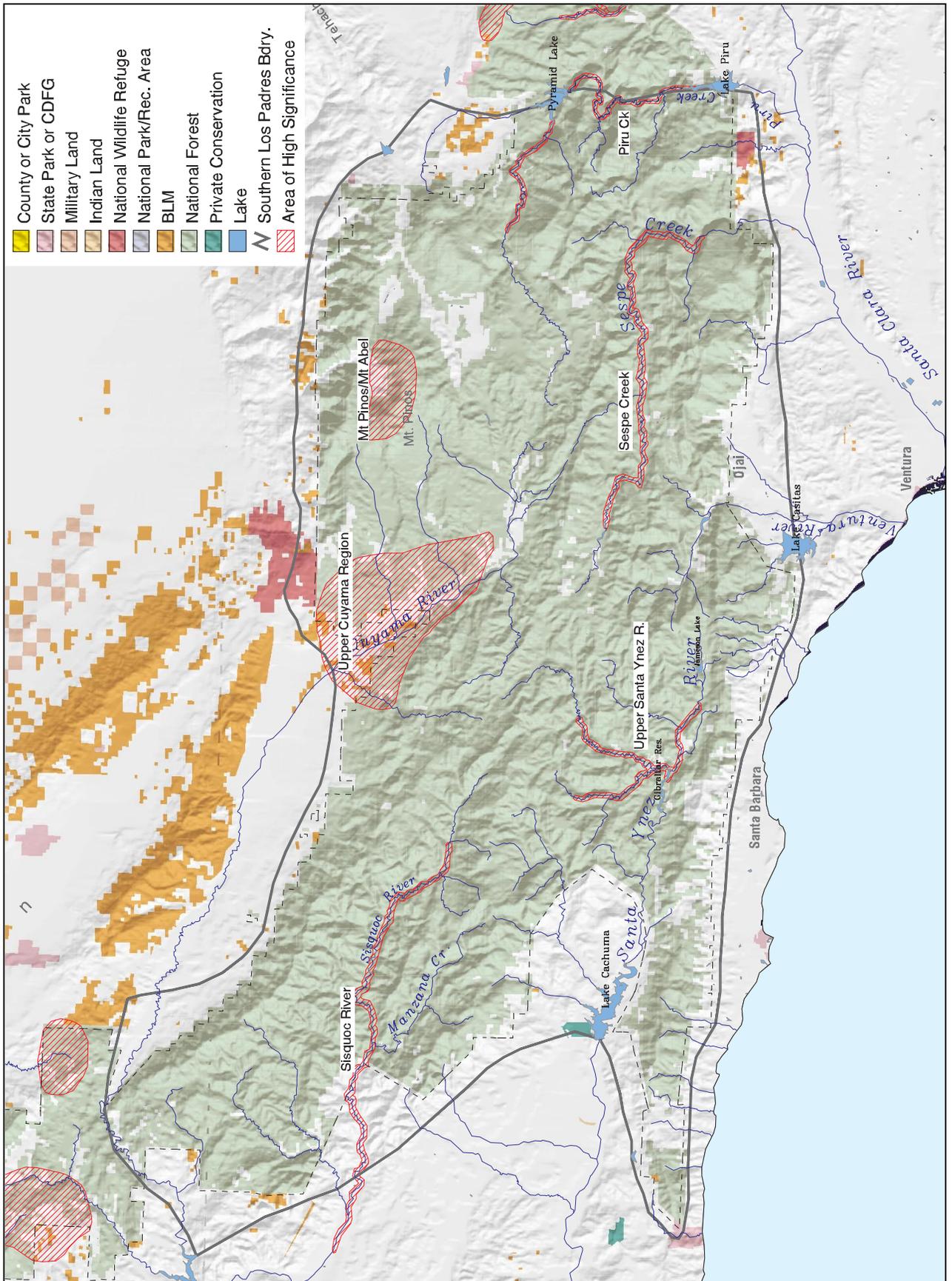


Figure 7.7. Areas of high ecological significance in the southern Los Padres ranges.

three drainages. This area receives a lot of recreation use, which affects habitat conditions.

Mount Pinos-Mount Abel Area

The high country around Mount Pinos and Mount Abel is a unique montane island that supports several endemic taxa and provides an important refugia for other species associated with montane habitats. The area supports endemic subspecies of blue grouse, lodgepole chipmunk, and white-eared pocket mouse. It also contains a unique population of rubber boa snakes that are intermediate in morphology and genetic make-up between the southern and northern subspecies. Montane meadows in this area support a number of sensitive bird and plant species, and a small northern goshawk population persists in these mountains.

Recreation activity and altered fire regimes are the primary factors affecting ecological integrity in the Mount Pinos/Mount Abel area. Several developed campgrounds are located on Mount Pinos and also on Mount Abel, but the high country in between is now within the Chumash Wilderness Area. Fires have been effectively suppressed for many years in this area, spawning concerns about fuel buildups, shifts in forest species composition, and increased risk of future stand-replacing fires.

Piru Creek

Although a highly regulated stream that is dammed in two places, Piru Creek still contains important riparian and aquatic habitat and supports a number of rare or at-risk species. Large arroyo toad and pond turtle populations occur along the creek between Pyramid and Piru reservoirs. The creek also contains Santa Ana suckers and red-legged frogs.

The reservoirs are a constant source of invasive, non-native aquatic species, and the stream contains large numbers of them. Water releases from the dams also control much of the creek's flow regime.

Upper Cuyama River Region

The arid, rugged region along the upper Cuyama River is often described as a "bad-

lands." It has unique topography and habitats and contains relictual populations of several plant species and pina plains. A hybridized population of blunt-nosed leopard lizards occurred historically in this area and may still be present in Ballinger Canyon. Recreation, particularly off-road vehicle activity, is the primary land use in this area.

Southern Santa Lucia Range

The southern Santa Lucia Range, Garcia Mountain, and the La Panza Range contain a number of unique habitats and ecologically significant areas. Coastal slopes contain some high-quality riparian habitats, many of which support red-legged frogs. The arid east side comes into contact with unique and highly imperiled habitats of the San Joaquin Valley and its western foothills. Several areas of particularly high ecological significance are described below and shown in figure 7.8.

Cuesta Ridge

Serpentine outcrops on Cuesta Ridge support groves of Sargent cypress and a number of sensitive plant species, including San Luis mariposa lily, San Luis Obispo sedge, Brewer's spineflower, San Benito fritillary, and hooked popcorn-flower. The Cuesta Pass checker-bloom is endemic to Cuesta Ridge. The Los Padres National Forest has established a botanical area on west Cuesta Ridge to protect populations of these sensitive species. Factors affecting the ecological integrity of this area include non-native species, mining, and changes to the historic fire regime.

Lopez Canyon

Lopez Canyon contains high-quality riparian and aquatic habitats. California red-legged frogs, Coast Range newts, and several sensitive riparian birds occur in this area. At least three pairs of spotted owls also occur in the canyon. Only the upper part of the canyon is national forest system land; the rest is privately owned. The stream is dammed at its lower end where it meets Arroyo Grande Creek.

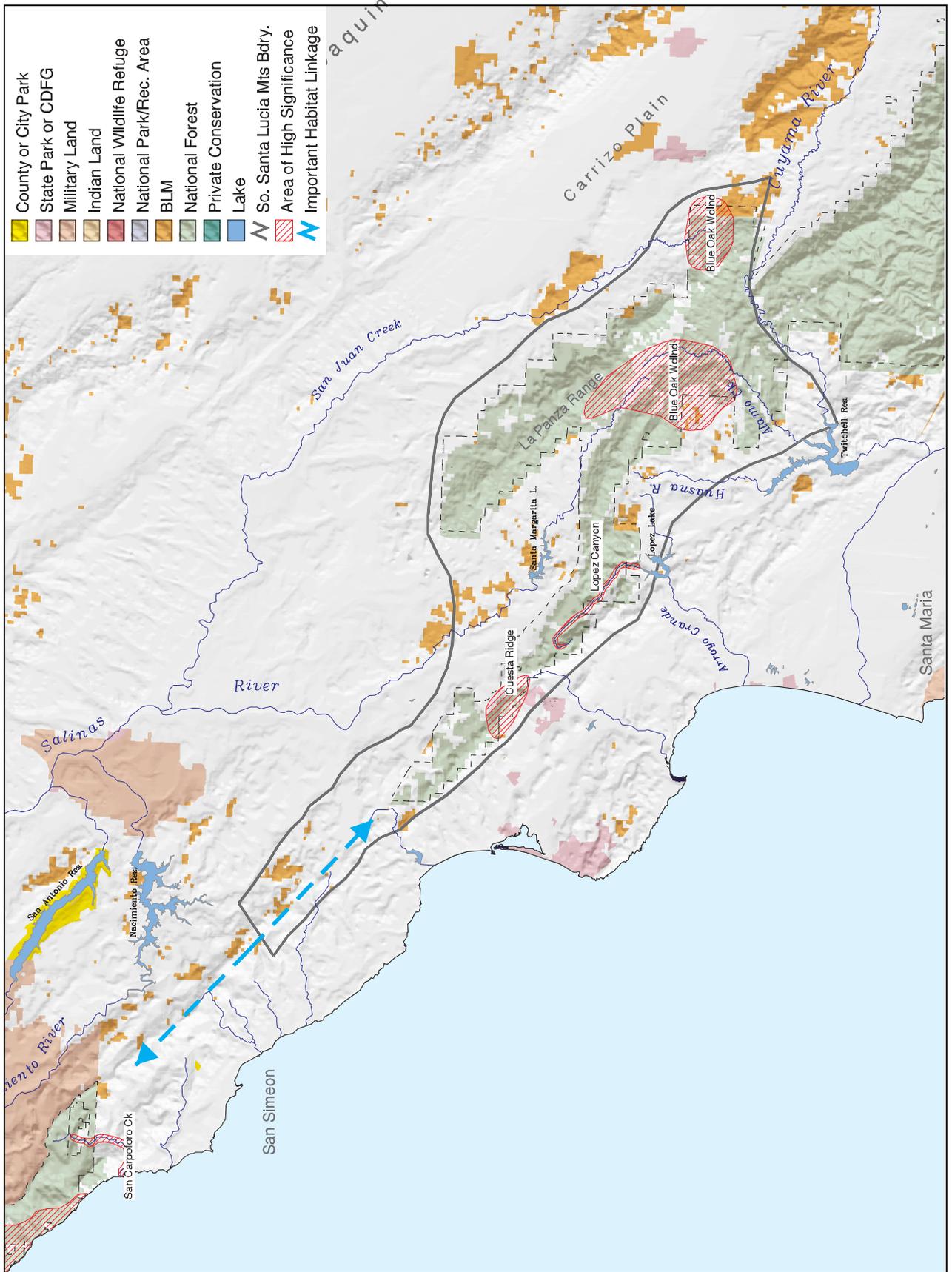


Figure 7.8. Areas of high ecological significance in the southern Santa Lucia Range region.

Blue Oak Woodlands West of Garcia Mountain

Extensive patches of high-quality blue oak woodland can be found west of Garcia Mountain, particularly in the upper Avenales Valley, the Joughlin Ranch area, and in the vicinity of Branch Mountain. Blue oak woodlands are productive habitats for many wildlife species and they are relatively poorly represented on public lands. Primary factors affecting the ecological integrity of these woodlands are non-native grasses, increasing subdivision and development of private lands in the area, and livestock grazing.

Northern Santa Lucia Range

The remoteness and rugged topography of the northern Santa Lucia Range are reflected in a relatively low level of human intrusion. Much of the region is unroaded and a substantial portion is formally designated as wilderness. Most of the streams on the coastal side of the mountains are undammed and flow freely to the ocean.

These factors combine to foster high ecological integrity, characterized by natural hydrologic regimes, relatively few exotic species, low levels of human impact, and extant populations of native species which have disappeared from many areas. Areas of particularly high ecological significance are described below and shown in figure 7.9.

Big Sur River

The Big Sur River is a major stream that flows unimpeded to the ocean. Its natural hydrologic regime and largely undeveloped upper watershed have helped maintain a high level of ecological integrity. The aquatic habitat has few invasive, non-native species. Southern steelhead spawn in this river and there are populations of red-legged frog, foothill yellow-legged frog, and Pacific giant salamanders.

The primary factor affecting ecological integrity is recreation activity, which is high along the lower reaches of this stream near Highway 1. There are several developed camp-

grounds and a trail system extends into upper portions of the drainage.

Little Sur River

The Little Sur is a free-flowing stream that contains southern steelhead, Pacific giant salamanders, and California red-legged frogs. Tiger salamanders occur in upper portions of the Little Sur watershed. This is a relatively pristine drainage with few non-native species, especially in the upper part of the drainage which is within the Ventana Wilderness Area. Lower stretches of the Little Sur are on private land.

San Carpoforo Creek

San Carpoforo Creek is a free-flowing stream that contains one of the few remaining populations of foothill yellow-legged frogs along the central coast. California red-legged frogs and southern steelhead also occur in this drainage. Most of San Carpoforo Creek is on private land. A primitive road also runs along the length of it.

Coastal Redwood and Santa Lucia Fir Forests

The narrowly endemic Santa Lucia fir and the southernmost stands of coastal redwood occur in this area. These forests provide the southernmost breeding habitat for the marbled murrelet. Spotted owls and Pacific giant salamanders also occur in these mesic forests. Almost all of these forests are protected from harvesting, but they are at risk to stand-replacing fires.

Coastal Prairie and Coastal Scrub

Along the immediate coast are grass-dominated prairies and sagebrush/buckwheat-dominated shrublands that support several sensitive plants (e.g., Hutchinson's larkspur and adobe sanicle) and butterflies (e.g., Smith's blue butterfly and Doudoroff's elfin butterfly). Factors affecting these habitats include non-native species (e.g., European grasses, kikuyu grass, pampas grass, and French broom), recreation use, and livestock grazing.

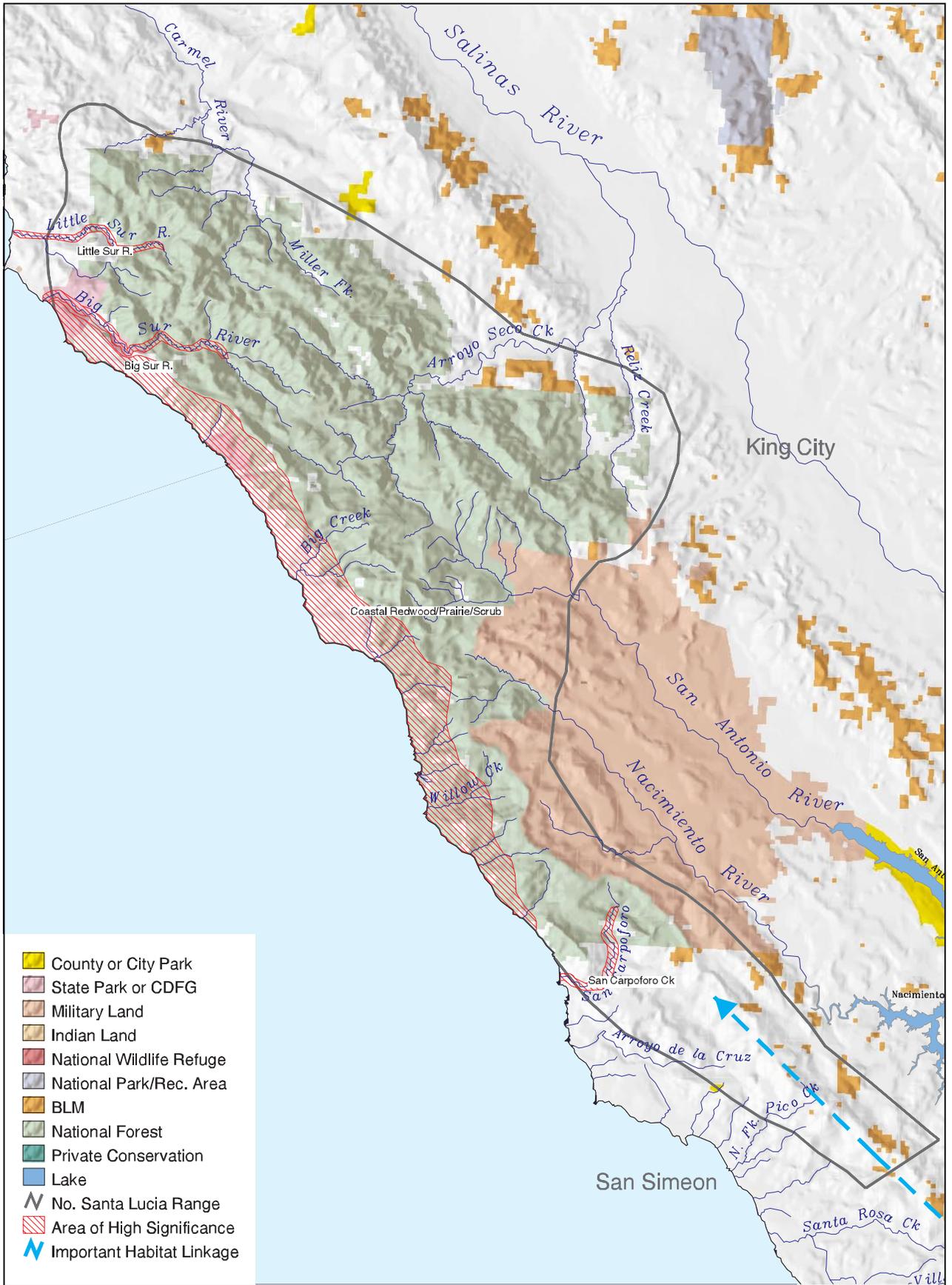


Figure 7.9. Areas of high ecological significance in the northern Santa Lucia Range.

