CONSERVING THE LANDSCAPES OF NAPA COUNTY






The Nature Conservancy

SAVING THE LAST GREAT PLACES ON EARTH

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Purpose

The purpose of this study is to develop a strategic vision for conserving functional landscapes that maintain the composition, structure, and viability of important ecological systems in Napa County. It is intended as a conceptual blueprint for land conservation activities of The Nature Conservancy (TNC) and its public and private partners. The study was built on the results of TNC's ecoregional planning and refined through a series of workshops with knowledgeable local experts. It identifies nine conservation areas that support the most important ecological systems of Napa County including valley and blue oak woodlands, native perennial grasslands, serpentine chaparral, cypress forests, riparian forests, and aquatic systems for native fish.

Initial conservation plans were designed for each of the nine areas to establish a network of core reserves with buffers and linkages. They build on existing conservation lands, link disjointed open space parcels, and protect the watersheds of many important aquatic systems. With these conservation plans, site by site conservation activities will not be isolated but part of a larger, coherent design – one that if fully implemented, would nearly double the amount of land conserved in Napa County.

Setting

Napa County is located at the convergence of three California ecoregions: the North Coast, Central Valley, and Central Coast (see Figure 1). It is a landscape of northwest trending mountains and valleys with elevations ranging from near sea level at San Francisco Bay to 4,000 feet on Mount Saint Helena. The climate of Napa County ranges from cool coastal areas to hot and dry areas inland. The dominant vegetation types include coast live oak, blue oak, annual grassland, chamise, mixed conifer, and redwood/Douglas fir. With its diverse climate and a wide variety of soil types, Napa County has an unusual diversity of flora and fauna. Species of concern include northern spotted owl, California red-legged frog, California freshwater shrimp, and steelhead.

Figure 1: Ecoregional context of Napa County

Napa County is also one of the greatest wine-growing regions in the world and agriculture is the dominant land use. Currently, 14% of the land area of the county is used for intensive agriculture, 6% is urban, and 80% remains in natural habitats. Despite the relatively large amount of natural habitat remaining in the county, very little of it, less than 20%, has been set aside for conservation purposes. General principles of conservation biology suggest that there is a precipitous decline in the number of species present when less than 30% of the habitat is conserved.

Threats

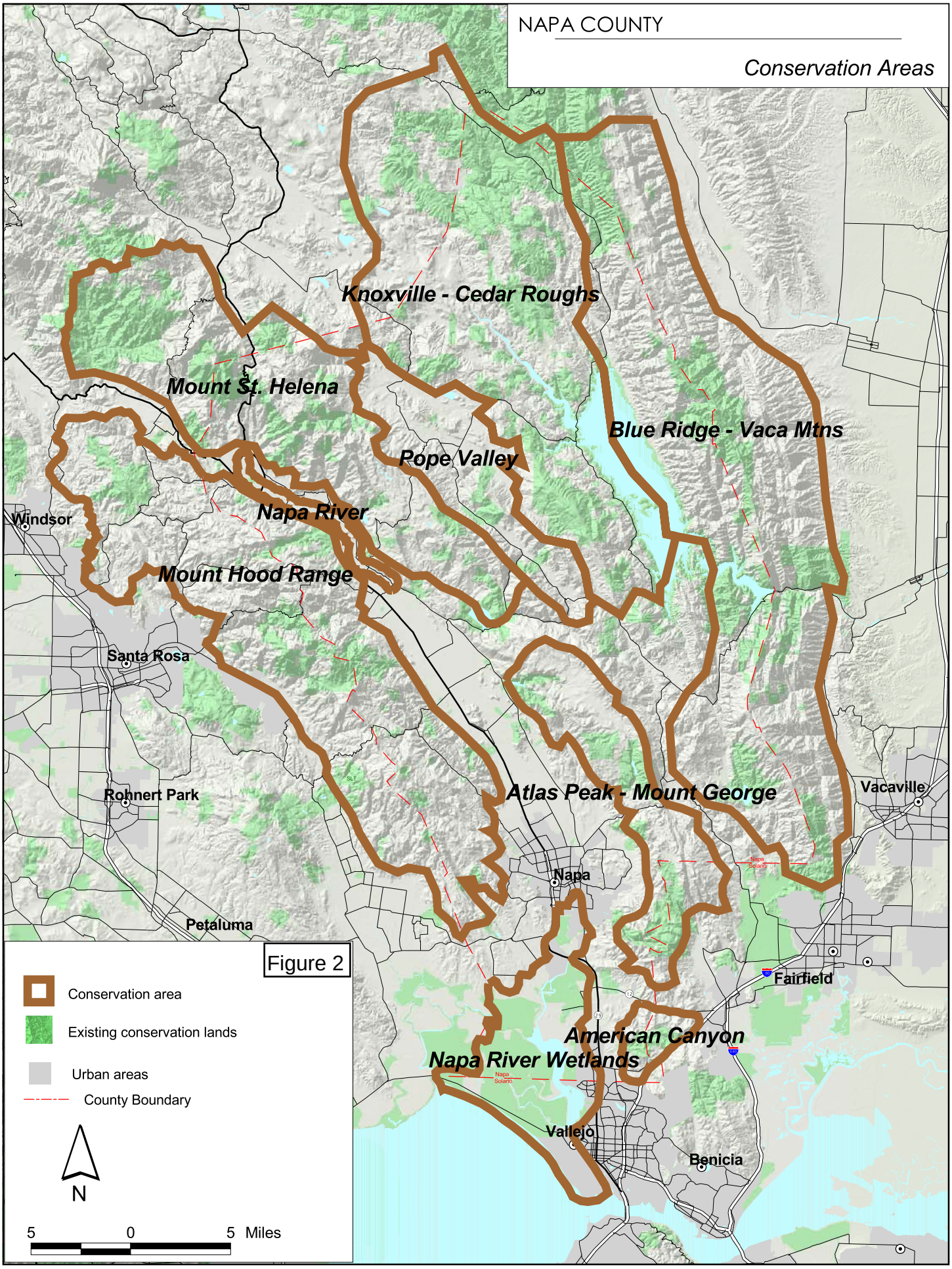
Agricultural conversion and human population growth are the two greatest threats to conserving the landscapes of Napa County. According to the California Department of Conservation, 3,807 acres of non-agricultural land were converted to intensive agriculture in Napa County between 1990 and 2000 making it one of the most rapid areas of agricultural conversion in the state. Although the current pace of agricultural conversion exceeds urbanization, more and more people are attracted to Napa County for its sophisticated rural lifestyle and proximity to major urban centers of the Bay Area. The 2000 US Census estimated the population of the county at 124,279 people – an increase of 10% since 1990. Napa County will likely continue to face development pressure in the future; the California Department of Finance projects the county's population to grow to 148,800 by 2020.

Planning Process

The foundation of this report was The Nature Conservancy's ecoregional planning for the North Coast, the Central Coast, and the Central Valley. These ecoregional plans identified nine areas in Napa County important for the conservation of biological diversity (see Figure 2). Preliminary data also suggests that these conservation areas are also among the most threatened in California. Although the ecoregional plans identified these areas as high priorities, implementation of on-the-ground conservation efforts required additional site-specific information and planning.

Table 1: Conservation Areas of Napa County (listed alphabetically)

1	American Canyon
2	Atlas Peak – Mount George
3	Blue Ridge – Vaca Mountains
4	Knoxville – Cedar Roughs
5	Mount Hood Range
6	Mount Saint Helena
7	Napa River and Tributaries
8	Napa River Wetlands
9	Pope Valley


NAPA COUNTY
Conservation Areas
Knoxville - Cedar Roughs
Mount St. Helena
Blue Ridge - Vaca Mtns
Pope Valley
Napa River
Mount Hood Range
Atlas Peak - Mount George
American Canyon
Napa River Wetlands
Windsor
Santa Rosa
Rohnert Park
Petaluma
Napa
Vacaville
Fairfield
Vallejo
Benicia
Figure 2
Conservation area
Existing conservation lands
Urban areas
County Boundary
N
5 0 5 Miles

In collaboration with the Land Trust of Napa County, TNC hosted a series of terrestrial and aquatic workshops with knowledgeable experts to develop initial conservation area plans for each area (See Appendix III for a list of workshop participants). Aerial photographs and maps of vegetation, rare species, and land ownership were provided for each conservation area. Participants were asked to help refine conservation area boundaries, identify conservation targets, and design core reserves, buffers and linkages.

Because it is impractical to plan for all elements of biological diversity, a subset of targets was developed for each conservation area. These targets represent outstanding examples of key ecological systems as well as endangered, threatened, or declining terrestrial and aquatic species as defined by the California Department of Fish and Game Natural Heritage Division and other experts. A list of the conservation targets is provided in each conservation area plan (see Appendix I) and a list of conservation targets for the entire county is provided in Appendix II.

Using existing protected lands as the initial framework, workshop participants helped identify large blocks of additional lands with conservation targets to design core areas or nodes. Other lands located on the periphery of core nodes with lesser amounts of conservation targets were designated as buffer lands. Lastly, participants were asked to identify potential landscape linkages across fragmented areas between core nodes.

Results

A total of 96,805 acres were recommended as additions to core conservation lands and 25,604 acres were identified as important buffer lands (See Figure 3). Numerous linkages between core areas were also identified. Detailed descriptions and maps of each conservation area are presented in Appendix I. If fully implemented, these plans would nearly double the amount of land conserved in Napa County.

Prioritizing Action

With numerous conservation areas and a multitude of potential core and buffer lands, it is essential to set priorities. To do this, each conservation area was ranked according to measures of conservation value and vulnerability. Conservation value is the number of ecological systems targeted for conservation at each area. Scores for conservation value were ranked high, medium, or low where the greater the number of target ecological systems, the greater the conservation value. Vulnerability was measured as the percentage of land in each conservation area that is not currently protected in fee or easement. Scores for vulnerability were ranked high, medium, or low, where the greater the amount of land in conservation, the lower the vulnerability to land conversion.

A 3x3 cross table was developed to sort conservation areas into three tiers based on their conservation value and vulnerability ranks (see Table 2). Tier 1 conservation areas have the greatest conservation value and the highest vulnerability to land conversion while Tier 3 areas have relatively fewer ecological systems and more land already conserved. Three conservation areas ranked Tier 1, three areas ranked Tier 2, and three areas ranked Tier 3 (see Table 3).

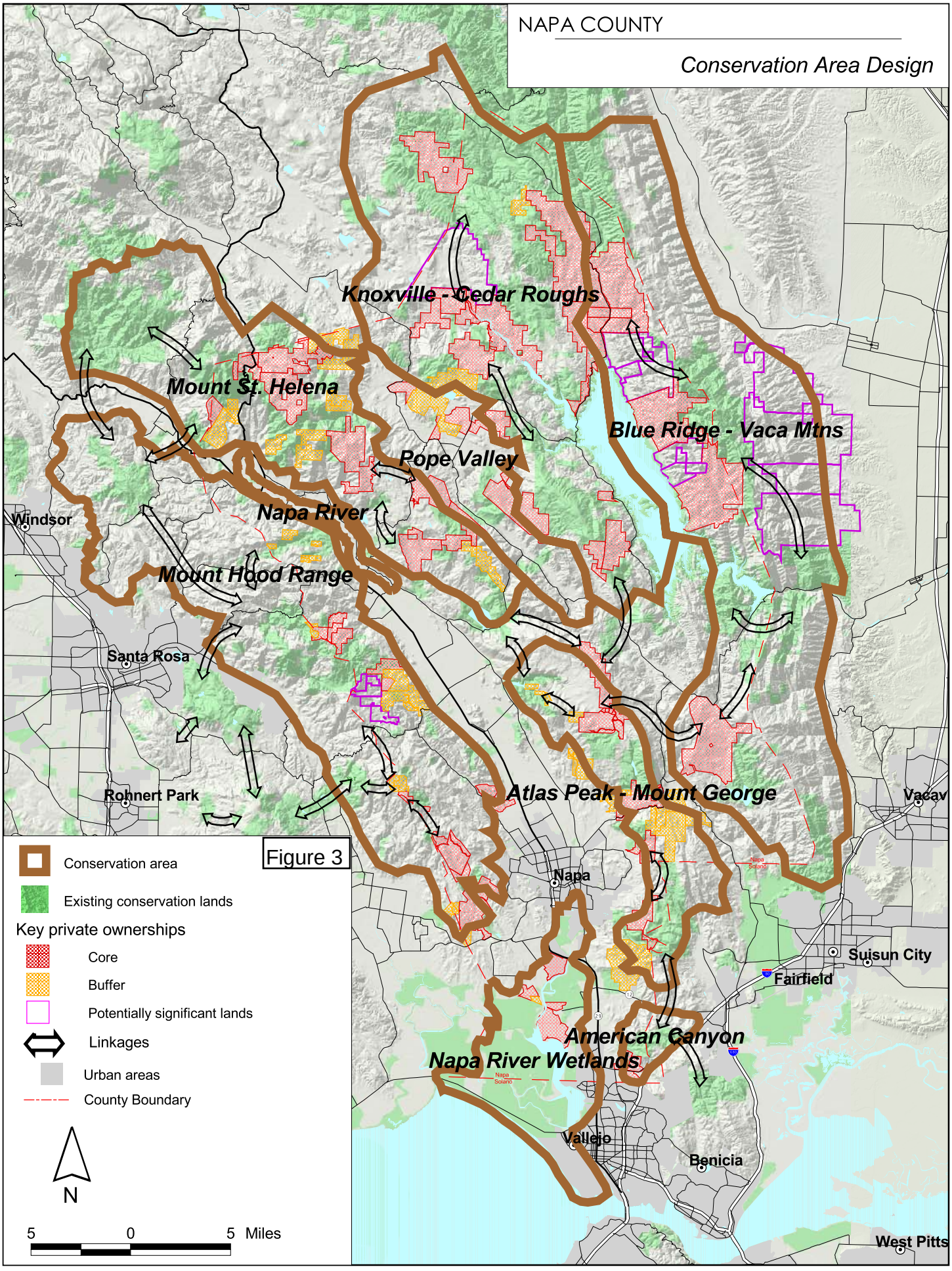

NAPA COUNTY
Conservation Area Design
Knoxville - Cedar Roughs
Mount St. Helena
Blue Ridge - Vaca Mtns
Pope Valley
Napa River
Windsor
Mount Hood Range
Santa Rosa
Rohnert Park
Atlas Peak - Mount George
Vacav
Napa
Suisun City
Fairfield
American Canyon
Napa River Wetlands
Vallejo
Benicia
West Pitts
Figure 3
Conservation area
Existing conservation lands
Key private ownerships
Core
Buffer
Potentially significant lands
Linkages
Urban areas
County Boundary
N
5 0 5 Miles

Table 2: Conservation Area Ranking Matrix

Conservation Value (Srank)	Vulnerability (Vrank)		
	High	Medium	Low
High	Tier 1	Tier 1	Tier 2
Medium	Tier 1	Tier 2	Tier 3
Low	Tier 2	Tier 3	Tier 3

Table 3: Napa County Conservation Area Priority Ranking

Conservation Area	Systems	Srank	Total Acres	Acres Conserved	Percent Conserved	Vrank	Tier
Knoxville - Cedar Roughs	14	H	139103	39110	28	M	1
Mount Hood Range	7	M	126532	18302	14	H	1
Pope Valley	11	H	33907	2374	7	H	1
Blue Ridge - Vaca Mtns	5	M	167682	63077	38	M	2
Mount St. Helena	7	M	89713	30692	34	M	2
Napa River	3	L	4633	5.66	0	H	2
American Canyon	2	L	5766	1812	31	M	3
Atlas Peak - Mount George	2	L	37669	10906	29	M	3
Napa River Wetlands	3	L	35355	21429	61	L	3

While opportunities such as funding or willing land owners are likely to drive many conservation actions in Napa County, this prioritization scheme is useful for strategic planning purposes. It identifies those areas where investment of resources will have the greatest overall benefit to conservation in Napa County.

Conclusion

The nine conservation area plans developed in this plan present a conceptual blueprint for land conservation activities of the Nature Conservancy and its public and private partners in Napa County. While the results of this analysis are specific to Napa County, the conservation priorities were defined from a regional perspective. They fit into an overall scheme for broad-scale conservation across the ecoregions of which Napa County is a part. With these plans, site by site conservation activities will not be isolated but part of a larger, coherent design.

SUMMARY OF CONSERVATION AREA GOALS

- **Knoxville – Cedar Roughs:** Maintain compatible land uses on at least 28,000 acres of land adjacent to existing conserved areas to create three core habitat nodes and maintain linkages between them: 1) McLaughlin UCNR, 2) Spanish Valley, and 3) Cedar Roughs. Maintain water quality and adequate flow on Putah and Eticuera Creeks. Maintain regional habitat linkage south to the Atlas Peak – Mount George Conservation Area.

- **Mount Hood Range:** Build on existing protected areas to conserve at least 24,000 additional acres of land to create five core habitat nodes and maintain linkages between them: 1) Pepperwood Reserve, 2) Bothe-Napa State Park, 3) Hood Mountain Regional Park, 4) Mt Veeder, and 5) Carneros. Maintain water quality and adequate flow for steelhead on Carneros Creek, Redwood Creek, Dry Creek, Bear Canyon, Sulphur Creek, Mill Creek, Ritchie Creek, Mark West Creek, Sonoma Creek, Calabasas Creek, and Hooker Creek. Maintain regional habitat linkages west to Sonoma Mountain Conservation Area and north to Mount Saint Helena Conservation Area.

- **Pope Valley:** Conserve at least 5,000 additional acres to protect remaining critical habitats. Maintain water quality and adequate flows in Pope Creek and Hardin Creek.

- **Blue Ridge – Vaca Mountains:** Maintain compatible land uses on at least 31,000 acres of land adjacent to existing conserved lands to protect three core habitat nodes and linkages between them: 1) Rocky Ridge, 2) Cold Canyon, and 3) Lake Curry. Maintain water quality and adequate flow on Suisun and Wooden Valley Creeks. Maintain regional habitat linkage east to the Atlas Peak – Mount George Conservation Area.

- **Mount Saint Helena:** Build on existing protected lands to conserve at least 16,000 acres of additional land to establish three core habitat nodes and maintain linkages between them: 1) Audubon Mayacamas Preserve, 2) Robert Louis Stevenson State Park, and 3) Las Posadas State Forest. Maintain water quality and adequate flow on Maacama, Garnett, Dutch Henry Canyon and Moore Creeks. Maintain regional habitat linkage north to the Mayacama Range, west to Mount Hood Range, and south to Atlas Peak – Mount George.

- **Napa River:** Maintain adequate flow and water quality on mainstem to protect aquatic habitats and species.

- **American Canyon:** Conserve at least 850 additional acres to protect remaining critical habitats. Maintain regional habitat linkages east across I-80 and north across highway 12.

- **Atlas Peak – Mount George:** Build on existing protected lands to conserve an additional 6,300 acres to establish four core habitat nodes and maintain linkages between them: 1) Rector Dam, 2) Miliken Reservoir, 3) Foote Botanical Reserve, and 4) Skyline Park. Maintain water quality and adequate flow for steelhead on the following creeks: Soscal, Tulocay, Sarco, and Milliken Creeks. Maintain regional habitat linkages south to American Canyon, east to Blue Ridge – Vaca Mountains, and north to Mount Saint Helena and Knoxville – Cedar Roughs Conservation Areas.

- **Napa River Wetlands:** Maintain compatible land uses on at least 2,000 acres of land adjacent to existing conserved lands to protect and restore remaining critical habitats.

CONSERVATION STRATEGIES

- **Partnerships and Capacity Building:** Establish a network of local and regional partners to achieve the conservation goals of this plan. Key partners include Napa County Land Trust, California State Parks, California Department of Fish and Game, Bureau of Land Management, UC Natural Reserves, Blue Ridge Berryessa Natural Area Partnership, Friends of the Napa River, Sonoma County Agricultural Preservation and Open Space District, the Sonoma County Land Trust, and the Lake County Land Trust.

- **Land Protection:** Work with key partners to acquire, in fee or easements, core lands within the conservation areas.

- **Land Use Planning and Policy:** Explore opportunities to incorporate results of this conservation plan into the General Plan updates for Napa and Sonoma Counties.

- **Science, Restoration, and Monitoring:** Conduct applied research on compatible vineyard development in partnership with UC Integrated Hardwood Range Management Program, UC Davis Viticulture, Napa County RCD, and others.

- **Multi-site Initiatives:** Work to include the results of this plan into TNC multi-site initiatives such as Agriculture and Rangeland; Urban Sprawl; and Invasive Species.

APPENDIX I: NAPA COUNTY CONSERVATION AREA PLANS

KNOXVILLE – CEDAR ROUGHS

Description
This 139,000-acre conservation area is located on the west-side of Lake Berryessa in northeastern Napa County. It includes lands owned by the Bureau of Land Management, the University of California McLaughlin Natural Reserve, and part of California Department of Fish and Game's Knoxville Ranch. In total, conservation lands represent 28% of the area.

Conservation Targets

Ecological systems
Annual grassland
Blue oak woodland
Montane mixed chaparral
Northern interior cypress forest
Northern mixed chaparral
Northern vernal pool
Serpentine barrens
Serpentine bunchgrass / forb meadow
Serpentine chaparral
Serpentine grassland
Serpentine wetlands
Valley oak woodland
Wildflower field

Mammals
Townsends big-eared bat

Birds
Black shouldered kite
Blue-gray gnatcatcher
Clapper rail
Common yellowthroat
Coopers hawk
Forsters tern
Golden eagle
Horned lark
Long-eared owl
Nothern harrier
Peregrine falcon
Prairie falcon
Sage sparrow
Savannah sparrow
Snowy plover
Spotted owl
Tree swallow
Warbling vireo

Yellow-headed blackbird

Fish

Reptiles and amphibians
Foothill yellow-legged frog
Northwestern pond turtle

Invertebrates

Plants
Antirrhinum virga
Arabis oregana
Asclepias solanoana
Astragalus breweri
Astragalus clariana
Astragalus clevelandii
Astragalus rattanii jepsonianus
Calamagrostis ophitdis
Calochortus uniflorus
Calyptridium quadripetalum
Collomia diversifolia
Cordylanthus tenuis ssp. brunneus
Delphinium uliginosum
Erigeron angustatus
Eriogonum lateolum var. caninum
Eriogonum nervulosum
Eriogonum tripodum
Erythronium helenae
Fritillaria pluriflora
Fritillaria purdyi
Harmonia hallii
Helianthus exilis
Hesperolinon bicarpellatum
Hesperolinon drymarioides
Hesperolinon serpentinum
Juglans californica ssp.hindsii
Layia septentrionalis
Lepidium latipes
Lomatium ciliolatum var. hooveri
Lomatium repostrum
Lomatium repostum
Malacothamnus helleri
Mimulus nudatus
Mimulus tricolor
Mimulus bolanderi
Monardella viridis ssp. viridis
Navarretia jepsonii
Navarretia rosulata
Orobanche valida ssp. howellii
Pogogyne douglasii ssp. parviflora
Ribes victoris
Senecio clevelandii var. clevelandii
Streptanthus brachiatus ssp hoffmanii
Streptanthus morrisonii var.elatus
Thelypodium brachycarpum

Threats

- Habitat conversion and fragmentation resulting from mining activities. Though mostly historic, some mining activity still occurs in the northern portion of the conservation area.
- Altered stream hydrology and quality resulting from mining activities.
- Habitat fragmentation and degradation resulting from off-road vehicle activities (both public and private lands in the conservation area have been heavily impacted from off-road recreation).
- Habitat conversion and fragmentation resulting from rural residential development and vineyard conversion. Largely confined to areas near Lake Berryessa and to a lesser extent, Snell Valley.

Conservation Goals

- Build on existing conserved lands to establish the following three core habitat nodes and maintain linkages between them: 1) McLaughlin UCNR, 2) Spanish Valley, and 3) Cedar Roughs (see map). In total, 28,227 acres are

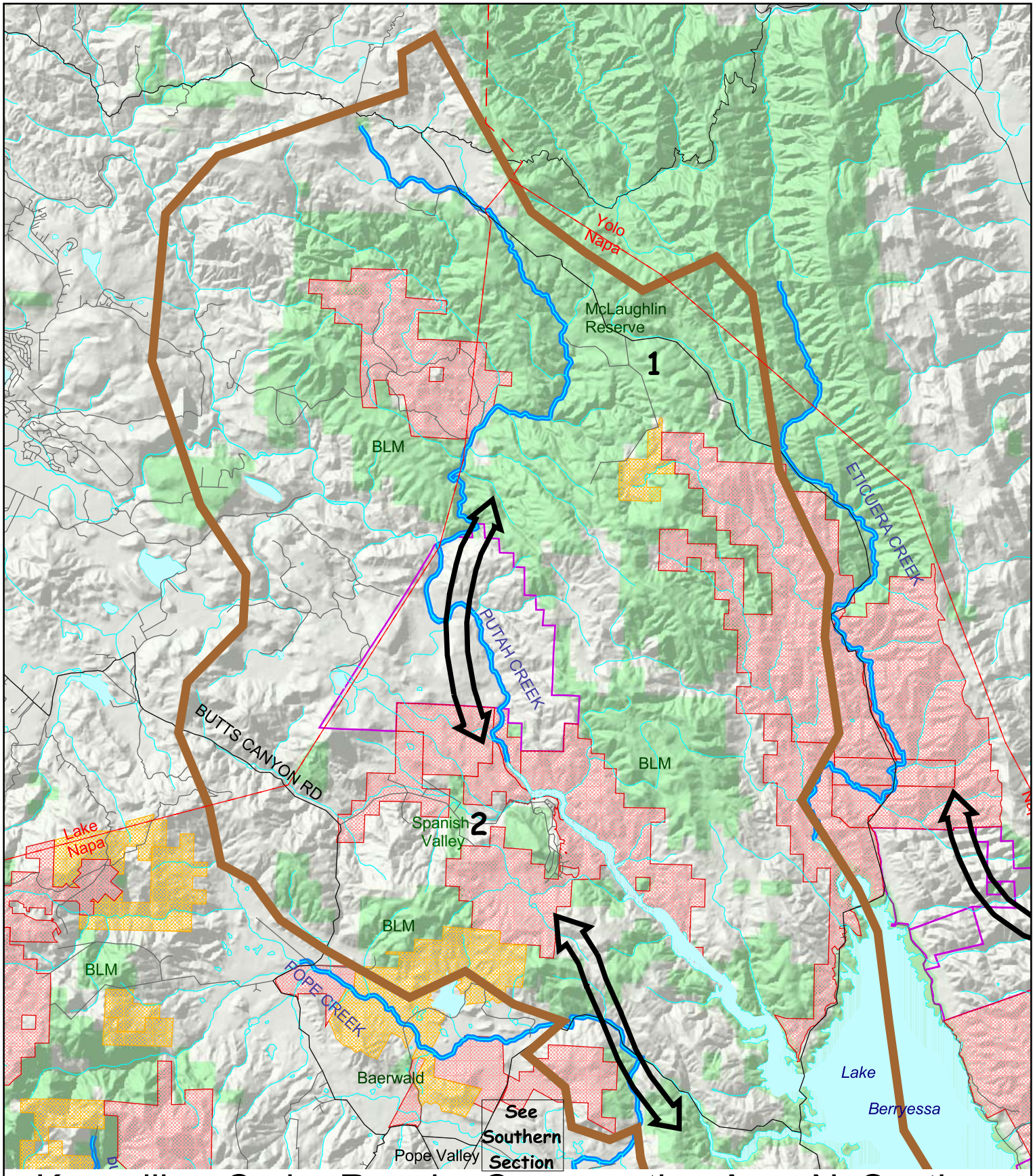
recommended as core and 3,693 acres as buffer for conservation resulting in an increase of conserved lands in the area to 48%.

- Maintain water quality and adequate flow on Putah Creek

- Maintain regional habitat linkage south to the Atlas Peak – Mount George Conservation Area.

Strategies

- Through acquisition of fee or easements, maintain core and buffer properties in compatible land uses.
- Work with Bureau of Land Management to elevate protection status of key lands in the conservation area such as Cedar Roughs.
- Work with the Blue Ridge Berryessa Natural Area Partnership to coordinate land management and conservation efforts in the region.



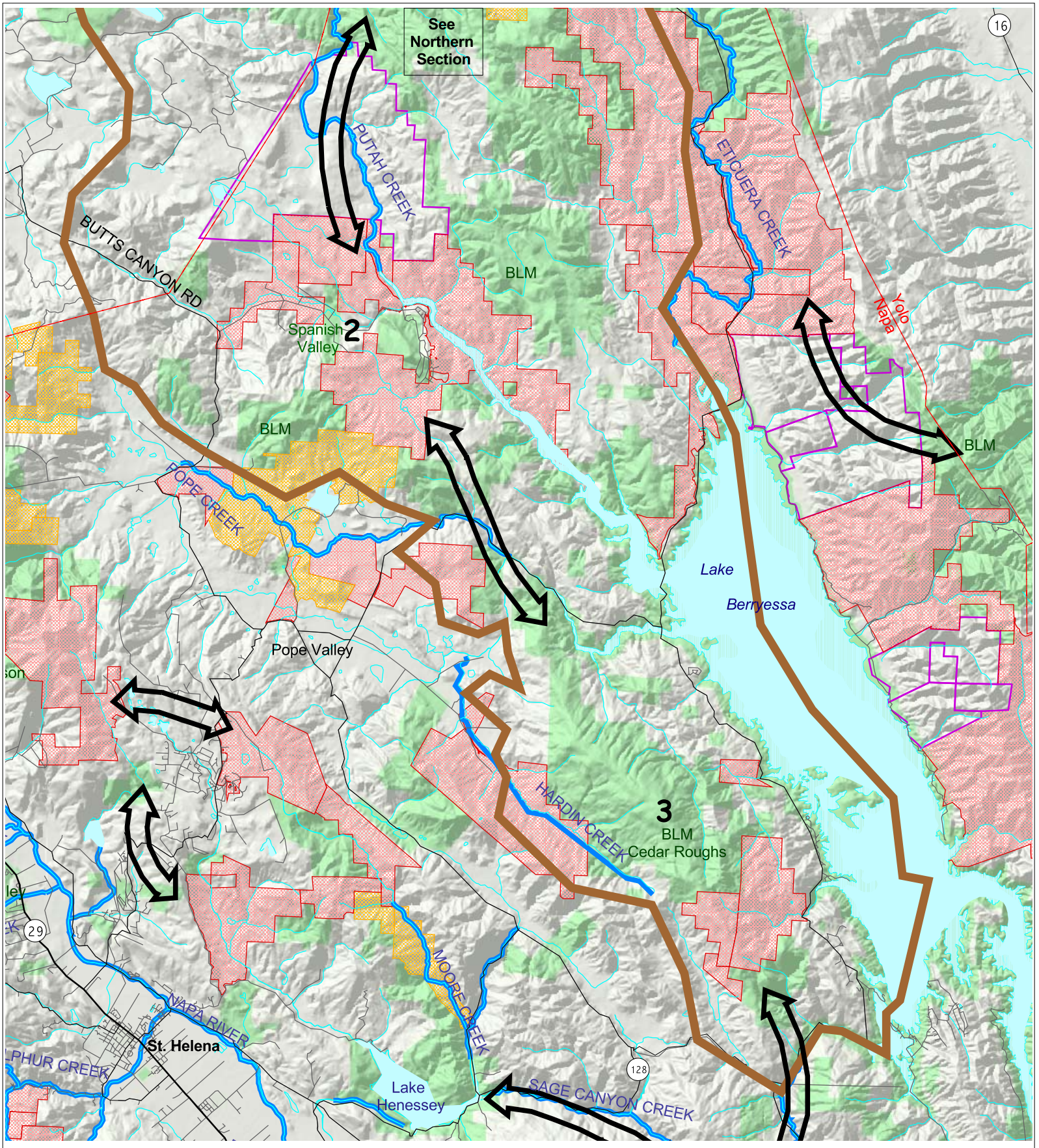
Knoxville - Cedar Roughs Conservation Area N. Section

Proposed conservation lands

- Core
- Buffer
- Other important lands
- Conservation area
- Public or private conservation land
- Key streams
- Linkages
- 1,2... Core nodes

0 2 4 Miles

N



Knoxville - Cedar Roughs Conservation Area S. Section

Proposed conservation lands

- Core
- Buffer
- Other important lands
- Conservation area
- Public or private conservation land
- Key streams
- Linkages
- 1,2... Core nodes

0 2 4 Miles

N

HOOD MOUNTAIN RANGE

Description
This 126,000-acre conservation area encompasses the north-south trending mountain range that separates Napa and Sonoma Counties. Currently only 14% of the area is conserved in fee or easements including the Pepperwood Reserve, Hood Mountain Regional Park, Sugarloaf Ridge State Park, Bothe-Napa State Park, Audubon Bouverie Preserve, Napa Land Trust Archer-Taylor Preserve, and several properties of the Sonoma Land Trust.

Grant Johnson Photo

Conservation Targets

Ecological systems
Annual grassland
Knobcone pine forest
Mixed north-slope cismontane woodland
Northern mixed chaparral
Redwood forest
Serpentines
Sonoma volcanics

Mammals
Pallid bat

Birds
Black swift
Sharp shinned hawk
Coopers hawk
Golden eagle
Band-tailed pigeon
Northern spotted owl
Tree swallow
Solitary vireo
Warbling vireo
Yellow warbler
Chipping sparrow
Song sparrow

Fish
Steelhead
Navarro roach

Reptiles and amphibians
Pacific giant salamander
Foothill yellow-legged frog

Northwestern pond turtle

Invertebrates
California freshwater shrimp

Plants
Amorpha californica var napensis
Antirrhinum virga
Arctostaphylos canescens ssp sonomensis
Arctostaphylos stanfordiana ssp decumbens
Astagalus clarianus
Brodiaea californica var. leptandra
Calandrinia breweri
Ceanothus confusus
Ceanothus divergens
Ceanothus sonomensis
Eriogonum lateolum var. caninum
Eryngium constancei
Harmonia nutans
Juglans californica ssp.hindsii
Layia septentionalis?
Lilium rubescens
Lilium rubescens
Linanthus jepsonii
Lomatium repostum
Lupinus sericatus
Micropus amphibolus
Monardella viridis ssp. viridis
Navarretia leucocephala ssp plieantha
Pityopus californicus
Polypodium californicum forma lymanii
Ribes victoris
Sidalcea hickmanii ssp. viridis,
Streptanthus barbige
Sidalcea oregana ssp valida
Streptanthus tortuosus
Triteleia lugens

Threats

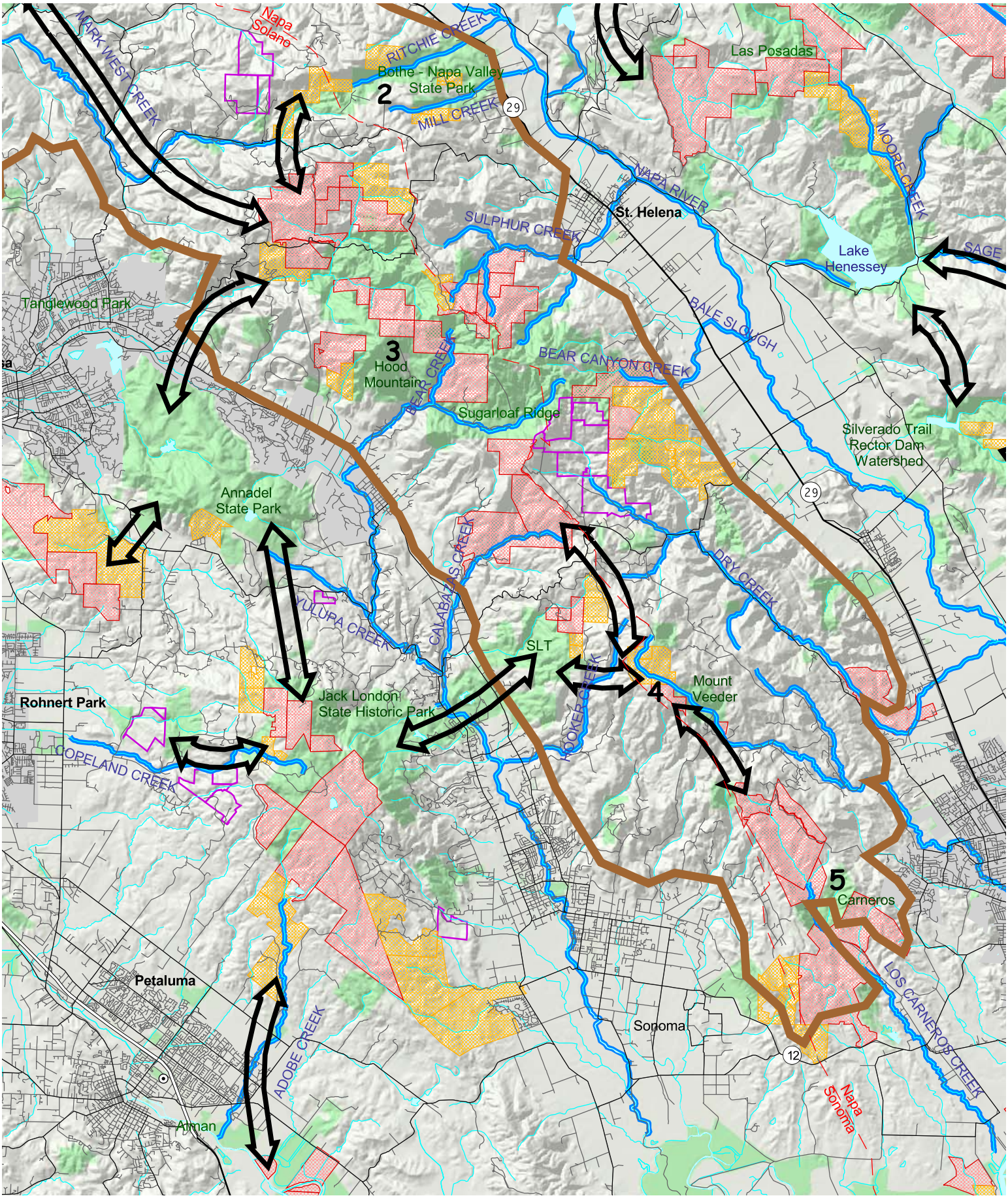
- Habitat conversion and fragmentation resulting from rural residential development and vineyard conversion
- Obstructions to regional wildlife movement resulting from rural residential development and vineyard conversion
- Altered stream hydrology as a result of vineyard conversion and road construction
- Alteration of habitat due to sudden oak death syndrome (SODS)

Conservation Goals

- Build on existing conserved lands to establish the following five core habitat nodes and maintain linkages between them: 1.) Pepperwood Reserve, 2.) Bothe-Napa State Park, 3.) Hood Mountain Regional Park, 4.) Mt Veeder, and 5.) Carneros (see map). In total, 6,725 acres of core and 3,418 acres of buffer are recommend for conservation resulting in an increase of conserved lands in the area to 22%.
- Maintain water quality and adequate flow on the following creeks of the Hood Mountain Range: Carneros Creek, Redwood Creek, Dry Creek, Bear Canyon, Sulphur Creek, Mill Creek, Ritchie Creek, Mark West Creek, Sonoma Creek, Calabasas Creek, and Hooker Creek.
- Maintain regional habitat linkages west to Sonoma Mountain Conservation Area and north to Mount Saint Helena Conservation Area.

Strategies

- Through acquisition of fee or easements, maintain core and buffer properties in compatible uses.
- Work with county governments to establish policies that minimize conversion of key habitats to agricultural uses.
- Work with county governments and vintners to incorporate wildlife movement corridors into vineyard designs.
- Work with county governments to develop riparian protection guidelines on key streams.
- Work with vintners to promote fish friendly agriculture



Hood Mountain Range Conservation Area

Proposed conservation lands

- Core
- Buffer
- Other important lands
- Conservation area
- Public or private conservation land
- Key streams
- Linkages
- 1,2... Core nodes

0 2 4 Miles

N

POPE VALLEY


Grant Johnson photo

Description
This 34,000-acre conservation area encompasses a large interior valley east of Angwin. Although much of the valley has been converted to vineyards over the last ten years, it still supports significant stands of valley oak woodland and vernal pools. Less than 7% of the area is conserved including the Napa Land Trust Wantrup Preserve.

Conservation Targets

Ecological systems
Annual grassland
Blue oak woodland
Mixed north-slope woodland
Northern mixed chaparral
Northern vernal pool
Serpentine bunchgrass
Serpentine chaparral
Serpentine wetlands
Wetlands
Valley oak woodland / savannah

Mammals

Birds
Band-tailed pigeon
Black-shouldered kite
Blue-gray gnatcatcher
Solitary vireo
Song sparrow
Tree swallow
Warbling vireo

Fish

Reptiles and amphibians
California red-legged frog

Invertebrates

Plants
Antirrhinum virga
Astragalus breweri
Astragalus clevlandii
Astragalus rattanii var jepsonianus
Calamagrostis ophitdis?
Calochortus uniflorus
Ceanothus confusus?
Codylanthus tenuis ssp brunneus?
Collomia diversifolia
Delphinium ulignosum
Erythronium helenae
Helianthus exilis
Hesperolinon bicarpellatum?
Hesperolinon serpentinum
Linanthus jepsonii
Lupinus sericatus
Mimulus nudatus
Navarretia jepsonii
Navarretia leucocephala ssp bakeri
Navarretia rosulata
Pogogyne douglasii ssp parviflora
Ranunculus lobbii
Senecio clevelandii var clevelandii
Sidalcea oregana ssp hydrophila?
Streptanthus morrisonii?

Threats

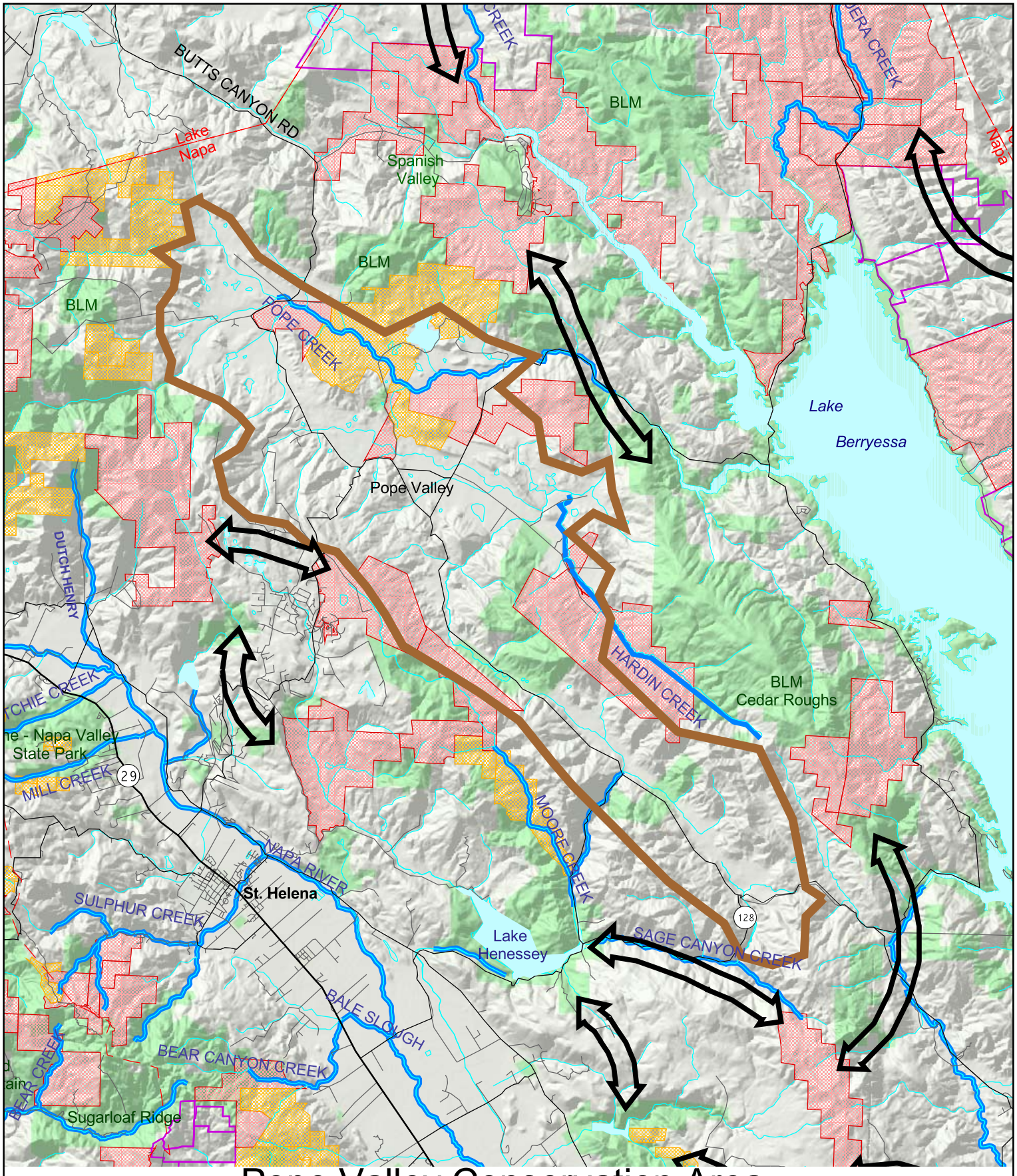
- Habitat conversion and fragmentation due to rural residential development and vineyard conversion
- Obstructions to regional wildlife movement resulting from rural residential development and vineyard conversion
- Altered stream hydrology as a result of vineyard conversion

Conservation Goals

- Build on existing conserved lands to protect critical remaining habitats in Pope Valley (see map). In total, 5,224 acres of core and 2,000 acres of buffer are recommended for conservation resulting in an increase of conserved lands in the area to 28%.
- Maintain water quality and adequate flow on the following creeks: Pope Creek and Hardin Creek.

Strategies

- Through acquisition of fee or easements, maintain core and buffer properties in compatible uses.
- Work with county governments to establish policies that minimize conversion of key habitats to agricultural uses.
- Work with county governments and vintners to incorporate wildlife movement corridors into vineyard designs.
- Work with county governments to develop riparian protection guidelines on key streams.



Pope Valley Conservation Area

Proposed conservation lands

- Core
- Buffer
- Other important lands
- Conservation area
- Public or private conservation land
- Key streams
- Linkages

0 2 4 Miles

N

BLUE RIDGE – VACA MOUNTAINS


Robert Ettner Photo

Description
This 168,000-acre conservation area is located in eastern Napa County and western Solano and Yolo Counties. Approximately 38% of the area is conserved including Lake Berryessa Recreation Area, Yolo Land Trust, Quail Ridge Reserve, Cold Canyon UC Natural Reserve, and City of Vallejo watershed lands at Lake Curry.

Conservation Targets

Ecological systems
Blue oak woodland
Foothill pine-oak woodland
Mixed north-slope woodland
Northern mixed chaparral
Valley needlegrass grassland

Mammals

Birds
Osprey
Golden eagle
Prairie falcon
Peregrine falcon
Bald eagle
Blue-gray gnatcatcher
Solitary vireo
Yellow warbler
Song sparrow

Fish

Reptiles and amphibians
Foothill yellow-legged frog
California red-legged frog
Northwestern pond turtle

Invertebrates
Valley elderberry longhorn beetle

Plants
Arabis modesta
Calandrinia breweri
Hesperolinon breweri
Juglans californica ssp.hindsii
Lepidium latipes
Lomatium repostum
Madia nutans
Malacothamnus helleri
Ribes victoris

Threats
- Habitat fragmentation and degradation resulting from recreational development. Impacts are concentrated around Lake Berryessa and below dam on Putah Creek.

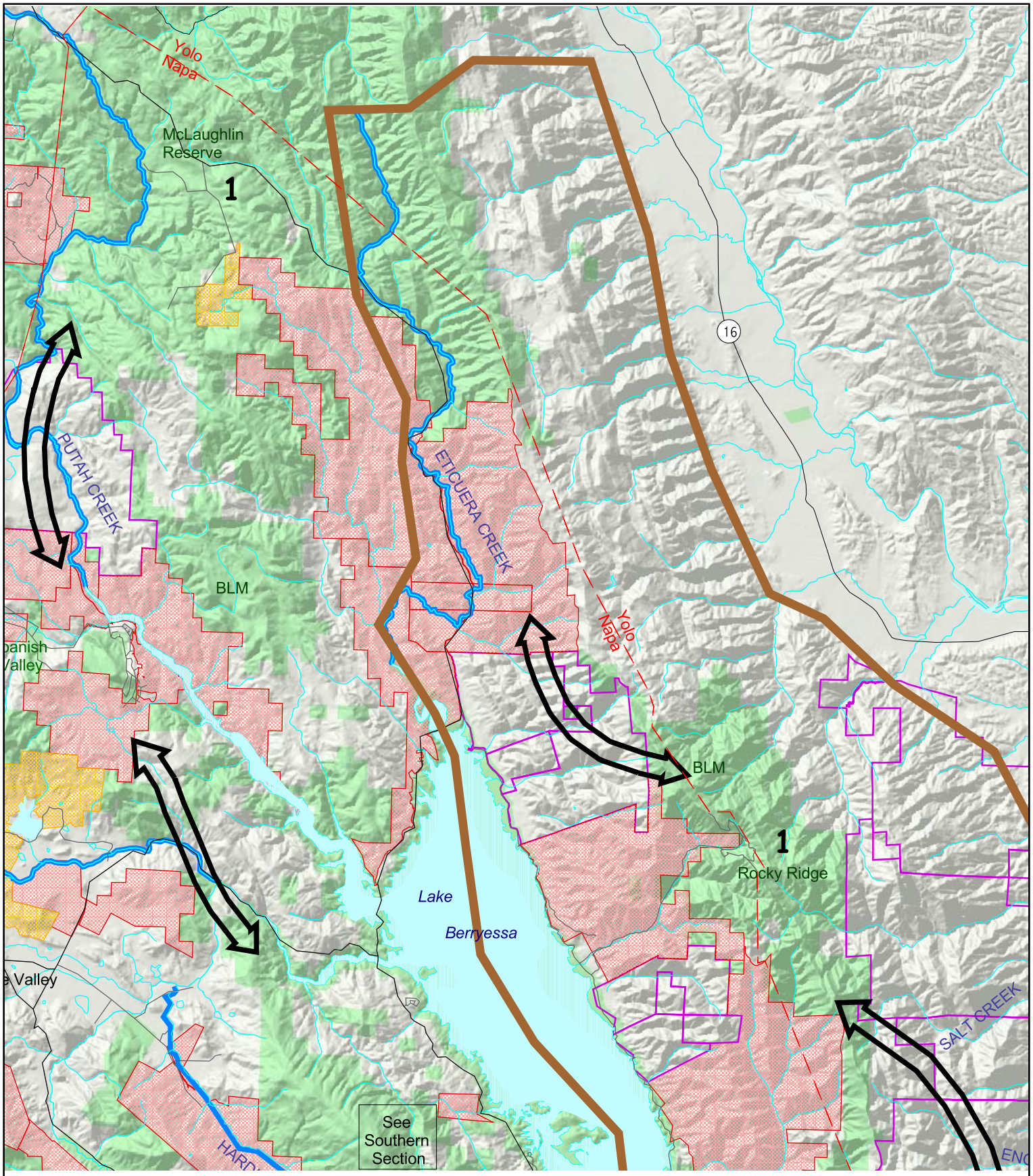
- Habitat conversion and fragmentation resulting from rural residential development and vineyard conversion. Largely confined to areas in Solano County.
- Habitat degradation as a result of overgrazing.
- Altered stream hydrology as a result of vineyard conversion and dam operations
- Potential habitat fragmentation and species mortality as a result of wind energy farms.

Conservation Goals

- Build on existing conserved lands to establish the following three core habitat nodes and maintain linkages between them: 1) Rocky Ridge, 2) Cold Canyon, and 3) Lake Curry (see map). In total, 31,000 acres are recommended as core for conservation resulting in an increase of conserved lands to 56%.
- Maintain water quality and adequate flow on Eticuera Creek
- Maintain regional habitat linkage east to the Atlas Peak – Mount George Conservation Area.

Strategies

- Through acquisition of fee or easements, maintain core lands in compatible uses.
- Work with the Blue Ridge Berryessa Natural Area Partnership to coordinate land management and conservation efforts in the region.



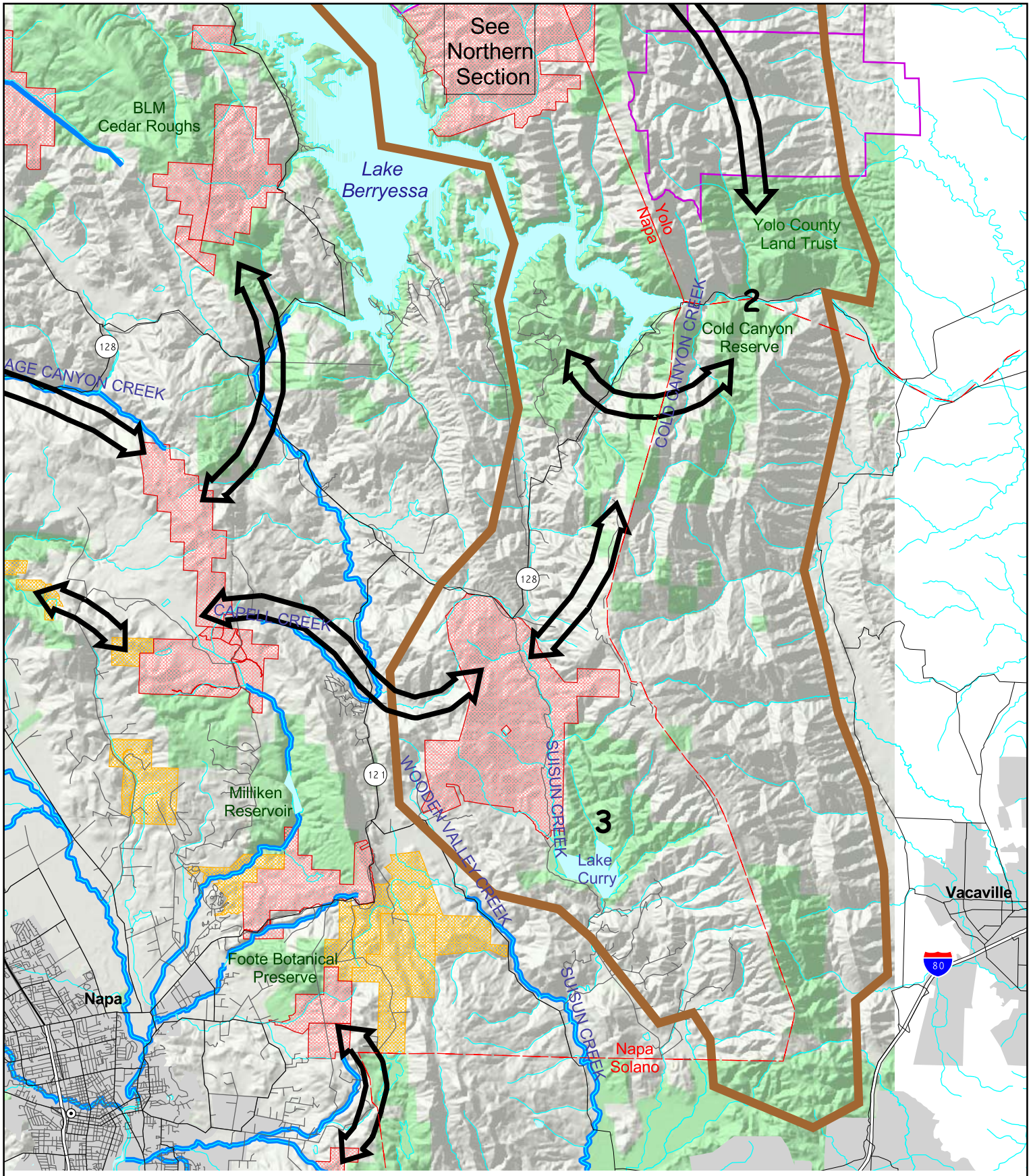
Blue Ridge - Vaca Mountains Conservation Area N. Section

Proposed conservation lands

- Core
- Buffer
- Other important lands
- Conservation area
- Public or private conservation land
- Key streams
- Linkages
- 1,2... Core nodes

0 2 4 Miles

N



Blue Ridge - Vaca Mountains Conservation Area S. Section

Proposed conservation lands

- Core
- Buffer
- Other important lands
- Conservation area
- Public or private conservation land
- Key streams
- Linkages
- 1,2... Core nodes

0 2 4 Miles

N

MOUNT SAINT HELENA


Grant Johnson photo

Description
This 90,000-acre conservation area is centered on Mount Saint Helena in Northern Napa County. The high elevation and unique geology of the area results in many diverse natural communities. Currently, 34% of the area is conserved including Robert Louis Stevenson State Park, various state lands commission properties, and Napa Land Trust easements.

Conservation Targets

Ecological systems
Annual grassland
Mixed north-slope cismontane woodland
Northern mixed chaparral
Northen Califoinia black walnut woodland
Sepentines
Sonoma volcanics
Sierran mixed conifer forest

Mammals

Birds
Osprey
Black-shouldered kite
Northern harrier
Golden eagle
Prairie falcon
Band-tailed pigeon
Northern spotted owl
Song sparrow
Grasshopper sparrow
Sage sparrow
Chipping sparrow
Yellow-breasted chat
Olive-sided flycatcher
Purple martin
Tree swallow
Blue-gray gnatcatcher
Swainson's thrush
Solitary vireo
Warbling vireo
Yellow warbler
Common yellowthroat

Fish
Coho (Briggs Creek)
Steelhead

Reptiles and amphibians
Northwestern pond turtle

Plants
Allium cratericola
Antirrhinum virga
Arctostaphylos manzanita var elegans
Asclepias solanoana
Astragalus clevelandii
Calyptridium quadripetalum
Caslystegia collina var oxyphylla
Ceanothus confusus
Collomia diversifolia
Cordylanthus tenuis ssp brunneus
Ereiognum nervulosum?
Eriogonum lateolum var caninum
Erythronium helenae
Fritillaria purdyi
Harmonia hallii
Hesperolinon serpentinum

Layia septentrionalis
Lillium rubescens
Limnanthes floccosa ssp floccosa
Limnathes viniculans
Lomatium repostrum
Lupinus sericatus
Madia nutans
Monardella viridis ssp viridis
Orobanche valida ssp howellii
Penstemon newberryi var sonomensis
Ribes victoris
Sidalcea oregana ssp hydrophila?
Sidalcea oregana ssp valida
Streptanthus brachiatus ssp brachiatus
Streptanthus brachiatus ssp hoffmanii
Streptanthus morrisonii var elatus
Streptanthus tortuosus

Threats

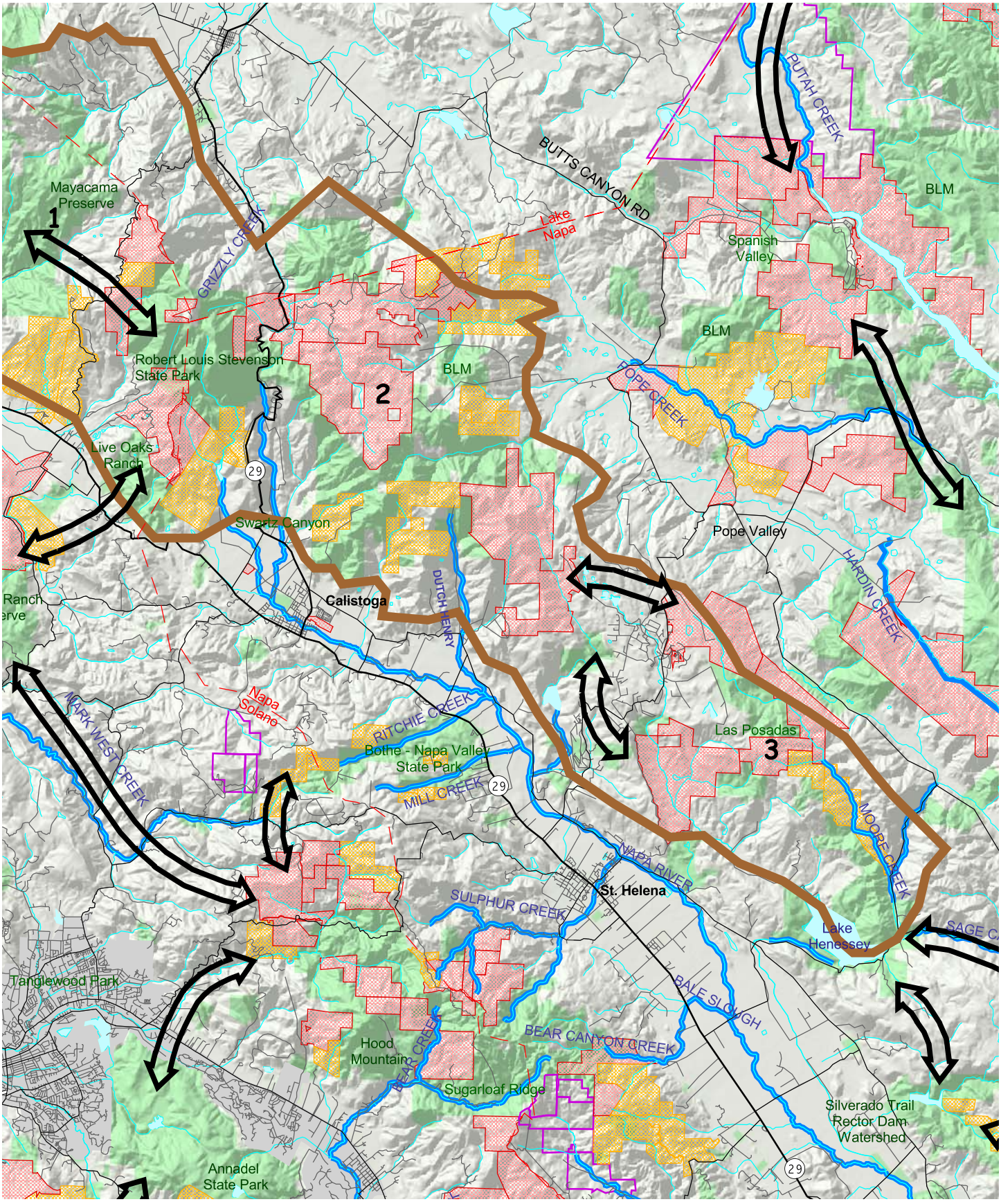
- Habitat conversion and fragmentation resulting from rural residential development and vineyard conversion.
- Altered stream hydrology as a result of vineyard conversion

Conservation Goals

- Build on existing conserved lands to establish the following three core habitat nodes and maintain linkages between them: 1) Audubon Mayacamas Preserve, 2) Robert Louis Stevenson State Park, and 3) Las Posadas (see map). In total, 16,000 acres of core and 9,200 acres of buffer lands are recommended for conservation resulting in an increase of conserved lands to 62%.
- Maintain water quality and adequate flow on Maacama, Garnett, Dutch Henry Canyon and Moore Creeks.
- Maintain regional habitat linkage north to the Mayacama Range, west to Mount Hood Range, and south to Atlas Peak – Mount George.

Strategies

- Through acquisition of fee or easements, maintain core and buffer properties in compatible uses.
- Work with county governments to establish policies that minimize conversion of key habitats to agricultural uses.
- Work with county governments and vintners to incorporate wildlife movement corridors into vineyard designs.
- Work with county governments to develop riparian protection guidelines on key streams.
- Work with vintners to promote fish friendly agriculture



Mt. Saint Helena Conservation Area

Proposed conservation lands

- Core
- Buffer
- Other important lands
- Conservation area
- Public or private conservation land
- Key streams
- Linkages
- 1,2... Core nodes

0 2 4 Miles

N

NAPA RIVER

Description
This 4,600-acre conservation area is centered on the floodplain of the Napa River between Saint Helena and Calistoga Although the entire mainstem is a significant aquatic resource, this reach of the Napa River is significant for salmon spawning and freshwater shrimp. Less than 1% of the area is conserved.

Conservation Targets

Ecological systems
Coastal River, San Francisco Bay
Riparian forest and woodland
Freshwater marsh

Fish
Delta smelt
Hardhead
Pacific lamprey
Sacramento splittail
Tule perch
Hitch
Steelhead
Fall-run chinook

Reptiles and amphibians
California red-legged frog
Foothill yellow-legged frog
Northwestern pond turtle

Invertebrates
California freshwater shrimp
Macro-invertebrates

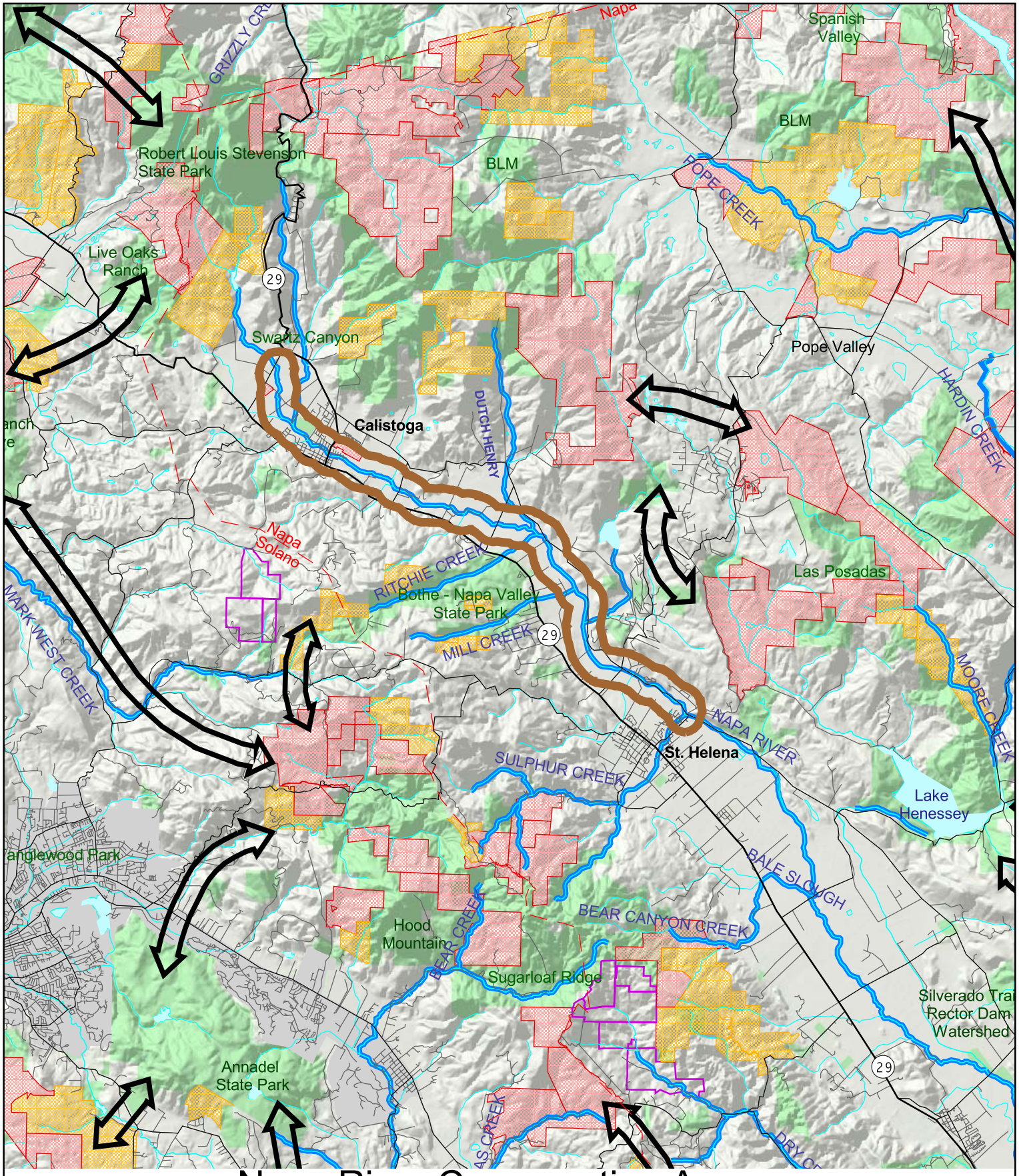
Plants
Lilaeopsis masonii
Plagiobothrys stricta
Poa napensis

Threats
- Reduced rearing habitat due to floodplain and flow alteration.
- Predation by exotic species
- Migration barriers due to low flows
- Warm water temperatures and limited food supply in tributaries

Conservation Goals
- Protect critical remaining natural habitats. A total of 62 acres of core habitat is recommended for conservation.

Strategies
- Work with county governments to develop riparian protection guidelines.
- Work with vintners to promote fish friendly agriculture

- Support partners working on Napa River Ecosystem Restoration Plan (RCD and ACOE) FONR
- Support RWQCB, University of California, and Stillwater Sciences in completing comprehensive watershed analysis by June 2003.



Napa River Conservation Area

Proposed conservation lands

- Core
- Buffer
- Other important lands
- Conservation area
- Public or private conservation land
- Key streams
- Linkages
- 1,2... Core nodes

0 2 4 Miles

N

AMERICAN CANYON

Description
This 5,700-acre conservation area is located in southeastern Napa County and includes portions of Solano County. It is one of the last remaining open spaces in the area and is ringed by several freeways and edged by suburban sprawl. Recent conservation actions by the Napa Land Trust and the Solano Land Trust have helped protect 31% of the area.

Conservation Targets

Ecological systems
Serpentine bunchgrass

Mammals

Birds
Burrowing owl
Peregrine falcon
Purple martin
Sharp-shinned hawk
Tree swallow

Reptiles and amphibians
California red-legged frog

Invertebrates

Plants
Balsamorhiza macrolepis var macrolepis
Castilleja affinis ssp neglecta
Eriogonum lateolum var caninum
Ribes victoris

Threats

- Habitat conversion and fragmentation resulting from urban sprawl and vineyard conversion
- Habitat conversion and fragmentation resulting from gravel mining
- Obstructions to regional wildlife movement resulting from urban sprawl and highways

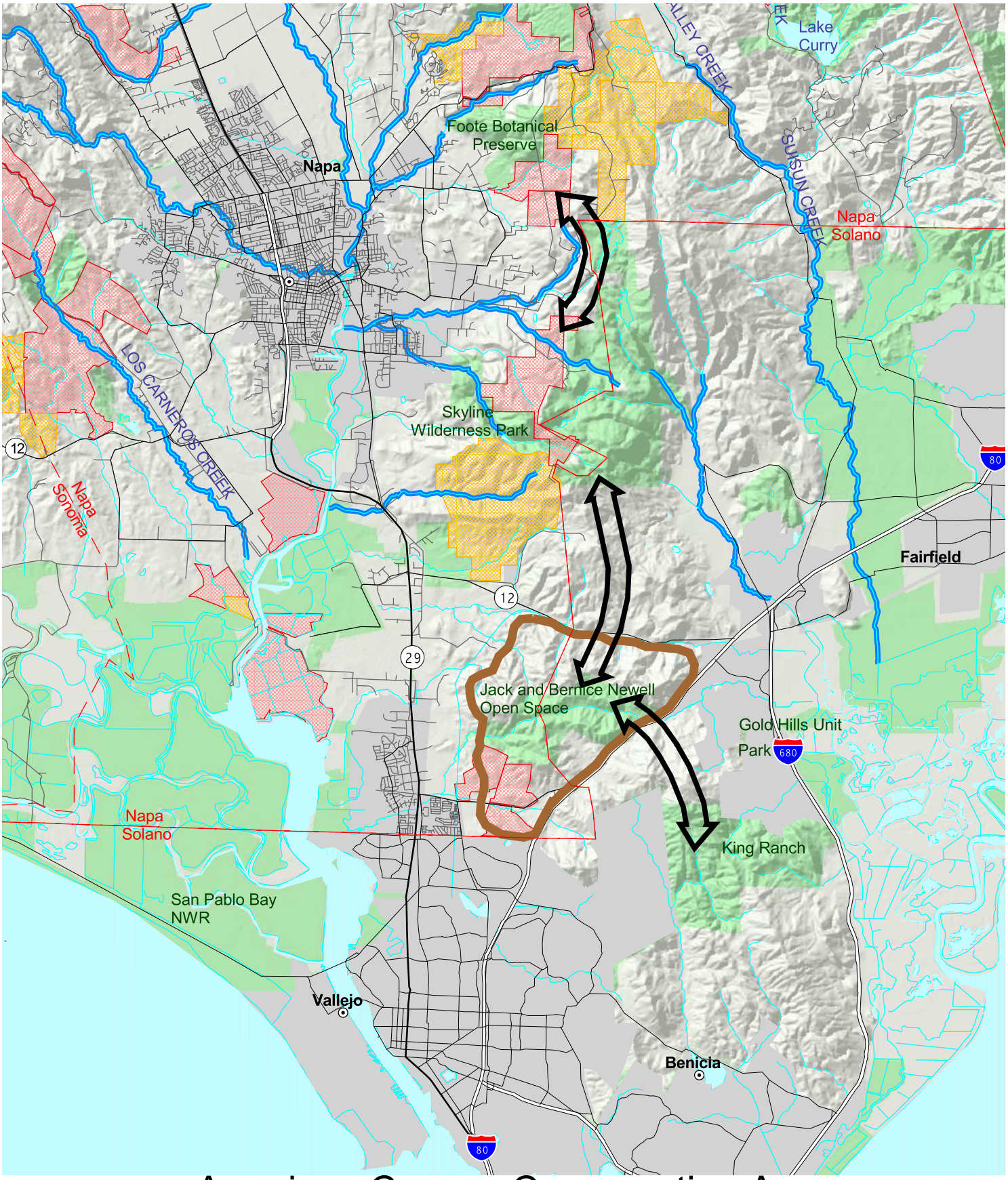
Conservation Goals

- Build on existing conserved lands to protect remaining critical habitats. In total, 863 acres of core lands are recommend for conservation (see map).
- Maintain regional habitat linkages east across I-80 to King Ranch and north across highway 12 to Skyline Wilderness Park

Strategies

- Through acquisition of fee or easements, maintain core lands in compatible uses.

- Work with county governments to establish policies that minimize conversion of key habitats to urban and agricultural uses.
- Work with county and state governments to incorporate wildlife movement corridors into highway plans.



American Canyon Conservation Area

Proposed conservation lands

- Core
- Buffer
- Other important lands
- Conservation area
- Public or private conservation land
- Key streams
- Linkages

0 2 4 Miles

N

ATLAS PEAK - MT GEORGE


Marc Hoshovsky photo

Description
This 38,000-acre conservation area is located in the hills east of the city of Napa. Currently, 29% of the area is conserved through fee or easement lands including Skyline Wilderness Park, Foote Botanical Reserve, Mead Ranch, Rector Dam watershed lands, City of Napa watershed lands, and Solano County Irrigation District lands.

Conservation Targets

Ecological systems
Vernal pools
Northern mixed chaparral

Mammals

Birds
Clapper rail
Golden eagle
Horned lark
Northern harrier
Peregrine falcon
Savannah sparrow
Short-eared owl
Solitary vireo
Song sparrow
Tree swallow
Warbling vireo
Yellow warbler

Fish
Steelhead

Reptiles and amphibians

Invertebrates

Plants
Allium cratericola
Antirrhinum virga
Calandrinia breweri
Ceanothus purpureus
Cuscuta howelliana
Downingia pusilla
Erigeron angustatus
Hesperolinon serpentinum
Lasthenia conjugens
Lessingia hololeuca
Lilium rubescens
Lomatium repostum
Madia nutans
Monardella viridis ssp. viridis
Navarretia leucocephala ssp. pauciflo
Penstemon newberryi var sonomensis
Perideridia gairdneri ssp. gairdneri
Ranunculus lobbii
Ribes victoris
Sidalcea hicknamii ssp. viridis
Trichostema rubisepalum
Viburnum ellipticum

Threats

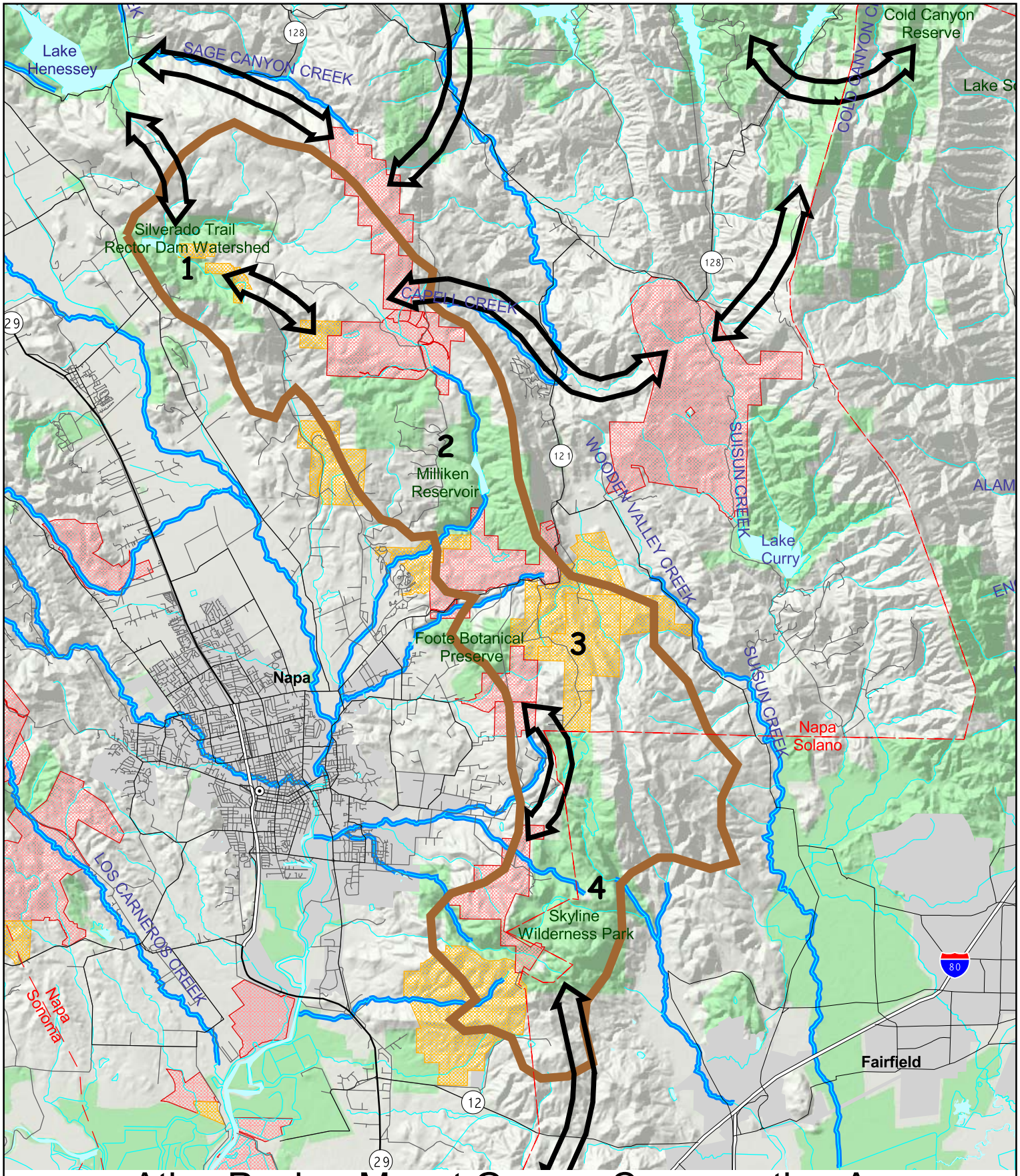
- Habitat conversion and fragmentation due to rural residential development and vineyard conversion
- Obstructions to regional wildlife movement resulting from rural residential development and vineyard conversion
- Altered habitat structure due to Sudden Oak Death Syndrome (SODS)
- Altered stream hydrology as a result of vineyard conversion and dam operations

Conservation Goals

- Build on existing conserved lands to establish the following four core habitat nodes and maintain linkages between them: 1) Rector Dam, 2) Atlas Peak, 3) Foote Botanical Reserve, and 4) Skyline Park (see map). In total, 6,307 acres of core and 7,117 acres of buffer are recommend for conservation resulting in an increase of conserved lands in the area to 65%.
- Maintain water quality and adequate flow on the following creeks: Soscal, Tulocay, Sarco, and Milliken Creeks.
- Maintain regional habitat linkages south to American Canyon, east to Blue Ridge – Vaca Mountains, and north to Mount Saint Helena and Knoxville – Cedar Roughs Conservation Areas.

Strategies

- Through acquisition of fee or easements, maintain core and buffer properties in compatible uses.
- Work with county governments to establish policies that minimize conversion of key habitats to agricultural uses.
- Work with county governments and vintners to incorporate wildlife movement corridors into vineyard designs.
- Work with county governments to develop riparian protection guidelines on key streams.
- Work with City of Napa to ensure adequate flows on Miliken Creek
- Work with vintners to promote fish friendly agriculture



Atlas Peak - Mount George Conservation Area

Proposed conservation lands

- Core
- Buffer
- Other important lands
- Conservation area
- Public or private conservation land
- Key streams
- Linkages
- 1,2... Core nodes

0 2 4 Miles

N

NAPA RIVER WETLANDS

Description
This 35,000 acre conservation area is located south of the city of Napa where the Napa River meets San Francisco Bay. An area of extensive wetlands and salt marshes, it includes portions of the San Pablo Bay National Wildlife Refuge, the Napa-Sonoma Marshes Wildlife Area, and Fagan Slough Ecological Reserve. These lands comprise 61% of the conservation area.

Conservation Targets

Ecological systems
Coastal wetlands

Mammals
Saltmarsh harvest mouse
Suisun shrew

Birds
California black rail
California clapper rail
Caspian tern
Peregrine falcon
Purple martin
Saltmarsh common yellowthroat
San Pablo song sparrow
Tree swallow
Tricolored blackbird
Western snowy plover

Fish
Delta smelt
Sacramento splittail
Steelhead (passage)

Reptiles and amphibians
Northwestern pond turtle

Invertebrates
Vernal pool fairy shrimp

Plants
Aster lentus
Astragalus tener var tener
Atriplex joaquiniana

Cordylanthus mollis ssp mollis
Lathyrus jepsonii var jepsonii
Lilaeopsis masonii
Polygonum marinense
Trifolium amoenum

Threats

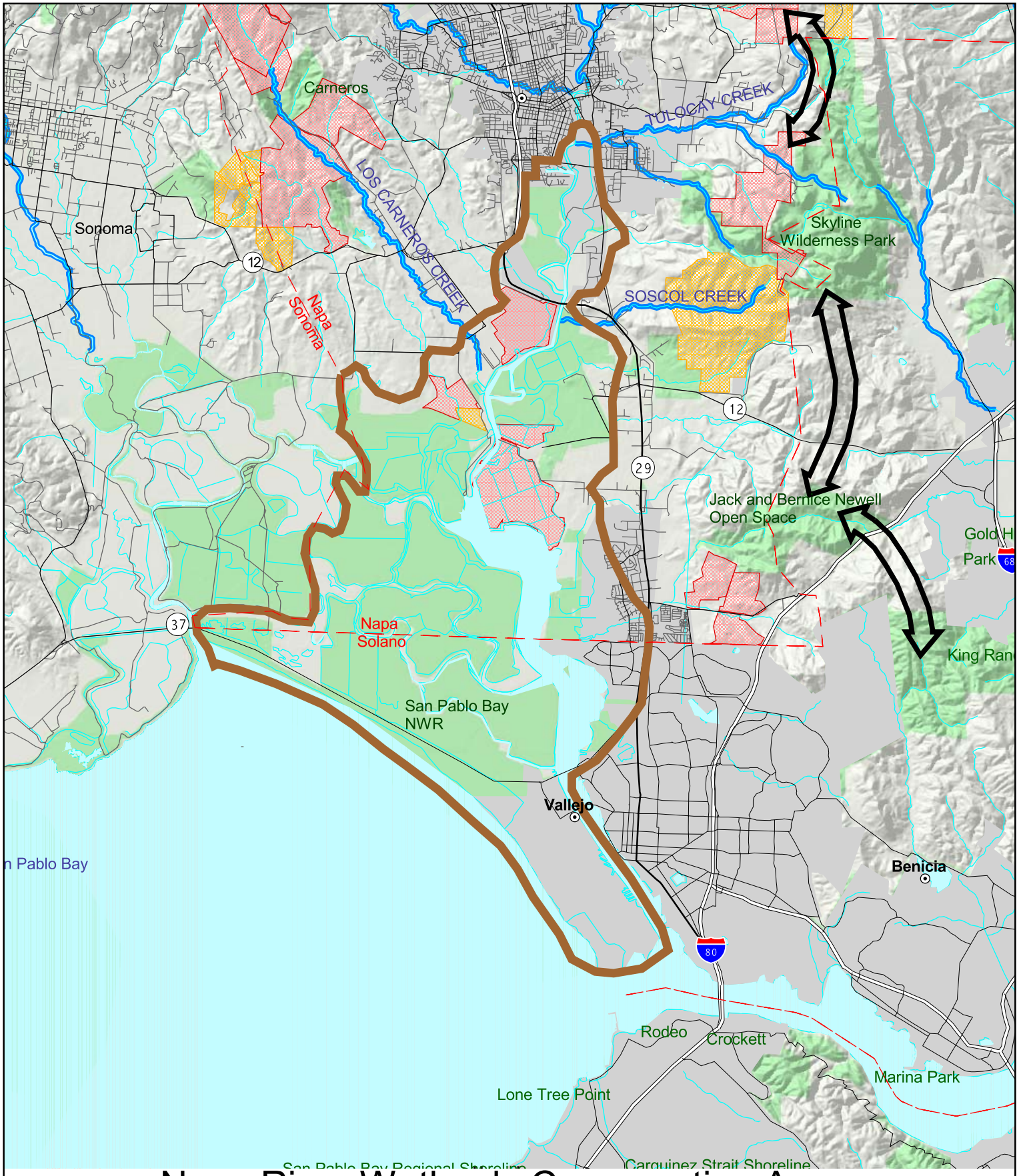
- Habitat conversion and fragmentation resulting from urban sprawl and vineyard conversion
- Alteration of hydrological regime by levee construction

Conservation Goals

- Build on existing conserved lands to protect remaining critical habitats. In total, 2,228 acres of core and 83 acres of buffer lands are recommend for conservation resulting in an increase of 67% (see map).

Strategies

- Through acquisition of fee or easements, maintain core and buffer lands in compatible uses.
- Work with county governments to establish policies that minimize conversion of key habitats to urban and agricultural uses.



Napa River Wetlands Conservation Area

Proposed conservation lands

- Core
- Buffer
- Other important lands
- Conservation area
- Public or private conservation land
- Key streams
- Linkages
- 1,2... Core nodes

0 2 4 Miles

N

APPENDIX II: CONSERVATION TARGETS FOR NAPA COUNTY

TARGET	GRANK	FEDERAL	CALIFORNIA	OTHER
ECOLOGICAL SYSTEMS				
Annual grassland	G4			
Blue oak woodland	G4			
Coastal River, San Francisco Bay	G2			
Coastal wetlands	G3			
Foothill pine-oak woodland	G4			
Freshwater marsh	G4			
Knobcone pine forest	G4			
Mixed north-slope cismontane woodland	G4			
Montane mixed chaparral	G4			
Californinia black walnut woodland	G3			
Northern interior cypress forest	G3			
Northern mixed chaparral	G4			
Northern vernal pool	G1			
Redwood forest	G4			
Riparian forest and woodland	G3			
Sepentines	G4?			
Serpentine barrens	G3?			
Serpentine chaparral	G3			
Serpentine grassland	G3?			
Serpentine wetlands	G2?			
Sierran mixed conifer forest	G4			
Sonoma volcanics	G2?			
Valley needlegrass grassland	G1			
Valley oak woodland	G4			
Vernal pools	G1			
Wildflower field	G1			
MAMMALS				
Pallid bat	G5		SC	
Saltmarsh harvest mouse	G1	FE	SE	
Suisun shrew	G5T1		SC	
Townsends big-eared bat	G5T3		SC	
BIRDS				
Bald eagle	G5		SC	
Band-tailed pigeon				PIF
Black shouldered kite	G5			
Black swift	G4			
Blue-gray gnatcatcher				PIF
Burrowing owl	G4T2		SC	
California black rail	G4T1		ST	PIF
California clapper rail	G5T1	FE	SE	
California spotted owl	G3T3		SC	
Caspian tern	G5			
Chipping sparrow	G5			PIF
Common yellowthroat	G5T2		SC	
Coopers hawk	G4		SC	

Forsters tern	G5			
Golden eagle	G4		SC	
Grasshopper sparrow	G5			
Horned lark	G4T3		SC	
Long-eared owl	G5		SC	
Northern harrier	G5		SC	
Northern spotted owl	G3T2	FT	SC	
Olive-sided flycatcher	G5			
Osprey	G5		SC	
Peregrine falcon	G3T2		SE	
Prairie falcon	G5		SC	
Purple martin	G5		SC	
Sage sparrow	G5T2		SC	PIF
Saltmarsh common yellowthroat	G5T2		SC	
San Pablo song sparrow	G5T2		SC	
Savannah sparrow	G5T3		SE	
Sharp shinned hawk	G4		SC	
Short-eared owl	G5		SC	
Solitary vireo	G5			
Swainson's thrush	G5			
Tree swallow				
Tricolored blackbird	G2		SC	
Warbling vireo	G5			
Western snowy plover	G4T2	FT	SC	
Yellow warbler	G5T2		SC	
Yellow-breasted chat	G5		SC	
Yellow-headed blackbird	G4			PIF
FISH				
Coho	G5	SE	FT	
Delta smelt	G1	FT	ST	
Fall-run chinook	G5	FT		
Hardhead	G5T			
Hitch				
Navarro roach	G5T1		SC	
Pacific lamprey	G5			
Sacramento splittail	G2	FT		
Steelhead	G5	FT		
Tule perch	G3		SC	
REPTILES - AMPHIBIANS				
California red-legged frog	G4T2	FT	SC	
Foothill yellow-legged frog	G3		SC	
Northwestern pond turtle	G4T4		SC	
Pacific giant salamander	G4			
INVERTEBRATES				
California freshwater shrimp	G1	FE	SE	
Macro-invertebrates				
Vernal pool fairy shrimp	G2	FT		
PLANTS				
Allium cratericola				LR
Amorpha californica var napensis				

Antirrhinum virga				CNPS4
Arabis modesta				CNPS4
Arabis oregana				CNPS4
Arctostaphylos canescens ssp sonomensis				
Arctostaphylos manzanita var elegans				LR
Arctostaphylos stanfordiana ssp decumbens				
Asclepias solanoana				CNPS4
Astagalus clarianus				
Aster lentus				CNPSE
Astragalus breweri				CNPSE
Astragalus clariana		FE	ST	CNPSE
Astragalus clevelandii				CNPS4
Astragalus rattanii jepsonianus				CNPSE
Astragalus tener var tener				CNPSE
Atriplex joaquiniana		SC		CNPSE
Balsamorhiza macrolepis var macrolepis				CNPSE
Brodiaea californica var. leptandra				
Calamagrostis ophitdis				CNPS4
Calandrinia breweri				CNPS4
Calochortus uniflorus				LR
Calyptridium quadripetalum				CNPS4
Caslystegia collina var oxyphylla		SC		CNPS4
Castilleja affinis ssp neglecta				
Ceanothus confusus		SC		CNPSE
Ceanothus divergens		SC		CNPSE
Ceanothus purpureus				CNPS4
Ceanothus sonomensis				CNPS3
Codylanthus tenuis ssp brunneus?				
Collomia diversifolia				CNPS4
Cordylanthus mollis ssp mollis		FE	SR	CNPSE
Cordylanthus tenuis ssp brunneus				CNPS4
Cuscuta howelliana				LR
Delphinium uliginosum				CNPS4
Downingia pusilla				CNPS2
Erigeron angustatus				CNPSE
Eriogonum lateolum var caninum				CNPS3
Eriogonum nervulosum		SC		CNPSE
Eriogonum tripodum				CNPS4
Eryngium constancei				
Erythronium helenae				CNPS4
Fritillaria pluriflora		SC		CNPSE
Fritillaria purdyi				CNPS4
Harmonia hallii				
Harmonia nutans				
Helianthus exilis				CNPS4
Hesperolinon bicarpellatum		SC		CNPSE
Hesperolinon breweri		SC		CNPSE
Hesperolinon drymarioides		SC		CNPSE
Hesperolinon serpentinum				CNPS3
Juglans californica ssp.hindsii		SC		CNPSE

Lasthenia conjugens		FE		CNPSE
Lathyrus jepsonii var jepsonii		SC		CNPSE
Layia septentrionalis				CNPSE
Lepidium latipes				LR
Lessingia hololeuca				CNPS3
Lilaeopsis masonii		SC	SR	CNPSE
Lilium rubescens				CNPS4
Limnanthes floccosa ssp floccosa				CNPS2
Limnathes viniculans		FE	SE	CNPSE
Linanthus jepsonii				
Lomatium ciliolatum var. hooveri				CNPS4
Lomatium repostrum				CNPS4
Lupinus sericatus				CNPSE
Madia nutans				CNPS4
Malacothamnus helleri				CNPS4
Micropus amphibolus				CNPS4
Mimulus bolanderi				
Mimulus nudatus				CNPS4
Mimulus tricolor				
Monardella viridis ssp viridis				CNPS4
Navarretia jepsonii				CNPS4
Navarretia leucocephala ssp bakeri				CNPSE
Navarretia leucocephala ssp plieantha				
Navarretia leucocephala ssp. pauciflo		FE	ST	CNPSE
Navarretia rosulata				CNPSE
Orobanche valida ssp howellii				CNPS4
Penstemon newberryi var sonomensis				CNPS3
Perideridia gairdneri ssp. gairdneri		SC		CNPS4
Pityopus californicus				LR
Plagiobothrys stricta		FE	ST	CNPSE
Poa napensis		FE	SE	CNPSE
Pogogyne douglasii ssp parviflora				CNPS3
Polygonum marinense		SC		CNPS3
Polypodium californicum forma lymanii				LR
Ranunculus lobbii				CNPS4
Ribes victoris				CNPS4
Senecio clevelandii var clevelandii				CNPS4
Sidalcea hicknamii ssp. viridis		SC		CNPSE
Sidalcea oregana ssp hydrophila?				CNPSE
Sidalcea oregana ssp valida				
Streptanthus barbige				
Streptanthus brachiatus ssp brachiatus		SC		CNPSE
Streptanthus brachiatus ssp hoffmanii				
Streptanthus morrisonii		SC		CNPSE
Streptanthus morrisonii var elatus				
Streptanthus tortuosus				LR
Thelypodium brachycarpum				CNPS4
Trichostema rubisepalum				CNPS4
Trifolium amoenum		FE		CNPSX
Triteleia lugens				

Viburnum ellipticum				LR

[1]GRANK
G1 = less than 6 occurrences or less than 2,000acres
G2 = 6-20 occurrences or 2,000-10,000 acres
G3 = 21-100 occurrences or 10,000-50,000 acres
G4 = Common but restricted
G5 = Widespread

[2]FEDERAL
FE = Endangered
FT = Threatened
SC = Species of concern

[3]CALIFORNIA
SE = Endangered
ST = Threatened
SC = Species of concern

[4]OTHER
PIF = Partners in Flight
CNPS = California Native Plant Society

APPENDIX III: CONTACTS AND PARTICIPANTS

LAST NAME	FIRST NAME	TITLE	ORGANIZATION	ADDRESS
Bouril	Chip		NRCS	
Callizo	Joe	Botanist	CNPS	707-965-2225
Crain	Patrick	Fishery Biologist	UC Davis	(530) 219-3434, pkcrain@ucdavis.edu
Dewberry	Charles	Fishery Biologist	Ecotrust	cdewber@presys.com
Doran	Juanita		CNPS	
Easton	Suzanne		BOSC, BRBNA	707-226-6323; seaston@napanet.net
Emig	John	Fishery Biologist	Dept of Fish & Game Yountville	(707) 944-5564 jemig@dfg.ca.gov
Ferguson	Leslie	Fishery Biologist	UCD	(510) 622-2344, compostbe@aol.com
Grummer	Bill		State Parks	707-942-5475
Harrison	Susan	Associate Professor	UC Davis; Napa Land Trust board	Department of Environmental Science and Policy 2132 Wickson Hall University of California, Davis, CA 95616, 916-752-7110, spharrison@ucdavis.edu
Hoffnagle	John	Executive Director	The Land Trust of Napa County	1040 Main Street, Suite 203 Napa CA 94559 707-252-3270 john@napalandtrust.org
Johnson	Vanessa	Land Protection Coordinator	The Land Trust of Napa County	1040 Main Street, Suite 203 Napa CA 94559 707-252-4539 vanessa@napalandtrust.org
Kennedy	Jeff	Vegetation Ecologist	UCD Center for the Environment	510-658-7654, jakennedy@ucdavis.edu
Krauss	Ray	Resource Management Specialist	Consultant	6969 St. Helena Rd. Santa Rosa CA 95404 707-539-4330, rkrauss@sonic.net
Krevet	Bernard		FONR	(707) 259-9424, krevet@attglobal.net
Leidy	Robert	Fishery Biologist	EPA	(415) 972-3463, leidy.Robert@epa.gov
Leong	Robin	Biologist	PRBO, Audubon	
Malan	Chris	Director	Friends of the Napa River	cmalan@napanet.net
Marrer	Frank		Quail Ridge	530-758-1387 quailridge.org
Merenlender	Adina		UCB Hopland Field Station	707-744-1270 adina@nature.berkeley.edu
Muick	Pam	Executive Director	Solano Land Trust	707-432-0150
Muick	Pam	Director	Solano Land Trust	PO Box 115 Fairfield, CA 94533, pam@solanolandtrust.org
Muth	Gilbert	Botanist		707-965-6228 gmuth@puc.edu
Nelson	David		State Parks Silverado District	707-938-9519

Orr	Bruce	Fishery Biologist	Stillwater Sciences	(510) 848-8098 x111, bruce@stillwatersci.com
Parker	Tom	Professor of Biology	SFSU Biological Sciences Department	1600 Holloway Avenue San Francisco, CA 94132, 415-338-2375, parker@sfsu.edu
Raye	Steve		DFG - Sacramento	
Rippey	Mike	Napa County Supervisor		
Rugyt	Jake	Botanist	CNPS	707-253-1839 jake@napanet.net
Seymore	Gail	Watershed restoration Planner	DFG	POBox 47 Yountville, CA 94599 707-944-5579
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