

Monterey Bay Area Sensitive Resource Mapping Project

Final Report



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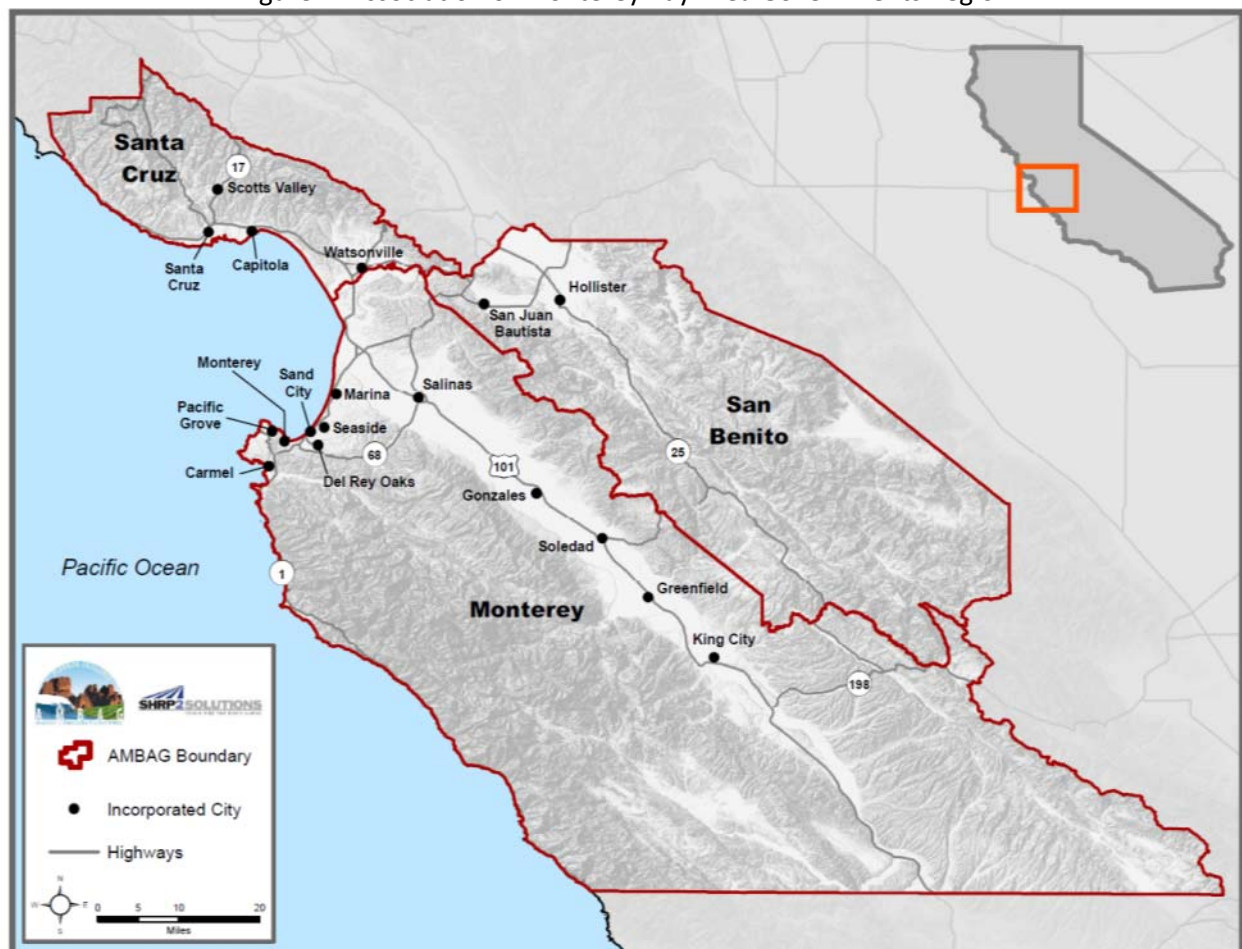
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1. Introduction

The purpose of this report is to identify sensitive resources in the Monterey Bay Area region to give transportation project managers a better understanding of the potential mitigations projects may require, allowing for long-term resource planning and early mitigation. All planned transportation projects for the next 30 years, as identified in the Association of Monterey Bay Area Government's (AMBAG) Moving Forward Monterey Bay 2035 Plan, were mapped along with available sensitive resource data. The resulting 32 maps provide a reference for project managers to see how their projects may affect a number of sensitive resources.

The resources assessed in this report are (1) wetlands, (2) liquefaction zones, (3) select sensitive plant species, (4) select sensitive animal species, (5) coastal zones, (6) sensitive farmlands, (7) wildlife corridors, (8) parks, and (9) other protected areas. Project-resource intersections depicted in these maps represent key conservation/restoration areas that may be subject to regulation, and are a starting point for identifying high-level conservation/restoration priorities as called for in the Guide to Integrated Ecological Framework (C06A) research. The results of this report can be used to engage in discussions with resource agencies in order to explore project options, avoidance, and mitigation options.

Figure 1: Association of Monterey Bay Area Governments Region



This project implements State Highways Research Program Round 2 (SHRP2) goals established in the Integrating Ecological Mitigation to Enhance Efficiency (C06) report by applying the associated implementation process called the Integrated Ecological Framework (IEF). The IEF is a process for identifying sensitive resources in the early stages of highway planning when there are greater opportunities for avoidance, minimizing potential impacts, and mitigation planning. A key step in this process is identifying sensitive resource conflicts with planned highway and other transportation projects.

2. Map Areas

The extents of the maps were determined by where planned transportation projects were located. This corresponds with major population centers. Notably, Southern San Benito County is not covered by the mapping in this report since there are few planned transportation projects and a lack of major population centers. Monterey County south of King City is not covered by the sensitive resource maps in this report for the same reason.

3. Data Collection and Limitations

The biggest challenge in the production of this report was obtaining Geographical Information Systems (GIS) datasets on sensitive resources. Some data was not available because agencies overseeing the data were not willing to release the information, or the resource information was not available in GIS form.

In one example, the California Department of Fish and Wildlife (CDFW) does not allow data on the location of sensitive species to be distributed to the public for (1) concern about unlawful collection of sensitive species and (2) concerns about the public believing the data is comprehensive when their data only represents observed and reported sensitive species. The latter could result in development projects skipping sensitive species surveys due to a misunderstanding of the scope of the data.

In another example, the State of California Office of Historic Preservation (OHP) holds comprehensive archeological GIS data. However, this agency does not allow non-archeological entities to have access to this data and does not allow the data to be made public out of concern for theft of archeological resources. Additionally, OHP data was not all available in GIS form. The process of digitizing their data would have been beyond the scope of this project due to the significant time and labor required. While select sensitive species data was acquired from other public sources, no publicly available archeological data source was located, so archeological resources were not assessed in this report.

4. Project-Resource Maps

The following maps represent the final data produced illustrating the intersection between regional planned projects and sensitive resources.

A. Wetlands and Liquefaction

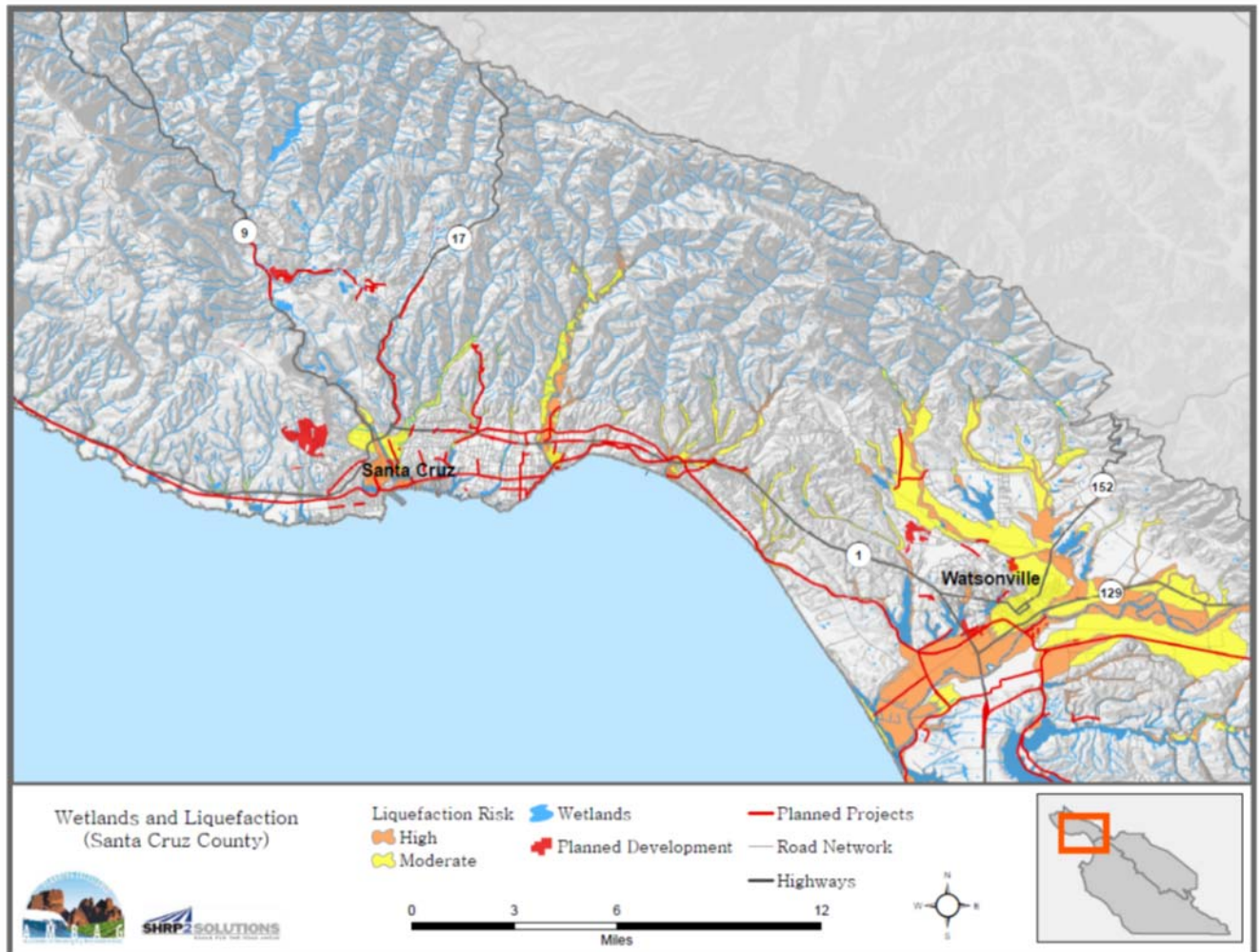
Wetlands are ubiquitous throughout the Monterey Bay Area. Planned transportation projects should carefully assess any project site for potential wetland impacts. Project managers should consider consulting with the United States Army Corps of Engineers on project impacts to wetlands before project initiation to determine if any changes can be made early in the project to avoid impacting wetlands.

Liquefaction is a phenomenon where saturated sand and silt take on the characteristics of a liquid during the intense shaking of an earthquake. This can cause structures within liquefaction zones to sink, tilt, or otherwise destabilize. In these maps, moderate liquefaction zones indicate 20-30% of future liquefaction occurrences will be located within this area. A high liquefaction zone indicates 20-30% of future liquefaction occurrences will be located in this area. Due to the smaller area, this translates to increased incidences of liquefaction per square mile. Liquefaction zones are separated by large distances, but are numerous enough that they will impact long corridor improvement projects which typically cross at least one liquefaction zone. The primary exception is in Northern San Benito County, where few liquefaction zones occur.

Santa Cruz County

Liquefaction risks are present for most planned projects near the Watsonville urban area, as well as some projects in the Western portion of the City of Santa Cruz and along Soquel Creek. Wetlands are ubiquitous throughout the county and will likely be an unavoidable impact for many projects.

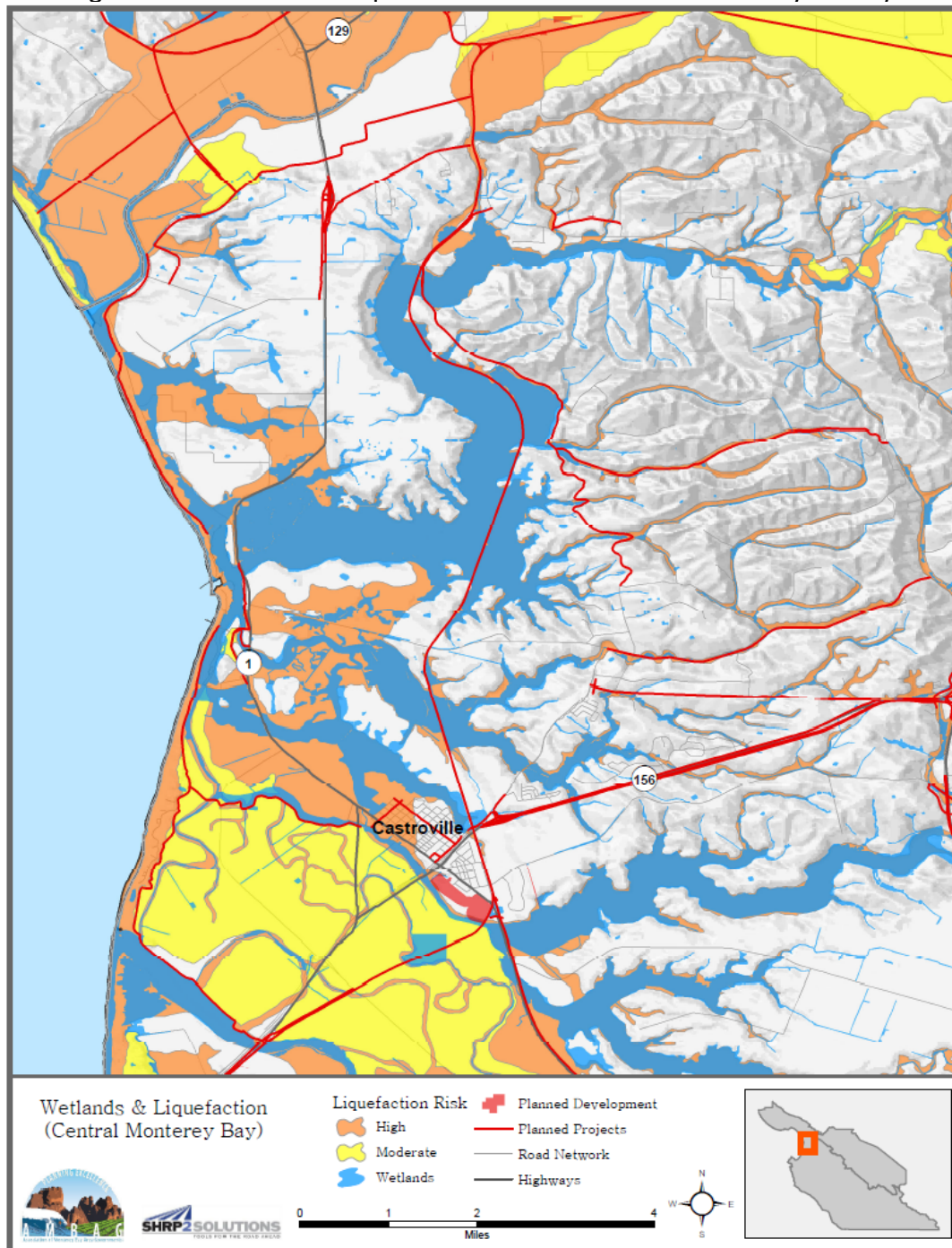
Figure 2: Wetlands and Liquefaction Areas in Santa Cruz County



Central Monterey Bay

Liquefaction risks are significant through areas within four miles of the coast, especially North, West, and South of Castroville, and South of Watsonville. Most planned projects in this area will face liquefaction risks. Wetlands will be an unavoidable impact for all projects in this area.

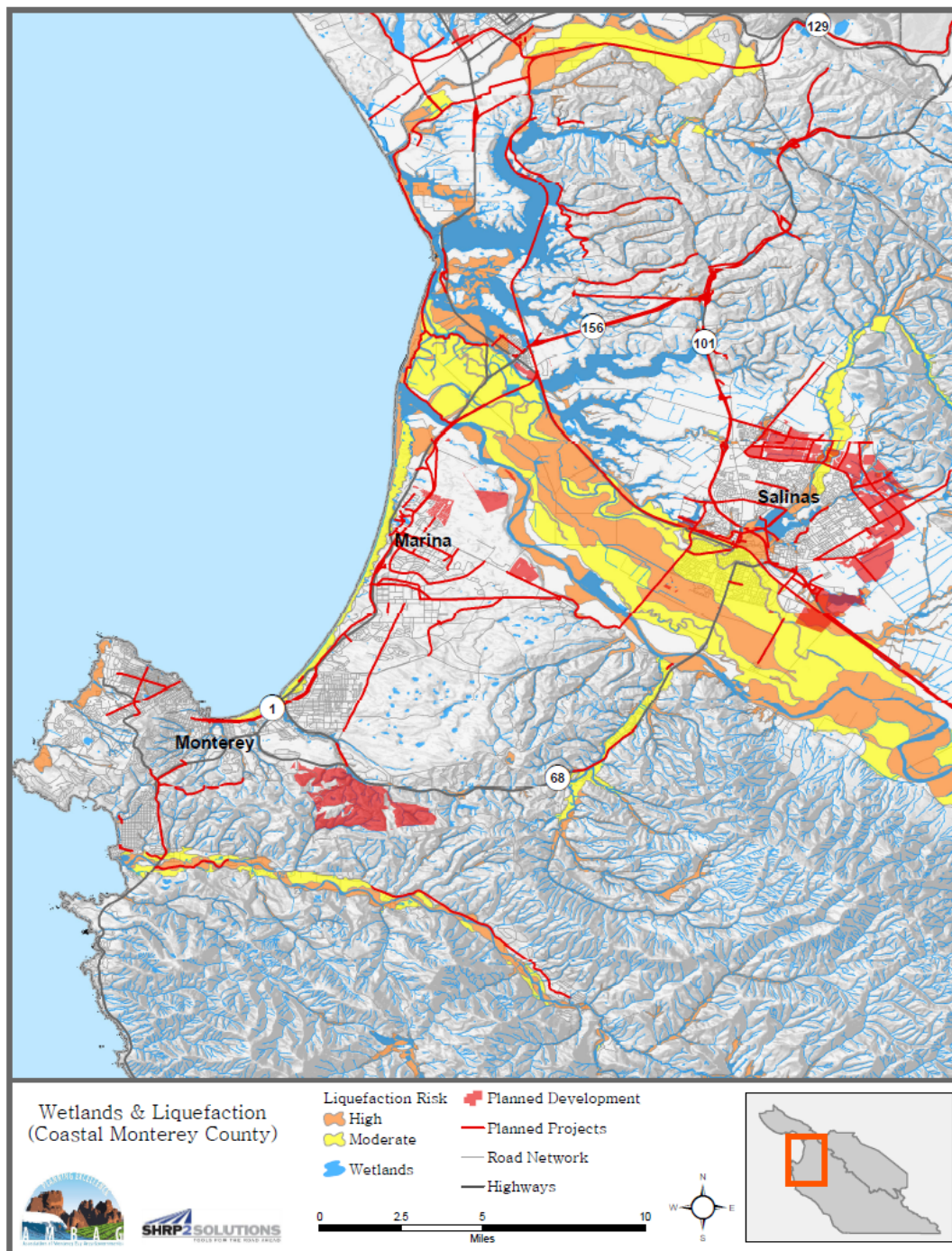
Figure 3: Wetlands and Liquefaction Areas in Coastal Monterey County



Coastal Monterey County

Liquefaction risks are significant for planned projects along the Salinas River. Liquefaction is also a risk along Carmel River South of Monterey, projects along Highway 68, and projects along Highway 1. Wetlands are ubiquitous and will be an unavoidable impact for many projects.

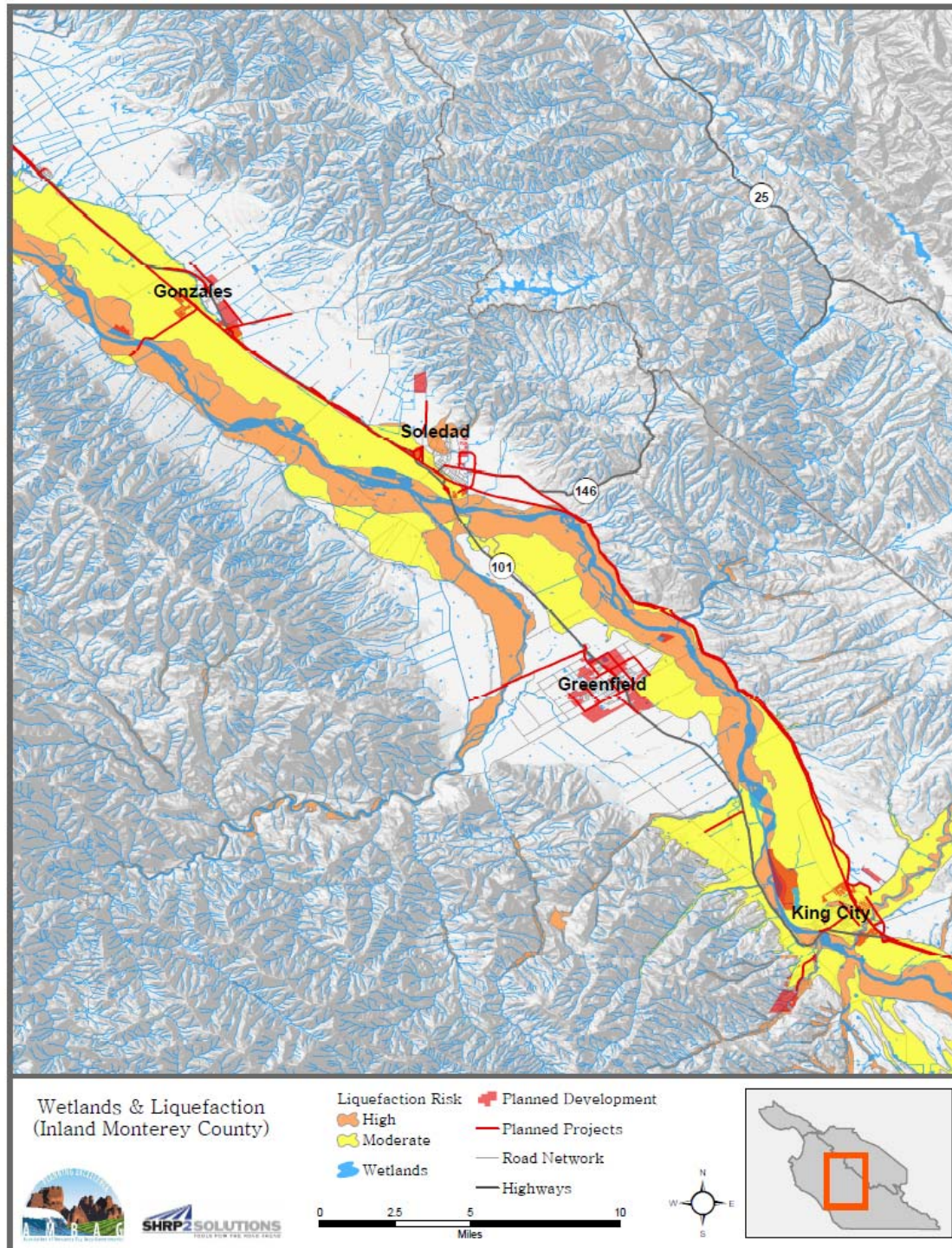
Figure 4: Wetlands and Liquefaction Areas in Central Monterey Bay



Inland Monterey County

Liquefaction is a risk for planned projects throughout Southern Monterey County along the Salinas River. Projects in Greenfield, Eastern portions of Gonzales, and Soledad have reduced liquefaction risk. Wetlands are ubiquitous and will be an unavoidable impact for many projects.

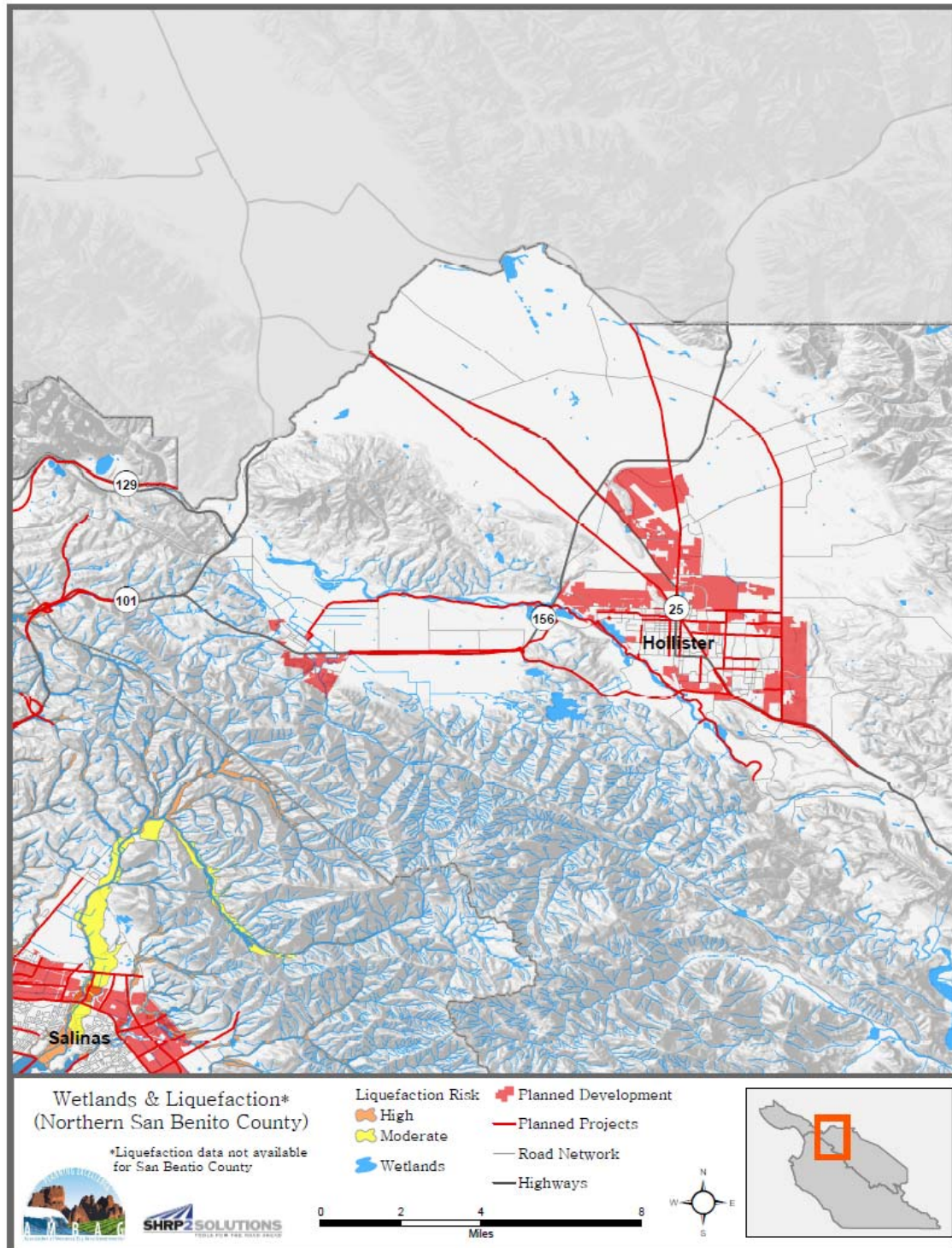
Figure 5: Wetlands and Liquefaction Areas in Inland Monterey County



Northern San Benito County

Planned transportation projects in Northern San Benito County are at very low risk of liquefaction. Wetland issues should be considered in many projects.

Figure 6: Wetlands and Liquefaction Areas in Northern San Benito County



B. Sensitive Plant Species

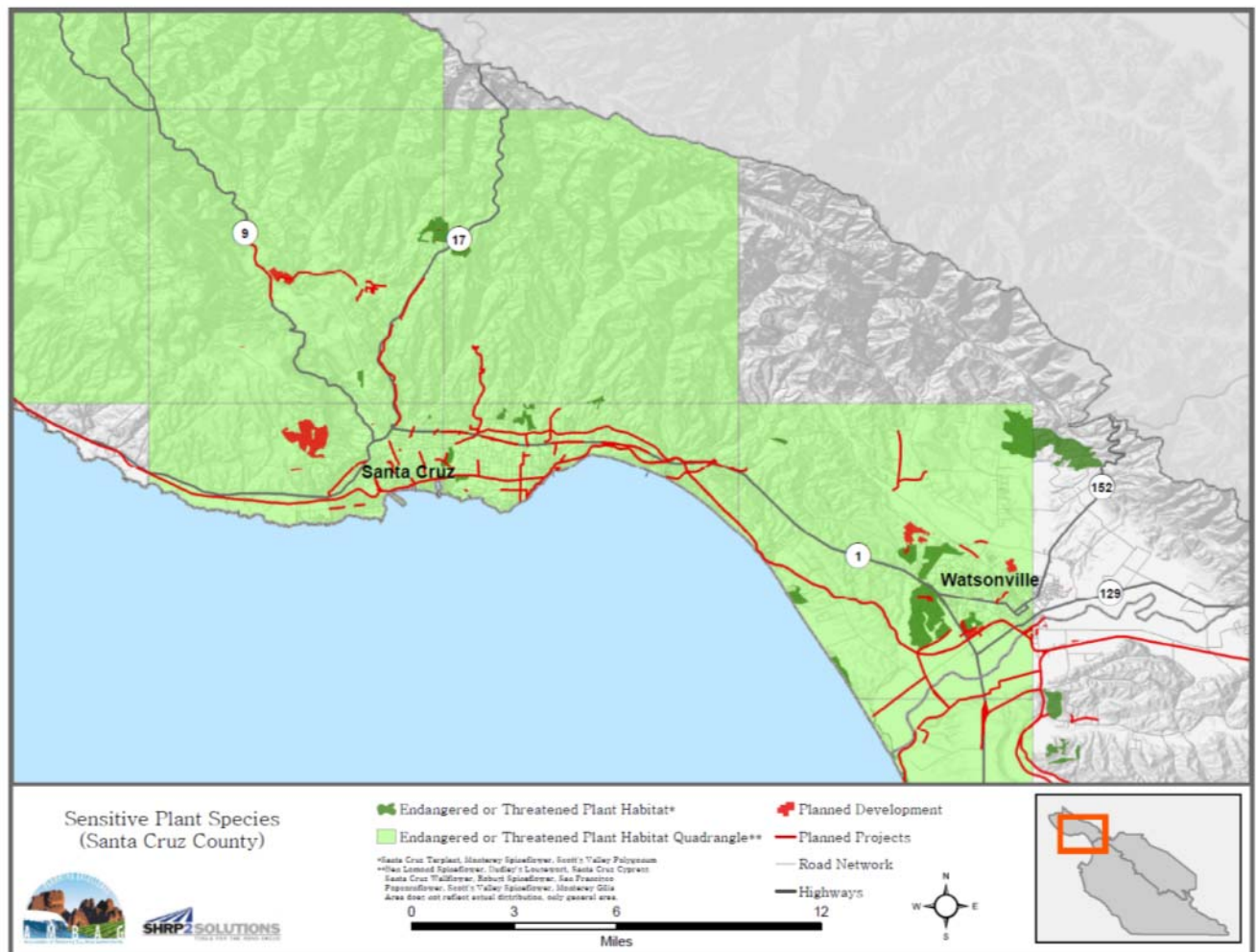
California Department of Fish and Wildlife (CDFW) sensitive plant species data is generalized at the 10-mile quadrangle level which does not allow for pin-pointing of sensitive habitat for the purpose of conservation prioritization. The CDFW does this to protect the location of sensitive species from destruction or vandalism from the public. Due to these limitations, this data can only provide a very general indication of whether sensitive plant species exist within up to 10 miles of the project, which has limited usefulness. It should be noted that this data is not comprehensive and any area may host sensitive plant species which have not been discovered yet. Due to the limitations of this data, a determination on whether a sensitive plant assessment should be undertaken should be made on a project-by-project basis, in consultation with a qualified biologist.

In the following sensitive plant habitat maps, the dark green areas indicate presence of Santa Cruz Tarplant, Monterey Spineflower, or Yadon's Piperia. The 10-mile quadrangle areas represent general areas where Ben Lomon Spineflower, Dudley's Lousewort, Santa Cruz Cypress, Santa Cruz Wallflower, Robust Spineflower, San Francisco Popcornflower, Scott's Valley Spineflower, or Monterey Gilia is found. This data is not comprehensive and represents only what has been identified to date. Each project should assess the presence of endangered or threatened plant habitat on a project by project basis.

Santa Cruz County

Eastern Santa Cruz has two concentrations of endangered or threatened plant habitat, on the Western Border of Watsonville, and approximately four miles North of Watsonville. Scotts Valley has a concentration of sensitive habitat in the northern part of the City along either side of Highway 17.

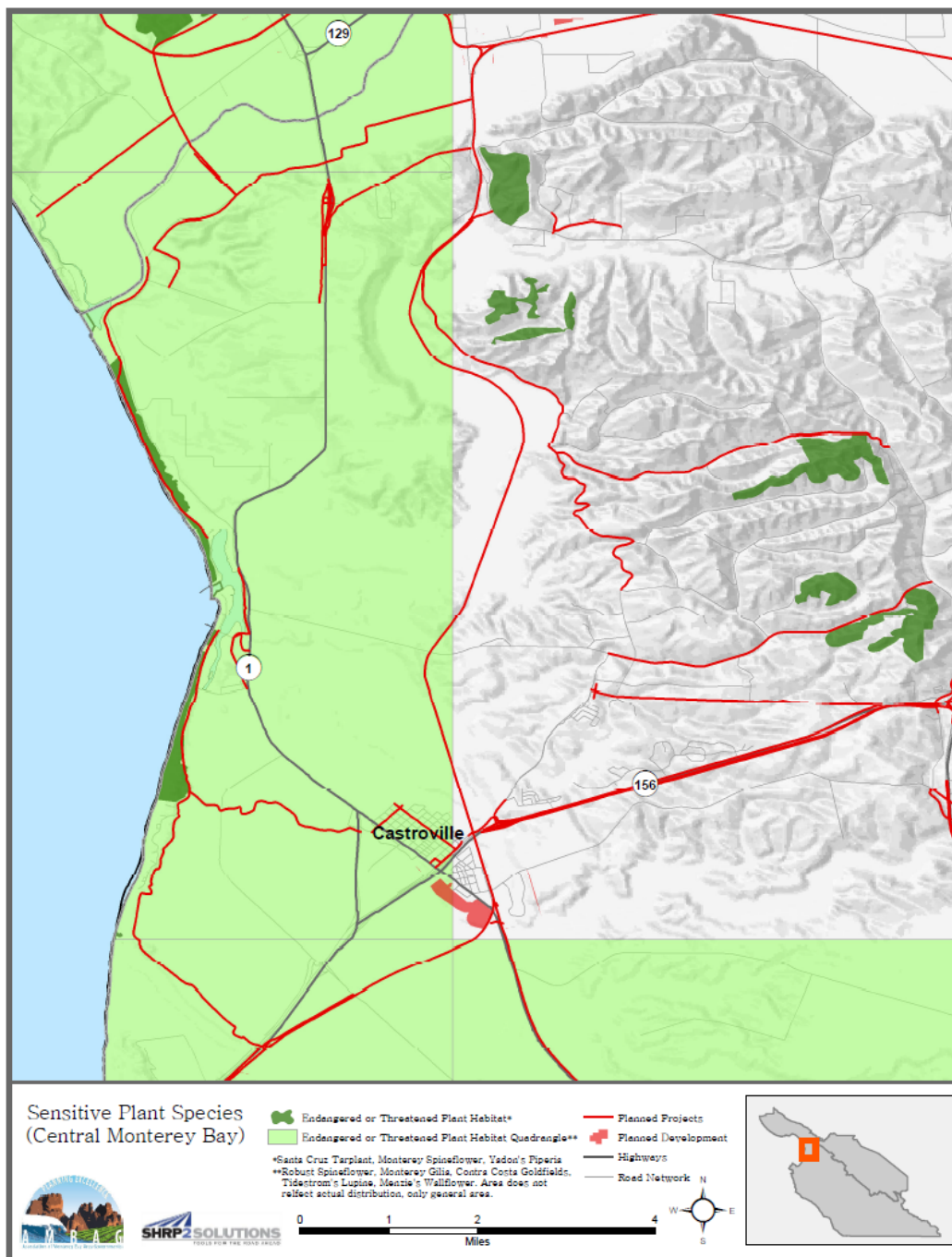
Figure 7: Sensitive Plant Species in Santa Cruz County



Central Monterey Bay

Central Monterey Bay has a number of endangered or threatened plant habitat areas. Along the beach are the Zmudowsky State Beach Park and the Salinas River State Beach, North and South of Moss Landing respectively. Other clusters are present North-East of Elkhorn Road and Hall Road, near Elkhorn Slough Preserve, South of Strawberry Road at San Miguel Canyon Road, North of Manzanita County park, and inside Manzanita County Park.

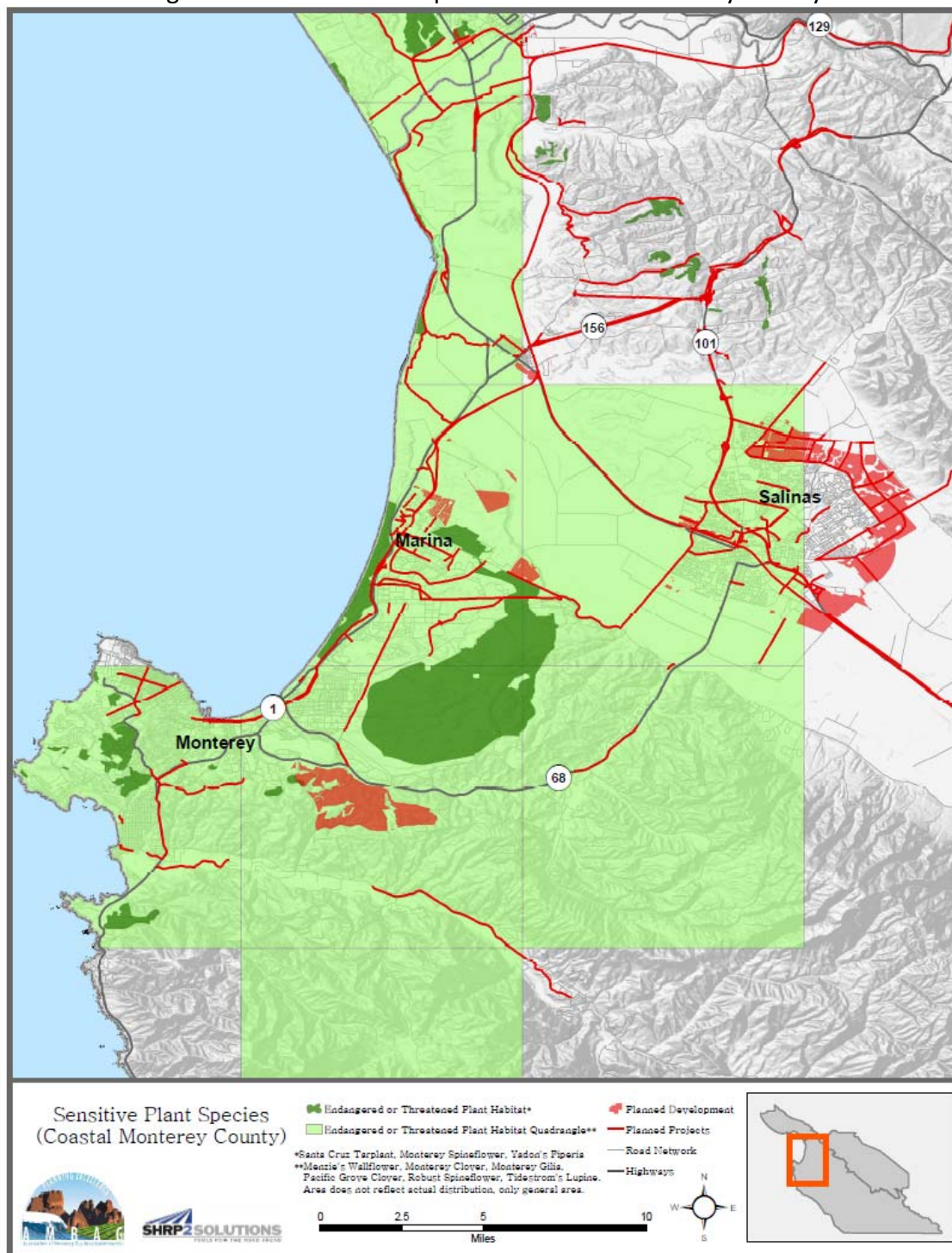
Figure 8: Sensitive Plant Species in the Central Monterey Bay



Coastal Monterey County

A large cluster of sensitive plant habitat is located east of Seaside and Marina, and West of Marina along the coastal beach. Smaller clusters are located north of Carmel-by-the-Sea in the Carmel Woods, S.F.B. Morse Botanical Reserve, and the Huckleberry Hill Natural Habitat Area.

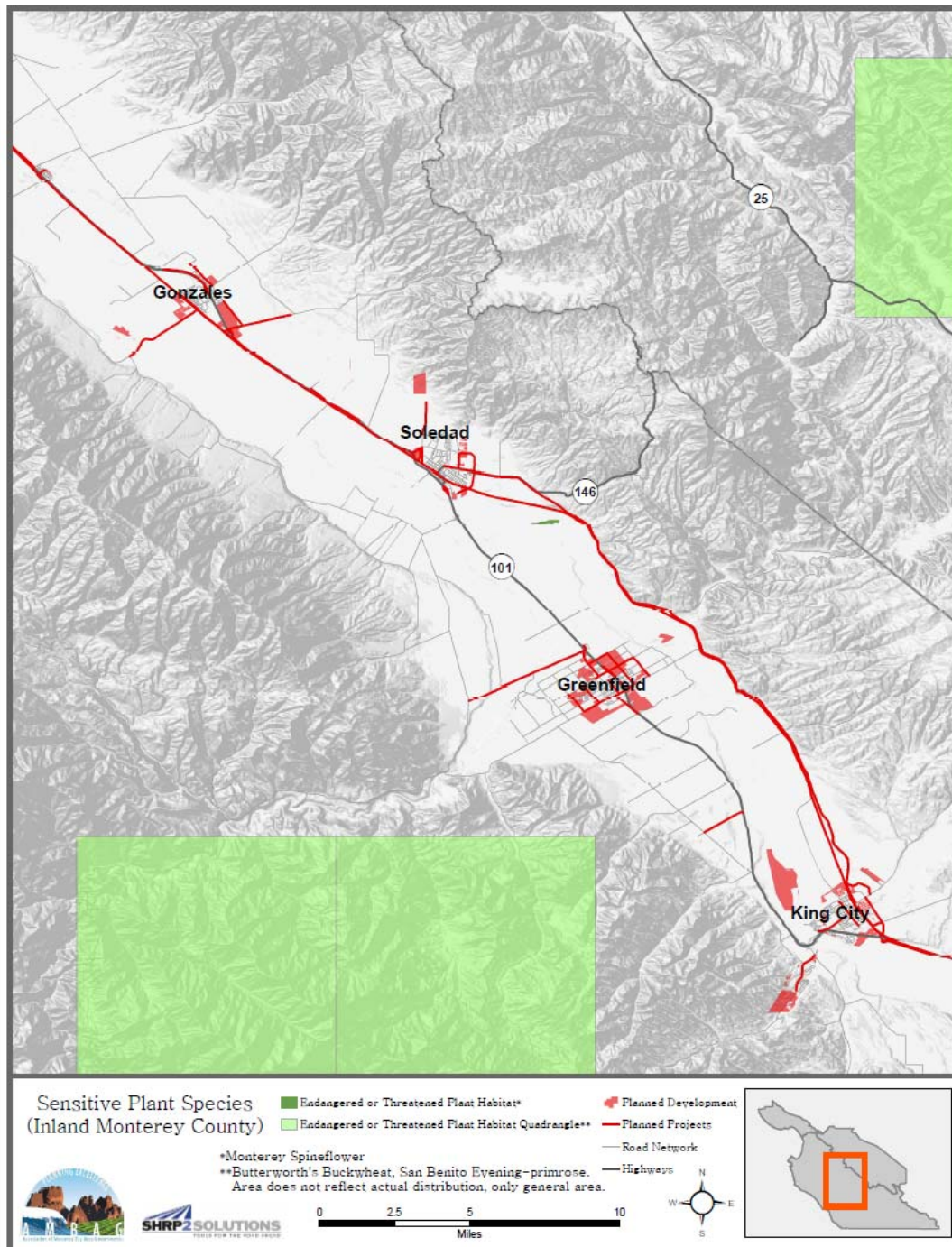
Figure 9: Sensitive Plant Species in Coastal Monterey County



Inland Monterey County

Inland Monterey County has very few pre-identified clusters of endangered or threatened plant habitat, and most planned projects are surrounded by developed or agricultural lands which do not provide substantial sensitive plant habitat.

Figure 10: Sensitive Plant Species in Inland Monterey County



C. Sensitive Animal Species

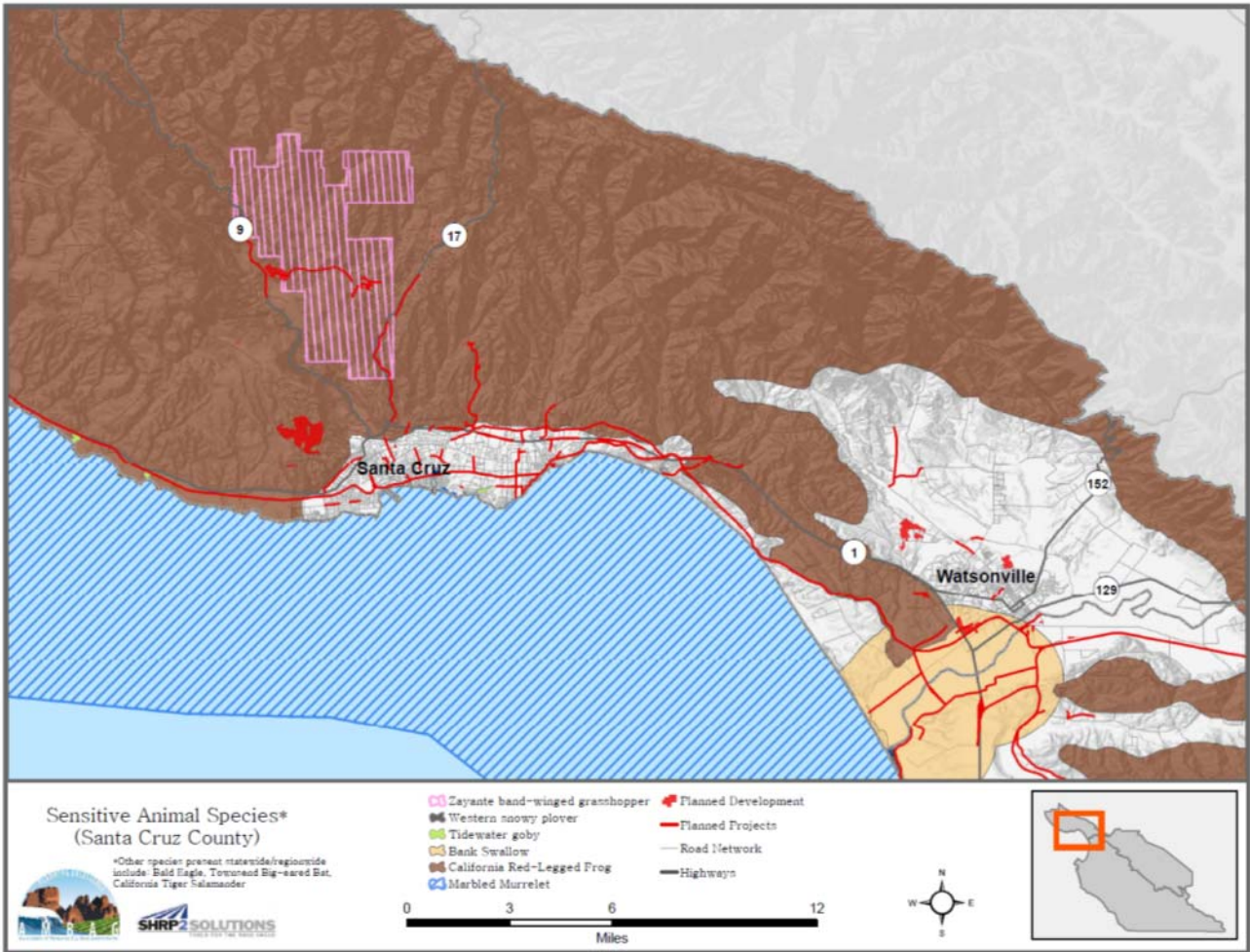
Sensitive animal species are ubiquitous throughout the region. Bald Eagle, Townsend Big-eared Bat, and California Tiger Salamander, and California Red-Legged Frog may be found near any project. Along the coast, a higher proportion of sensitive animal species are found due to their proximity to the coast, wetlands, and unique habitats. Inland, fewer species have been identified, suggesting that inland projects may face fewer sensitive animal species impacts. Since this data is not comprehensive, every transportation project should do an assessment of potential sensitive animal species near the site to identify whether project changes or mitigations should be made early in the project development process.

In addition to the sensitive animal species mentioned above, a number of other sensitive species are found throughout the area including Zayante Band-Winged Grasshopper, Western Snowy Plover, Tidewater Goby, Bank Swallow, California Red-Legged Frog, and Marbled Murrelet. Planned projects near these habitat ranges are discussed below.

Santa Cruz County

Conflicts between projects and sensitive species occur primarily outside of the Santa Cruz metropolitan area and Watsonville. Sensitive animal species identified include Zayante Band-Winged Grasshopper, California Red-Legged Frog, Marbled Murrelet, and Bank Swallow.

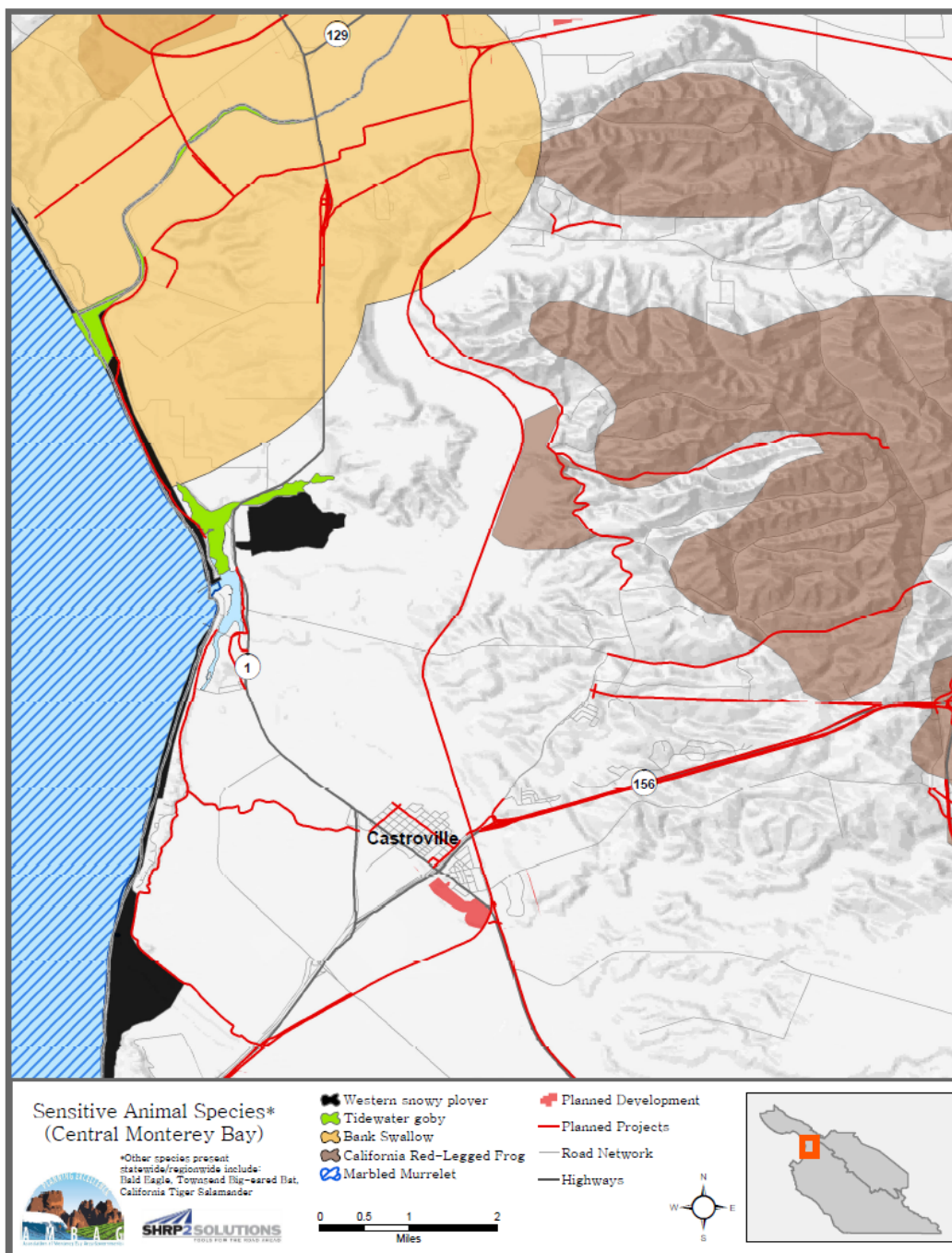
Figure 11: Sensitive Animal Species in Santa Cruz County



Central Monterey Bay

In the Central Monterey Bay, sensitive animal species have been identified primarily South of Watsonville where the Bank Swallow and Red-Legged Frog have been found, and North-East of Castroville where California Red-Legged Frog has been identified. Coastal projects occur in areas where a number of sensitive animals species have been identified including the Western Snowy Plover, the Bank Swallow, and the Tidewater Goby.

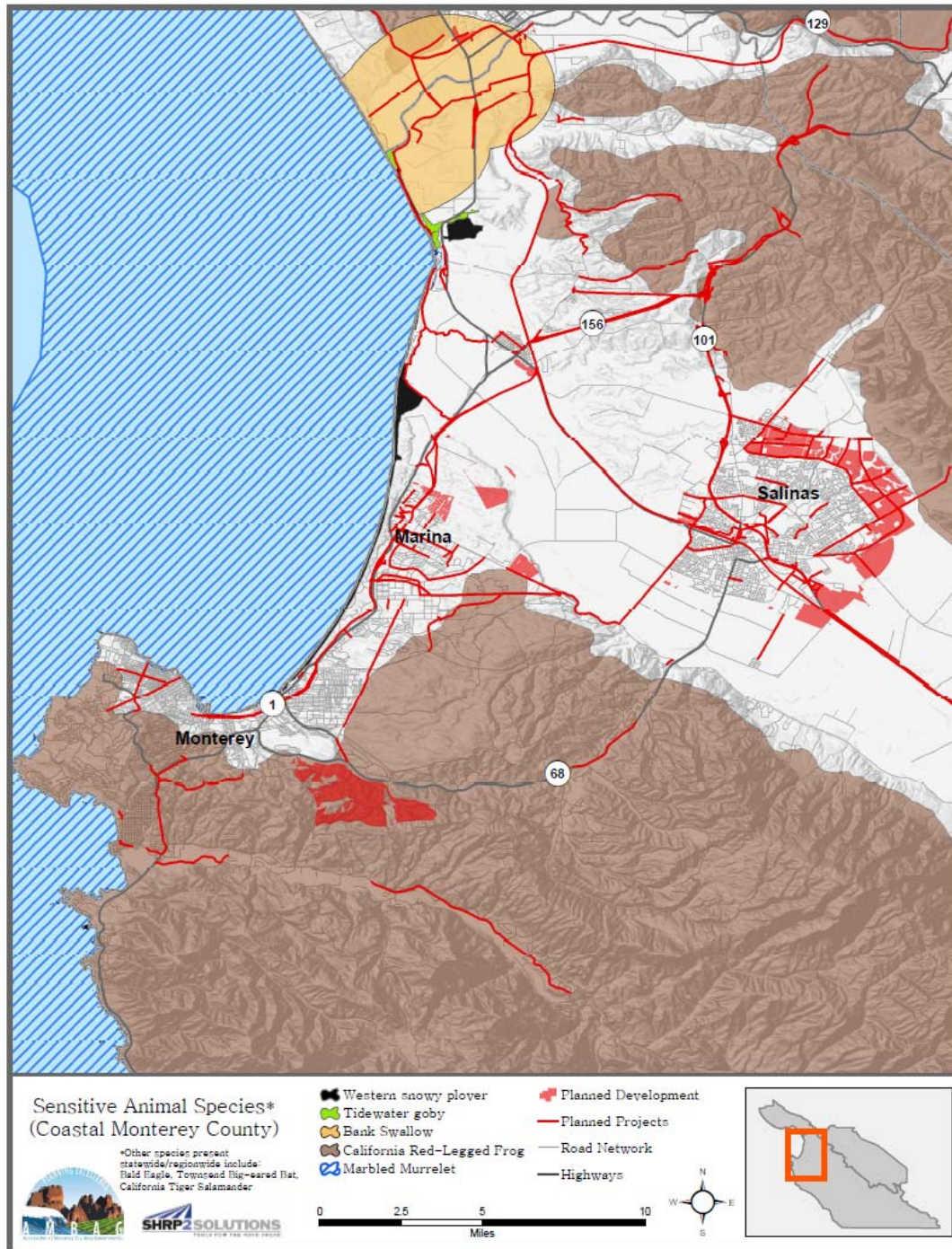
Figure 12: Sensitive Animal Species in the Central Monterey Bay



Coastal Monterey County

Planned transportation projects in the Monterey Metropolitan area and Salinas should be aware of sensitive animal species near their urban borders, especially California Red-Legged Frog, Marbled Murrelet, and Western Snowy Plover.

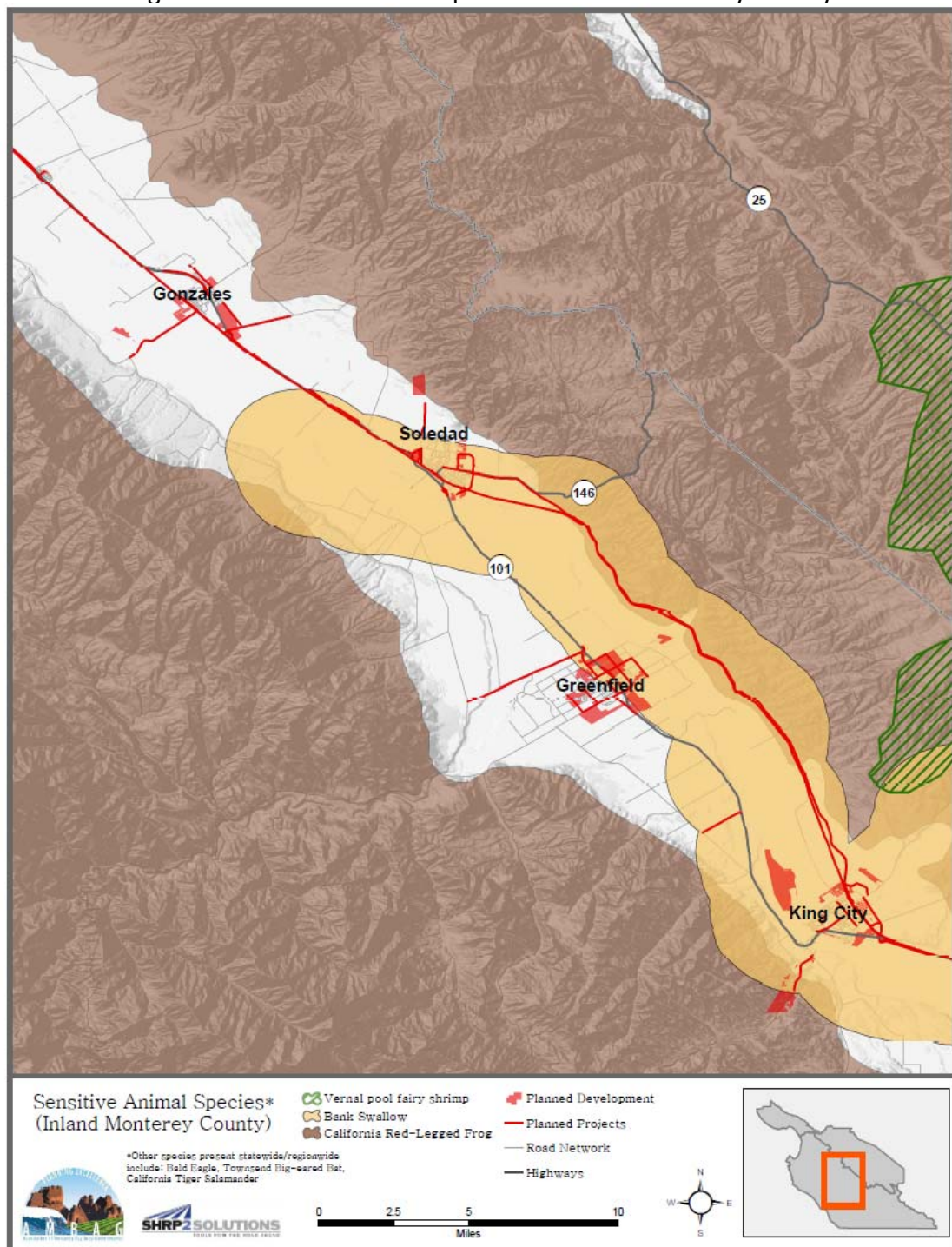
Figure 13: Sensitive Animal Species in Coastal Monterey County



Inland Monterey County

Planned transportation projects in Southern Monterey County should be aware of project impacts to sensitive species including the California Red-Legged Frog and Bank Swallow. Projects in Gonzales and the Western side of Greenfield may have fewer encounters with sensitive animal species than the rest of the area.

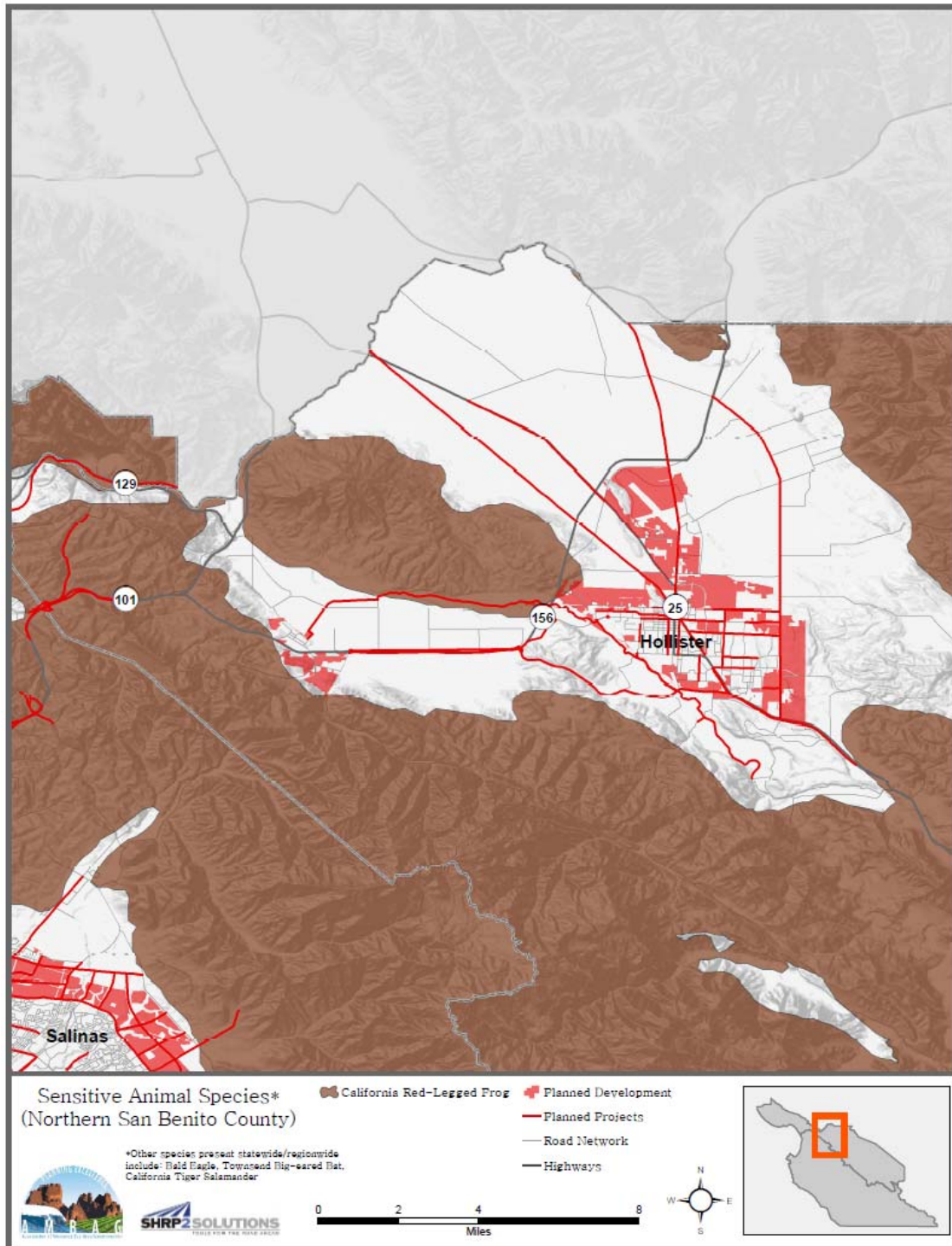
Figure 14: Sensitive Animal Species in Inland Monterey County



Northern San Benito County

Transportation projects in the Northern San Benito County area should be aware of California Red-Legged Frog habitat which is widespread throughout the area. Development in the urban areas of Hollister may have fewer encounters with sensitive species than the rest of the area.

Figure 15: Sensitive Animal Species in Northern San Benito County



D. Bay Area Critical Wildlife and Riparian Linkages

The data presented in the Bay Area Critical Wildlife and Riparian Linkages maps is derived from the Critical Linkages: Bay Area and Beyond Report of 2011 which can be found at www.bayarealands.org. The report defines critical wildlife and riparian linkages using the following methodology.

Critical and River and Stream Wildlife Linkages

To define Critical Wildlife Linkages, movements were modeled and mapped for 66 focal species including insects, fish, amphibians, reptiles, birds, and mammals. These movements were cross referenced with a map of landscape blocks, linkages, and corridors for each species to support breeding and access to resources. This forms the core of Critical Wildlife Linkages. This area provides live-in and move-through habitat for multiple species and allow natural processes to operate with minimal disturbance for humans, invasive species, and climate change.

River and Stream Wildlife Linkages represent a buffer zone of 1 km (0.62 miles) to either side of each key riparian corridor to provide live-in and move-through habitat, prevent degradation of aquatic habitats, and to maintain ecological integrity. Riparian corridors and the uplands that surround them provide live-in and move-through habitat for many species and are major wildlife corridors. These riparian corridors are vital to mammals that typically remain in close proximity to water. Riparian habitats are also known movement corridors for large mammals, such as mountain lion, bobcat, black bear, and black-tailed deer. These corridors also serve the needs of semiaquatic focal species such as the river otter, western pond turtle, California giant salamander, western toad, California red-legged frog, and foothill yellow-legged frog. These buffers help prevent lighting, noise, and invasive species impacts on riparian corridors.

Roads fragment wildland corridors, fragment habitat, kill animals in vehicle collisions, and isolate species which increases risk of local population extinction. A number of mitigations are available. Wildlife underpasses include viaducts, culverts, and pipes, and help ensure adequate drainage beneath roadways. Wildlife overpasses are built as pathways over roadways.

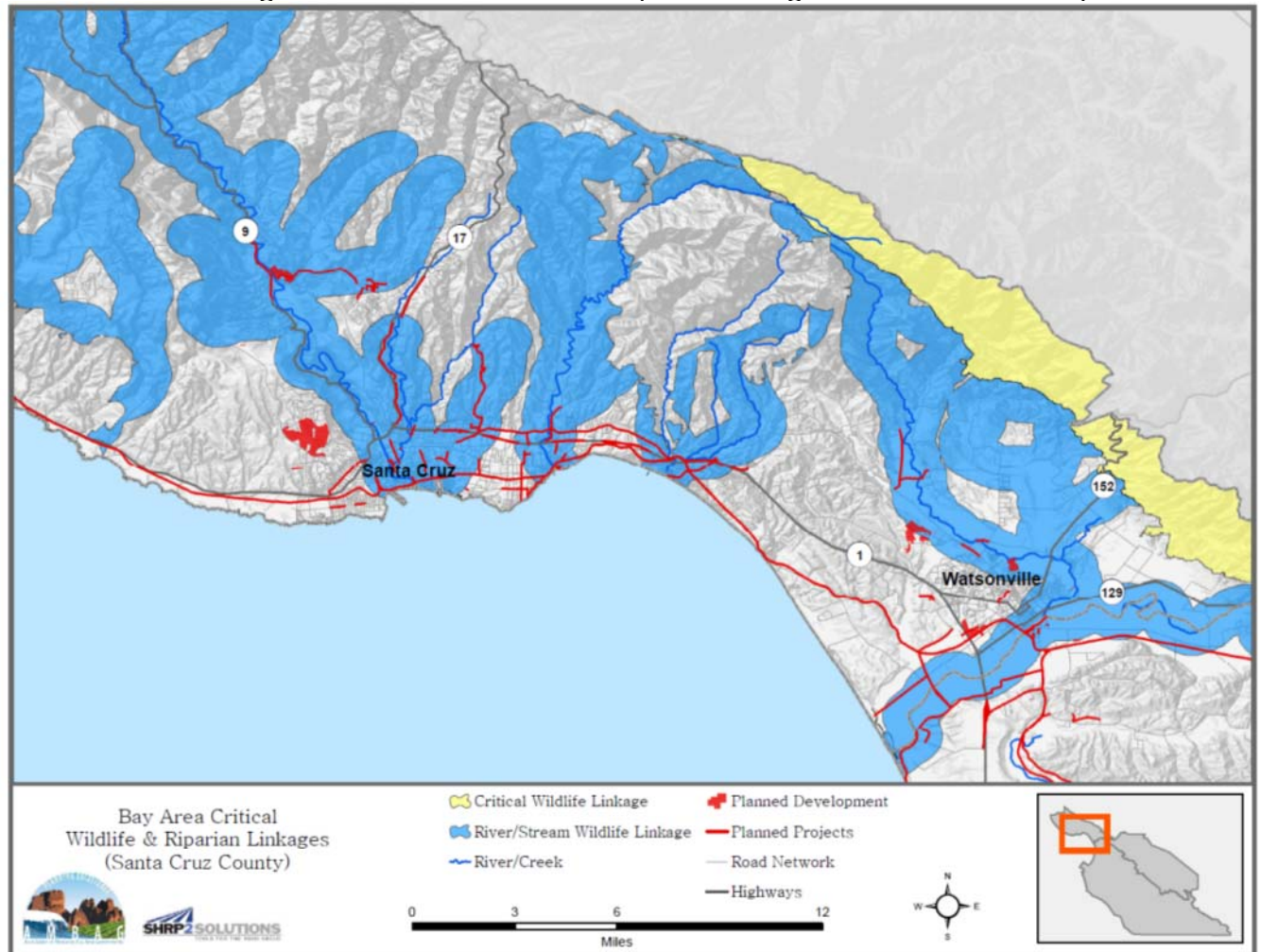
Mitigations

The *Critical Linkages: Bay Area & Beyond* report recommends a number of mitigation approaches for projects affecting River and Stream Wildlife Linkages: (1) provide multiple wildlife crossings structures along highways to allow connectivity for all species in the areas, (2) provide wildlife crossing structures close enough together to provide sufficient permeability and encourage usage by wildlife, (3) integrate suitable vegetative habitat with wildlife crossing structures, (4) monitor crossing structures for obstructions, (5) assure fencing does not block entrances to crossing structures and directs animals towards crossings, (6) minimize use of raised section of road which discourage animals from crossing roads, (7) provide wildlife crossing structures that do not also act as human crossings since human activity discourages wildlife use, (8) design drainage culverts to specifically provide for animal movement assuring entries and exists are at grade, (9) minimize artificial night lighting, and (10) reduce traffic speeds and install signage alerts for drivers to watch for wildlife.

Santa Cruz County

A number of planned projects in Santa Cruz are located within river and stream wildlife linkages. However, existing development already abuts on these areas, so additional impacts to these habitats are unlikely. Similarly, river and stream wildlife linkages in Watsonville are bounded by urban development and agricultural lands, so new projects are not expected to have a large impact.

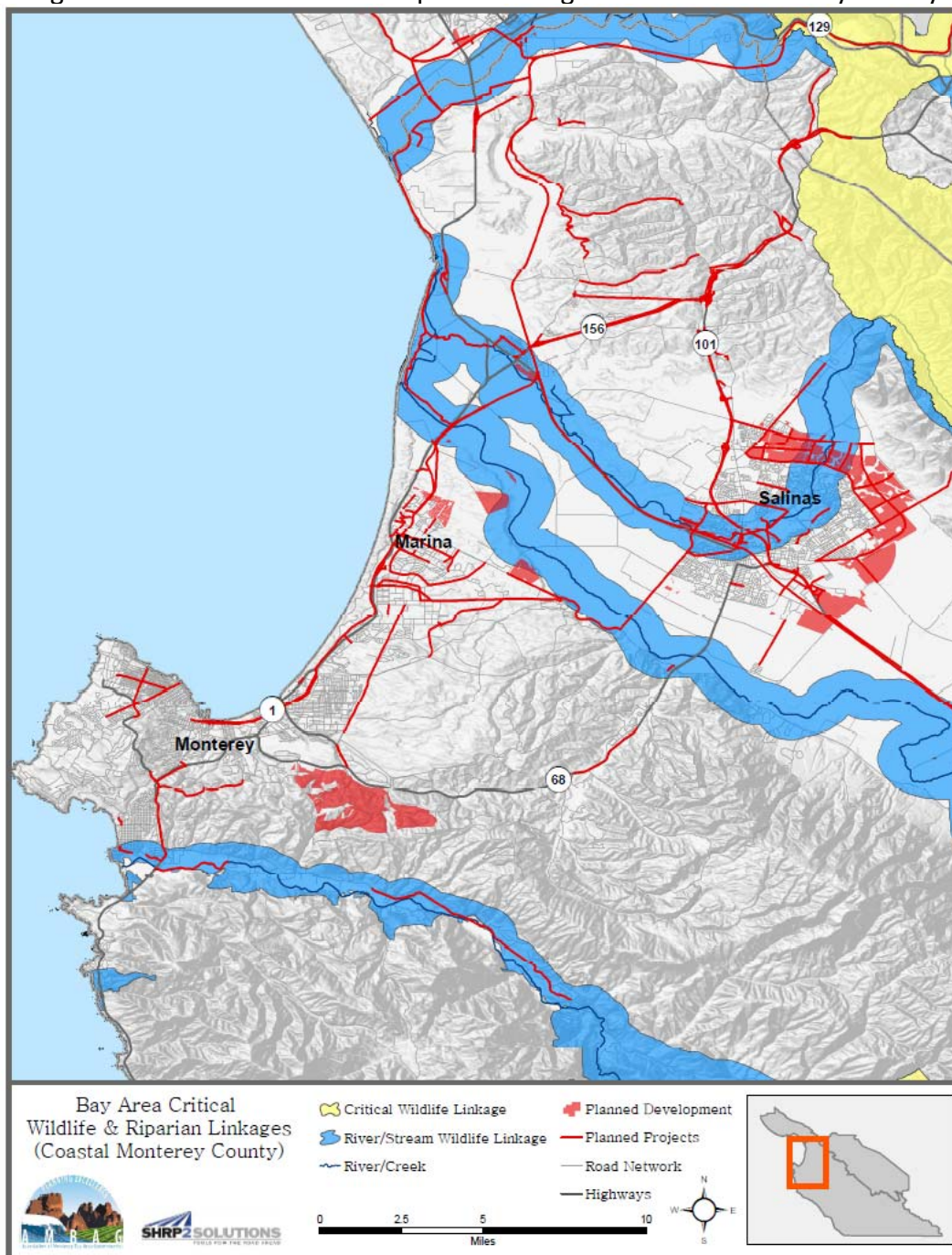
Figure 16: Critical Wildlife and Riparian Linkages in Santa Cruz County



Coastal and Central Monterey County

Projects in Monterey and Marina will have no impacts on critical wildlife linkages, and negligible impacts on river-stream wildlife linkages. Projects in Salinas are also expected to have a minimal impact on river and stream wildlife linkages since these corridors are already bounded by urban and agricultural development. Some county projects present good opportunities to improve river and stream wildlife linkages in the North County area and along Carmel River.

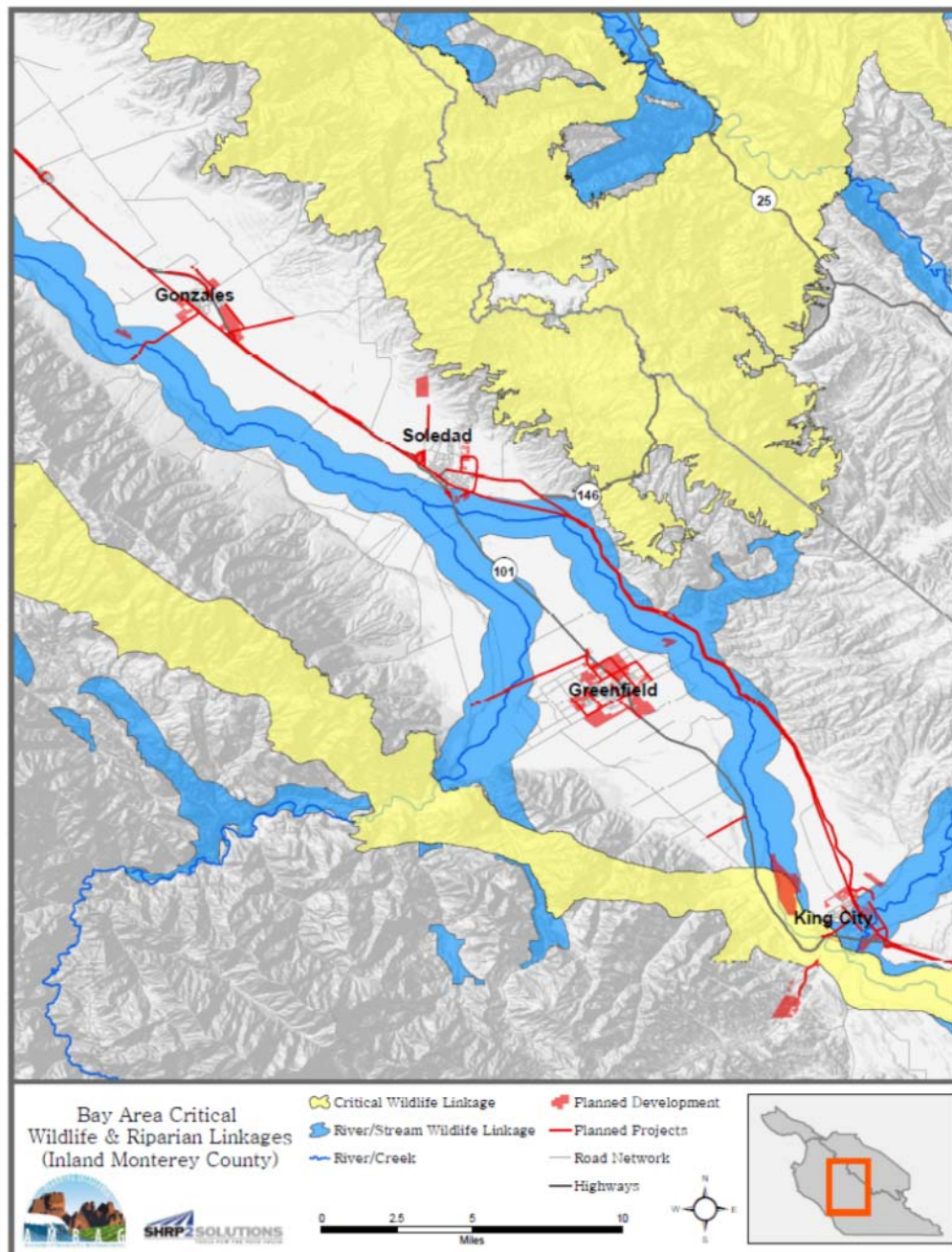
Figure 17: Critical Wildlife and Riparian Linkages in Coastal Monterey County



Inland Monterey County

While planned improvements along County Road G15 between Soledad and King City do not cross Salinas River, the project is in close proximity to the Salinas River. While most of the area surrounding planned projects is agricultural, projects may be able to provide supplementary structures to reduce potential impediments to wildlife movement near River/Stream Wildlife Linkages. In particular, projects may be able to improve wildlife permeability between Critical Wildlife Linkages with River and Stream Wildlife Linkages.

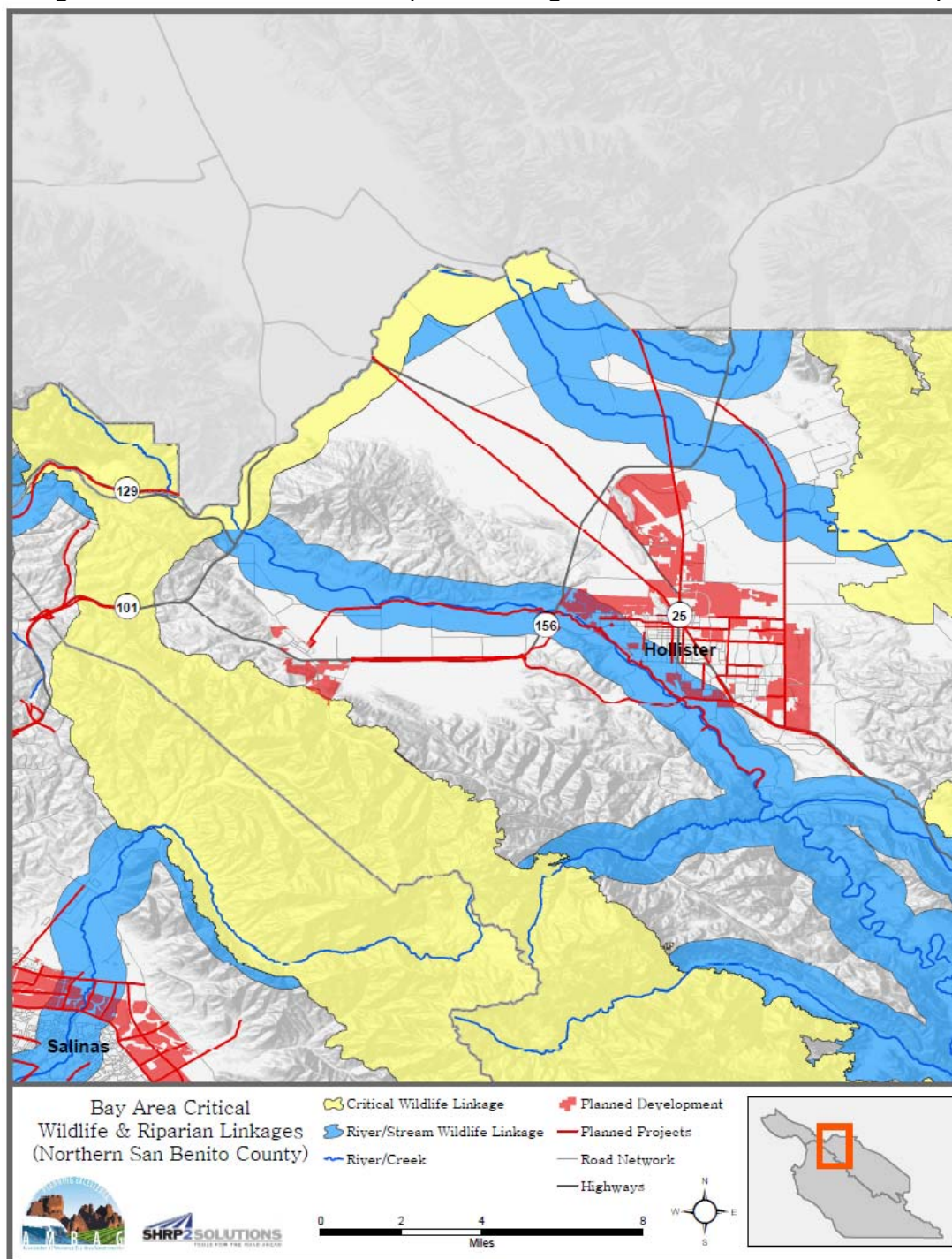
Figure 18: Critical Wildlife and Riparian Linkages in Inland Monterey County



Northern San Benito County

Some planned projects throughout Northern San Benito County intersect with River/Stream Wildlife Linkages which have already been affected by surrounding urban and agricultural development. While corridors running perpendicular to waterways may be able to easily improve habitat connectivity, the planned trail paralleling the San Juan River offers many unique opportunities to improve habitat continuity.

Figure 19: Critical Wildlife and Riparian Linkages in Northern San Benito County



E. California Essential Habitat Connectivity Report

Wildlife habitat and wildlife corridors are found throughout the region, generally in non-urban non-agricultural areas away from population centers.

Data presented in the California Essential Habitat Connectivity Report maps is derived from the California Essential Habitat Connectivity Project of 2010 which can be found at <http://www.dfg.ca.gov/habcon/connectivity/>. This report defines Natural Wildlife Habitat and Wildlife Corridors using the following methodology:

Natural Wildlife Habitat (Natural Landscape Blocks)

Natural Wildlife Habitat was delineated by choosing land that is largely undeveloped, with very low housing density, small/low volume roadways, forests with generally unmodified canopies, areas including lands conserved for wilderness/wildlife, areas known to support threatened/endangered/rare species, areas with wetlands, and areas of critical environmental concern. These combined criteria represents a high measure of biological diversity.

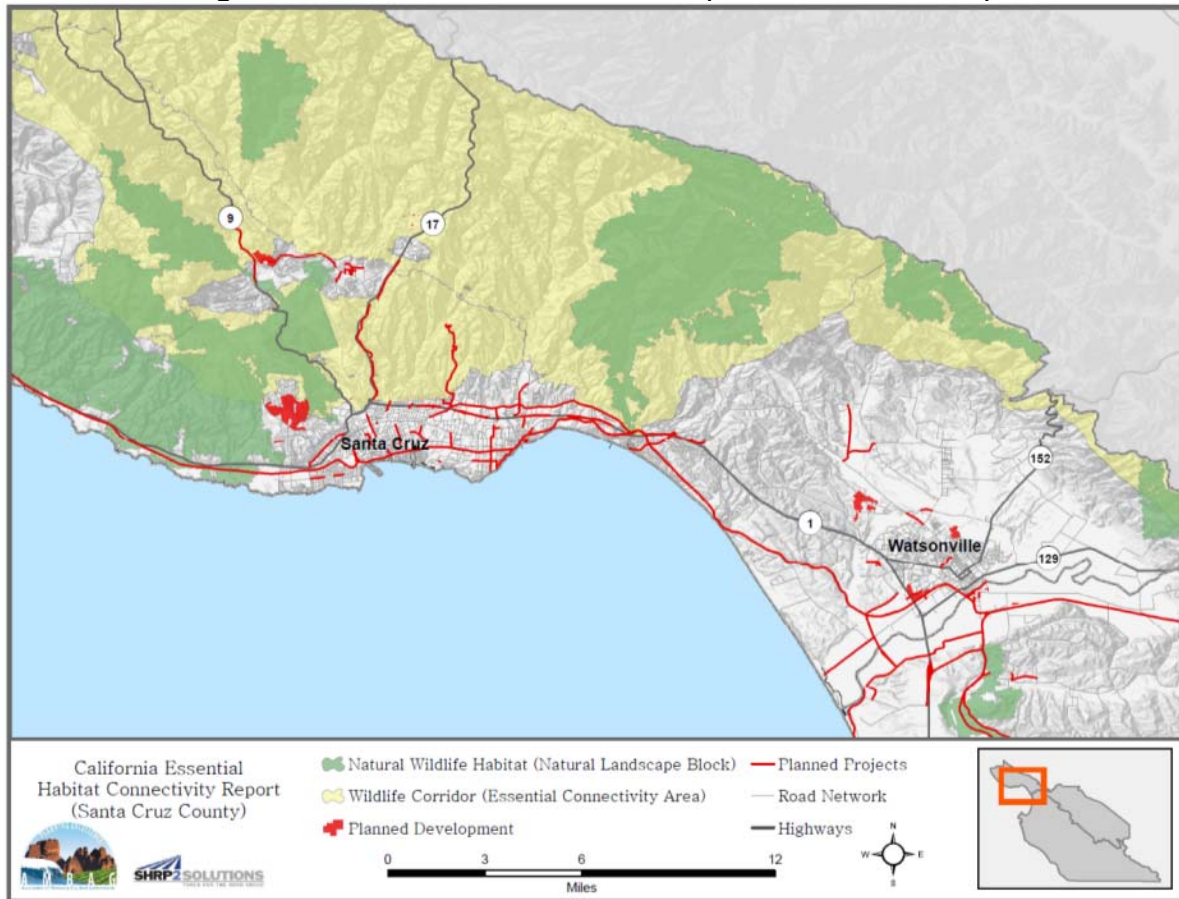
Wildlife Corridor (Essential Connectivity Areas)

Wildlife Corridors were created between Natural Wildlife Habitat areas by identifying landscapes that were least impacted by humans, providing the least amount of resistance to ecological movement.

Santa Cruz County

Planned transportation projects generally avoid wildlife and habitat corridors throughout Santa Cruz County with the exception of projects along State Route 17, along Paul Sweet Road, and between Scotts Valley and Felton.

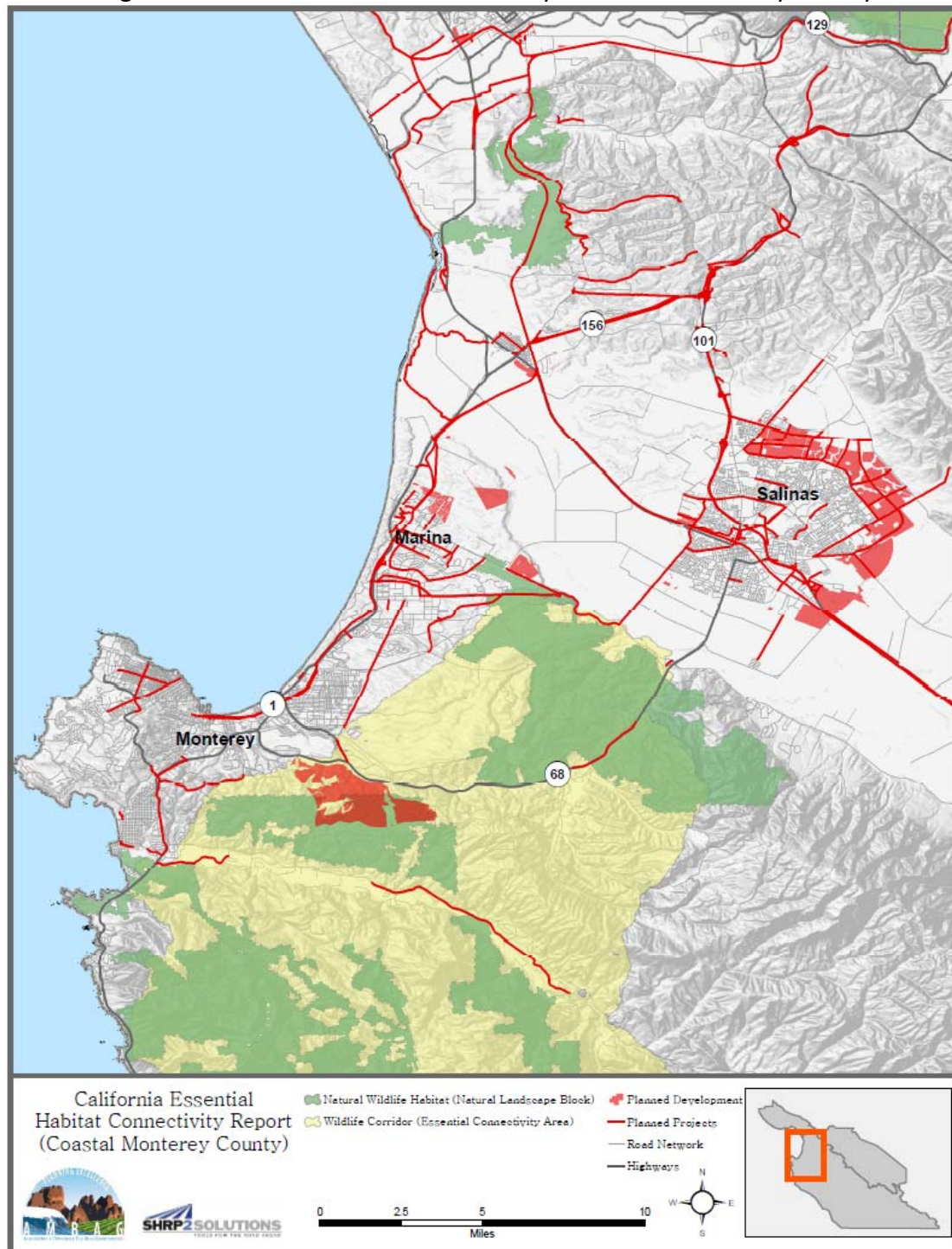
Figure 20: Essential Habitat Connectivity in Santa Cruz County



Coastal Monterey County

Planned transportation projects generally avoid wildlife habitat and corridors throughout the Monterey Coastal area. Projects along Carmel Valley Road, State Route 68, and the eastern part of Reservation Road and Inter-Garrison Road may cross habitat or wildlife corridor areas.

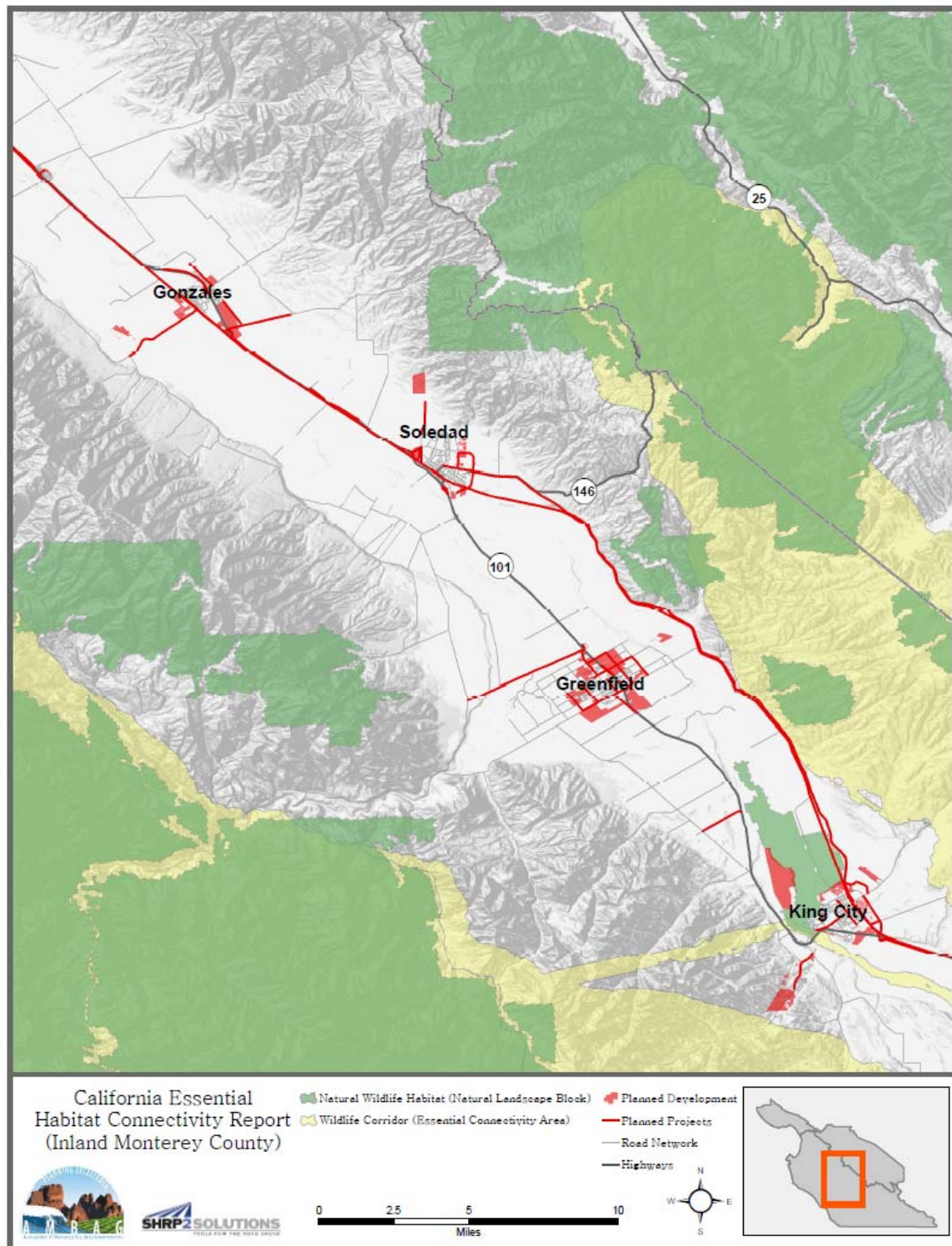
Figure 21: Essential Habitat Connectivity in Coastal Monterey County



Inland Monterey County

Planned projects in Southern Monterey County generally avoid wildlife habitat and corridors as designated by the California Essential Habitat Connectivity Report.

Figure 22: Essential Habitat Connectivity in Inland Monterey County



F. Farmland

Prime farmland, farmland of statewide importance, unique farmland, and Williamson Act Farmland are found throughout the region, outside of the Santa Cruz metropolitan area, the Monterey metropolitan area, Watsonville, and Salinas. While most of Santa Cruz County does not have a large amount of sensitive farmland due to its mountainous terrain in the north, the rest of the Monterey Bay Area's rural towns and non-urban county land has a preponderance of farmland.

Prime Farmland

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is also available for these uses. Prime farmland has the soil quality, growing season, and moisture supply needed to produce economically sustained high yields of crops when treated and managed according to acceptable farming methods, including water management. In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. They are permeable to water and air. Prime farmlands are not excessively erodible or saturated with water for a long period of time, and they either do not flood frequently or are protected from flooding.

Farmland of Statewide Importance

This is land, in addition to prime and unique farmland, that is of statewide importance for the production of food, feed, fiber, forage, and oil seed crops. Criteria for defining and delineating this land are to be determined by the appropriate state agency or agencies. Generally, additional farmlands of statewide importance include those that are nearly prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some may produce as high a yield as prime farmlands if conditions are favorable. In some states, additional farmlands of statewide importance may include tracts of land that have been designated for agriculture by state law.

Unique Farmland

Unique Farmland is land which does not meet the criteria for Prime Farmland or Farmland of Statewide Importance, that has been used for the production of specific high economic value crops at some time during the two update cycles prior to the mapping date. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality and/or high yields of a specific crop when treated and managed according to current farming methods. Examples of such crops may include oranges, olives, avocados, rice, grapes, and cut flowers. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

Williamson Act Lands

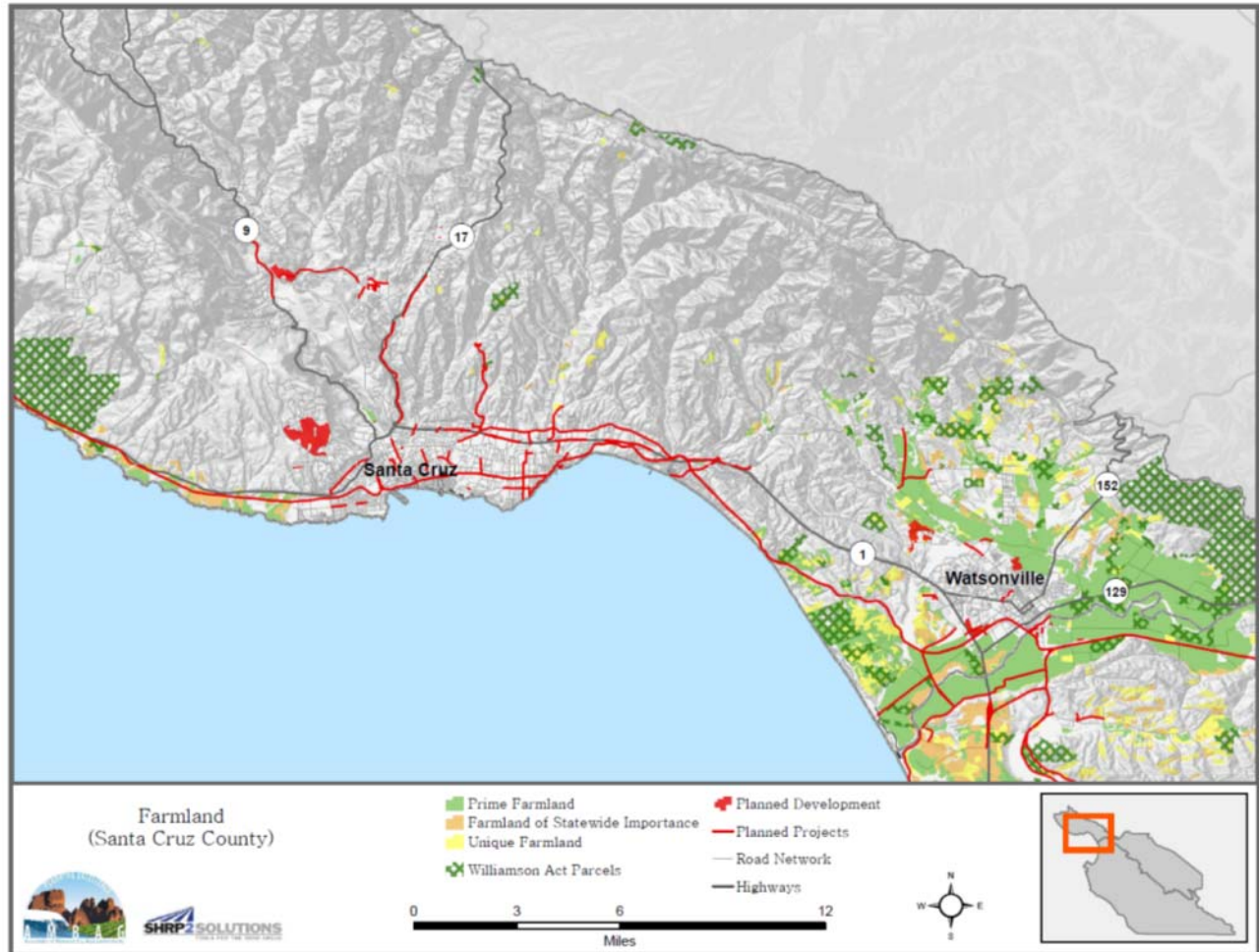
The Williamson Act, also known as the California Land Conservation Act of 1965 (California Government Code [CGC] § 51200 et seq.), preserves agricultural and open space lands from conversion to urban land uses by establishing a contract between local and private landowners to voluntarily restrict their land holdings to agricultural or open space use. In return, landowners receive property tax assessments based on farming or open space use rather than assessments based on the full market property value, which is typically 20 percent to 75 percent higher. Williamson Act contracts are valid for a minimum of 10 years and are automatically renewable after each 10-year term.

The Williamson Act also allows local governments to establish Agricultural Preserves, parcels of land for which cities or counties are willing to enter into Williamson Act contracts. Agricultural Preserves must include a minimum of 100 acres and typically avoid areas in which public utility improvements and associated land acquisitions may be necessary (CGC § 51230). Although the Williamson Act does not specify compatible land uses for property located adjacent to contract lands or Agricultural Preserves, it does state that cities and counties must determine compatible land use types while recognizing that temporary or permanent population increases frequently impair or hamper agricultural operations (CGC § 51220.5).

Santa Cruz County

Conflicts with planned transportation projects and sensitive farmlands occur primarily in the Watsonville area and along State Route 1 West of Santa Cruz.

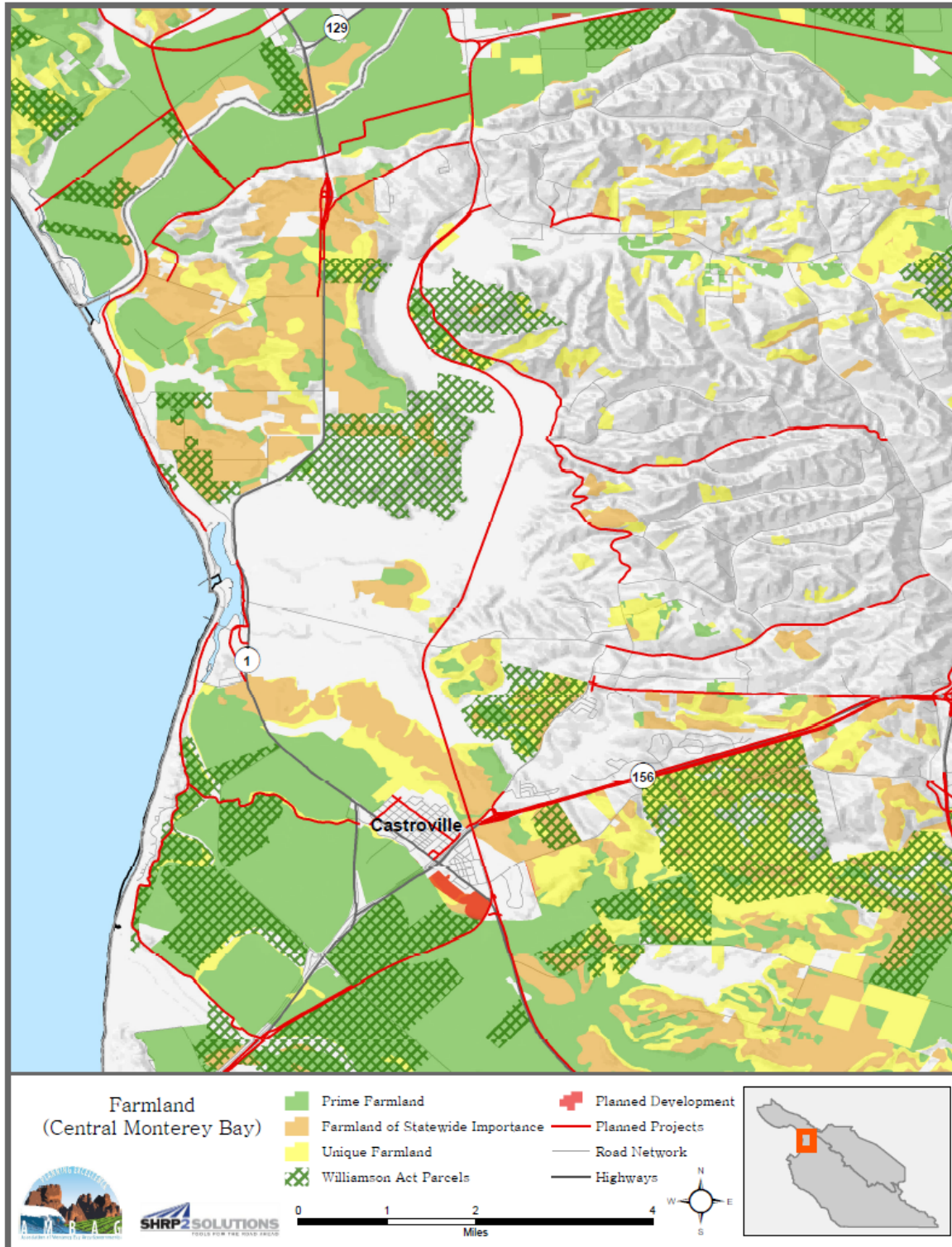
Figure 23: Sensitive Farmland in Santa Cruz County



Central Monterey Bay

Nearly all planned corridor projects in this area will impact sensitive farmlands.

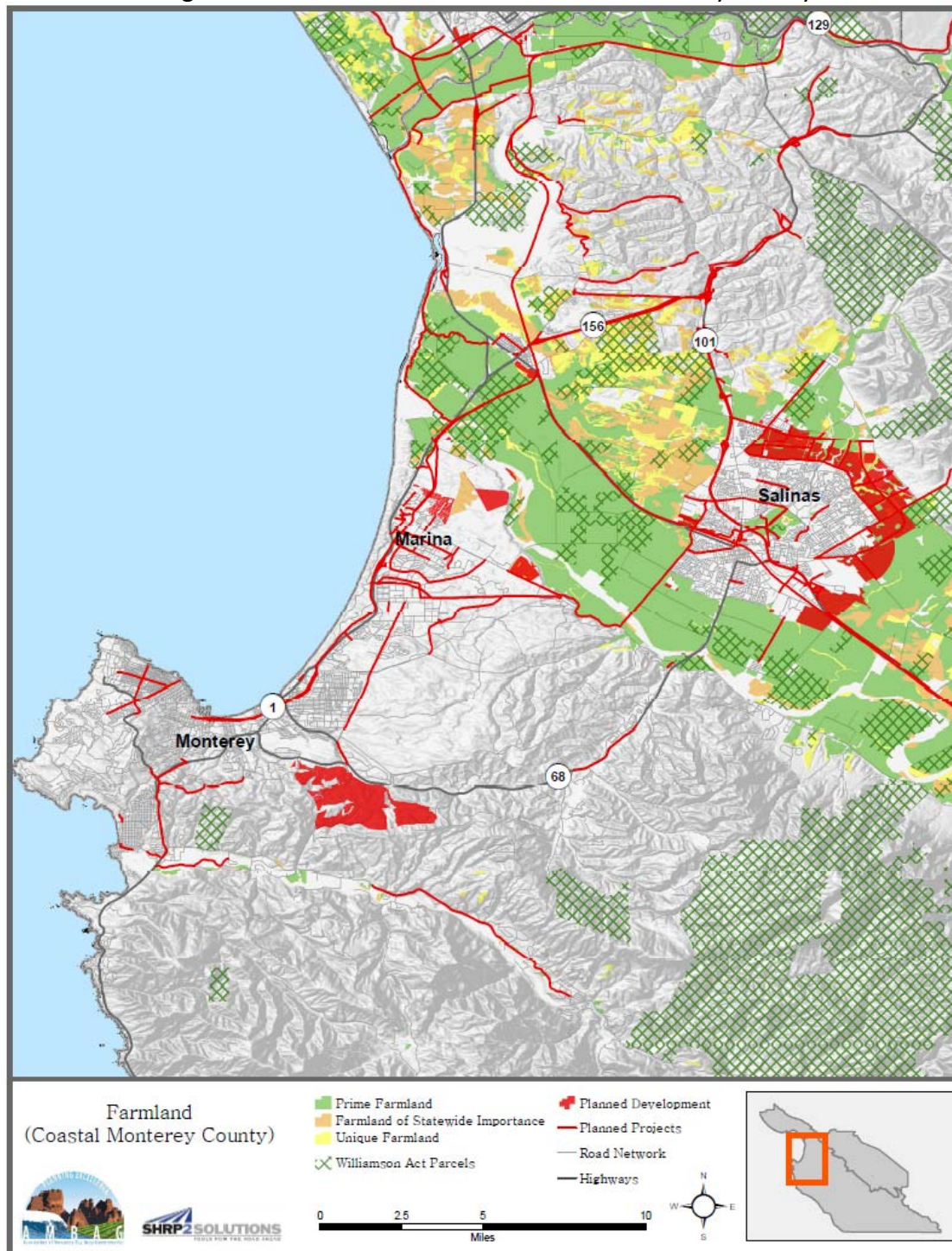
Figure 24: Sensitive Farmland in the Central Monterey Bay



Coastal Monterey County

Planned projects surrounding the urban center of Salinas and corridor projects North of Marina/Salinas have the potential to impact sensitive farmlands. Development projects in East Salinas overlap with sensitive farmlands.

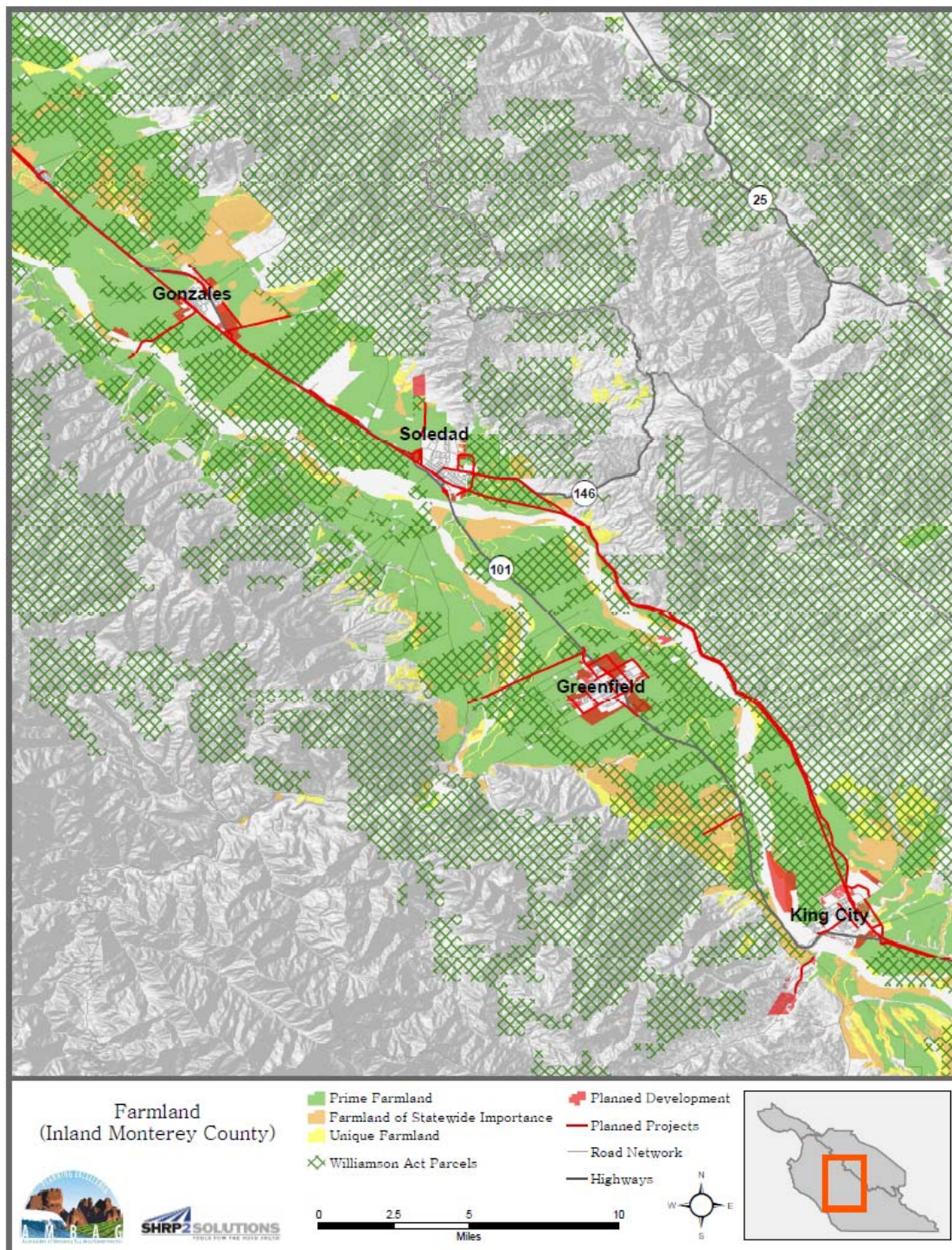
Figure 25: Sensitive Farmland in Coastal Monterey County



Inland Monterey County

Many projects in Southern Monterey County have the potential to impact sensitive farmlands. However, projects in the urbanized area generally avoid farmlands.

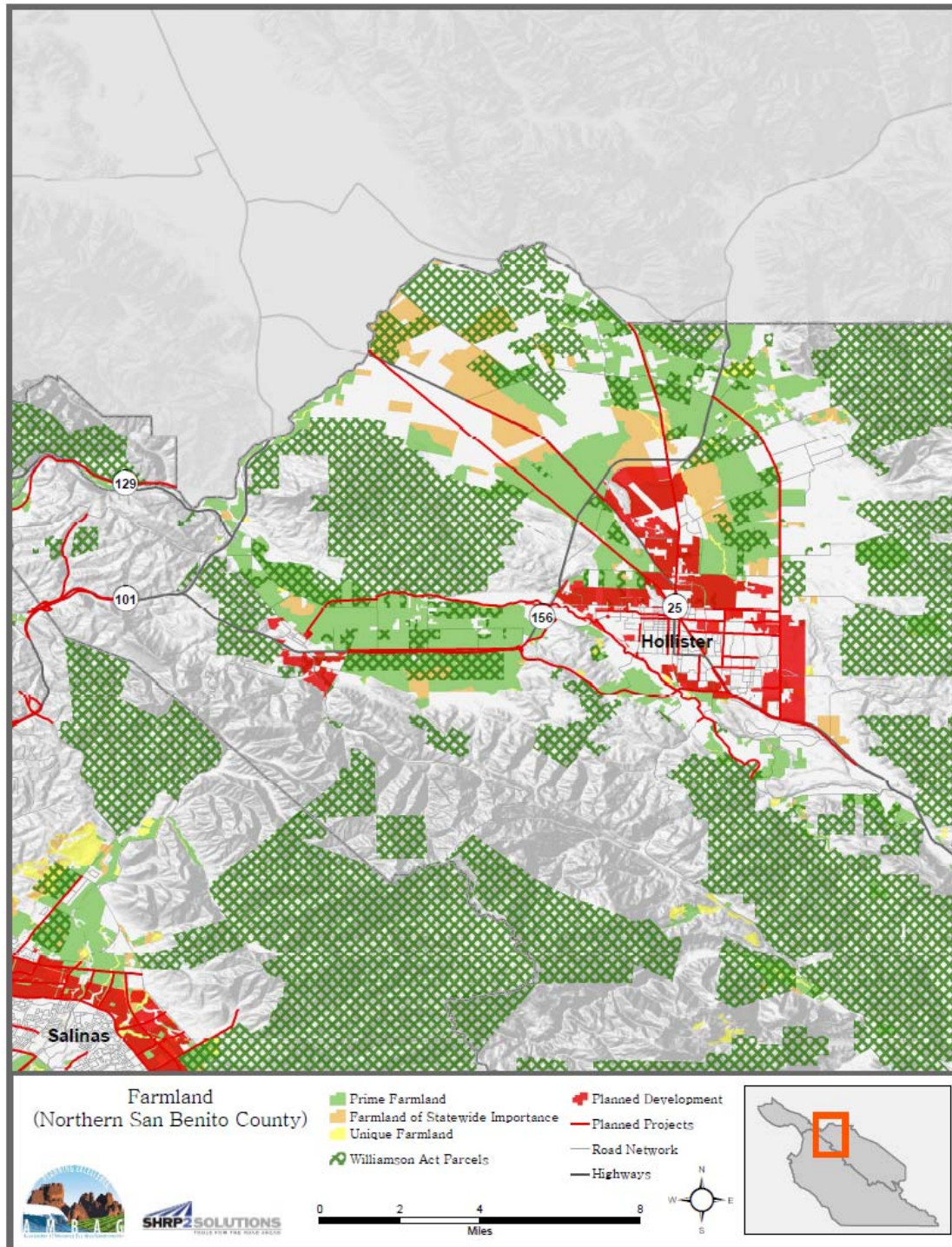
Figure 26: Sensitive Farmland in Inland Monterey County



Northern San Benito County

Nearly all projects in Southern Monterey County have the potential to impact sensitive farmlands.

Figure 27: Sensitive Farmland in Northern San Benito County



G. Coastal Zones and Parks

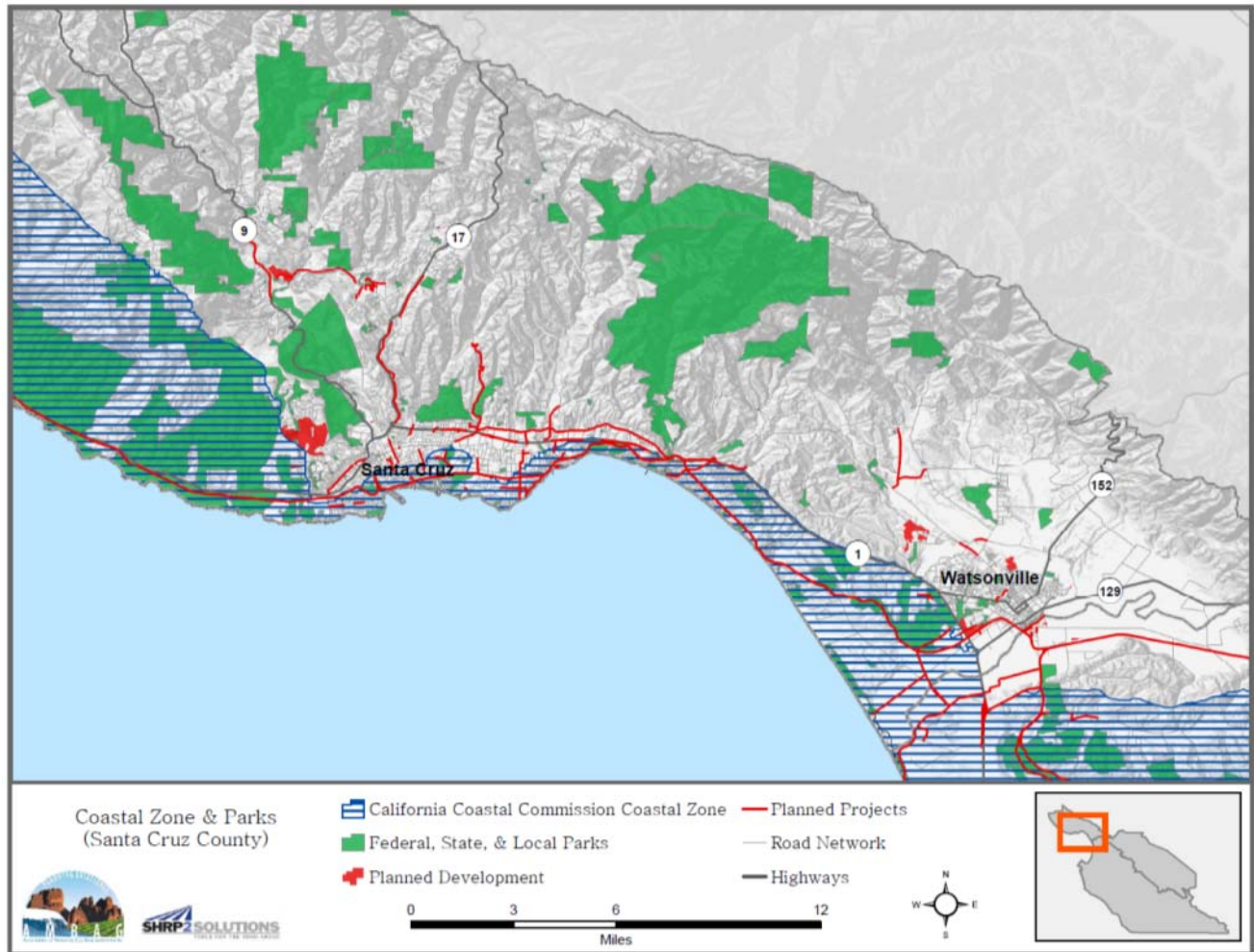
The California Coastal Commission (CCC) plans and regulates the use of land and water in California's coastal zone. The CCC has regulatory control over all federal activities and federally licensed, permitted or assisted activities, wherever they may occur if the activity affects coastal resources. Examples of such federal activities include: U.S. Army Corps of Engineers fill permits; certain U.S. Fish and Wildlife Service permits; national park projects; and highway improvement projects assisted with federal funds. Development activities, which are broadly defined by the Coastal Act to include construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal permit from either the Coastal Commission or the local government. California Coastal Commission's coastal zone jurisdiction covers projects from one mile to up to ten miles from the coast. All projects which may impact this coastal zone area should check with the Coastal Commission to determine whether their project may impact coastal resources and be sure to make contact early on to resolve any issues which may delay project implementation.

Planned transportation projects generally avoid parklands throughout the region. However, near Moss Landing on the Coastal boarder between Santa Cruz County and Monterey County, there are a number of marine and wetland preserves which may require special mitigation from planned corridor improvements.

Santa Cruz County

Many projects along State Route 1 fall within the jurisdiction of the California Coastal Commission, as do a portion of projects in the Southern part of the City of Santa Cruz, Aptos, and Capitola due to their location on the coastline. While some projects occur near parks, only improvements to Elkhorn Road cut directly through a park, Elkhorn Slough Nation Estuarine Research Reserve.

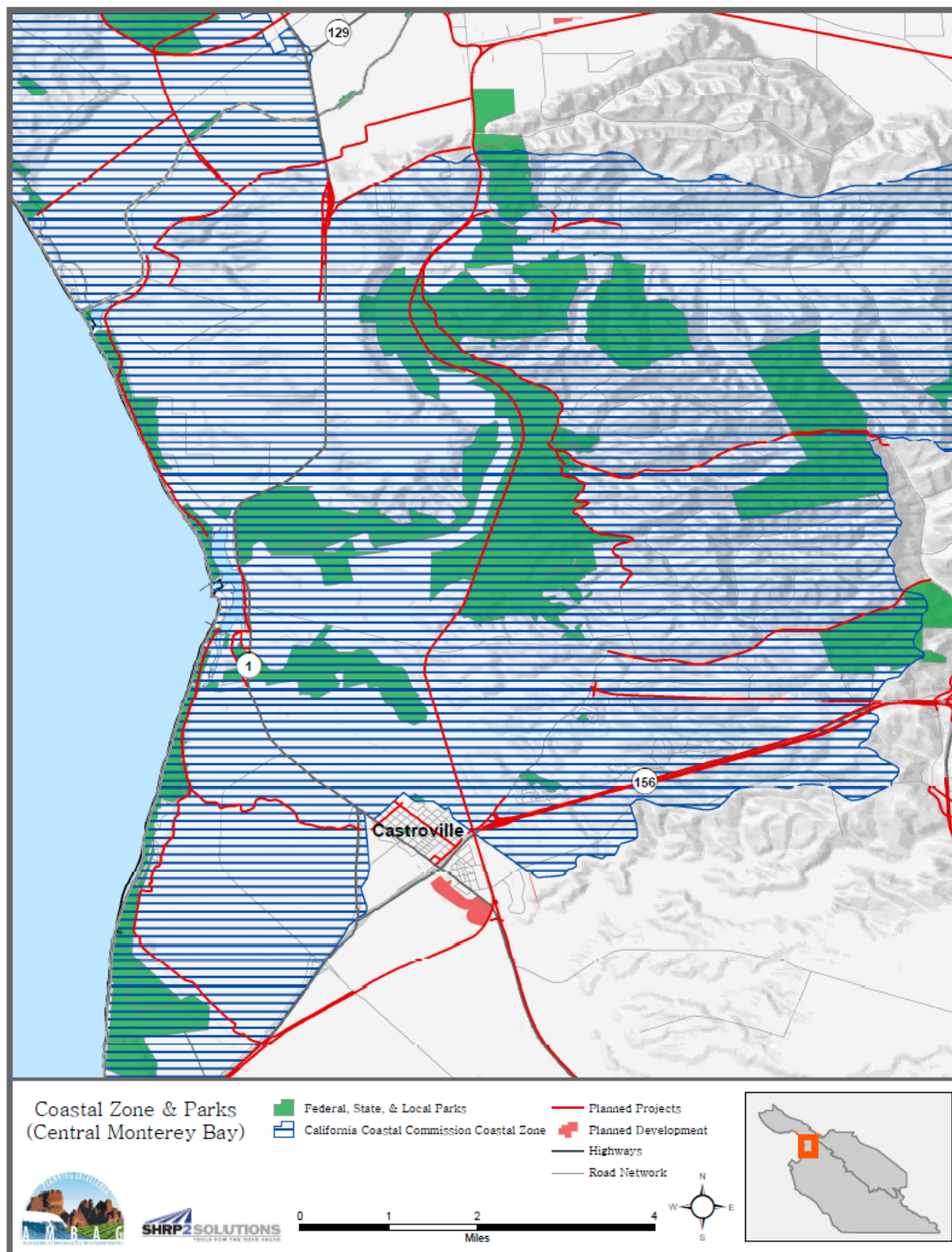
Figure 28: Coastal Zones and Parks in Santa Cruz County



Central Monterey Bay

Nearly all of the planned corridor projects in the Central Monterey Bay are located within the California Coastal Commission zone and run along or through existing parks. Projects in this area may face issues related to impacts on coastal resources and sensitive species that reside in these zones.

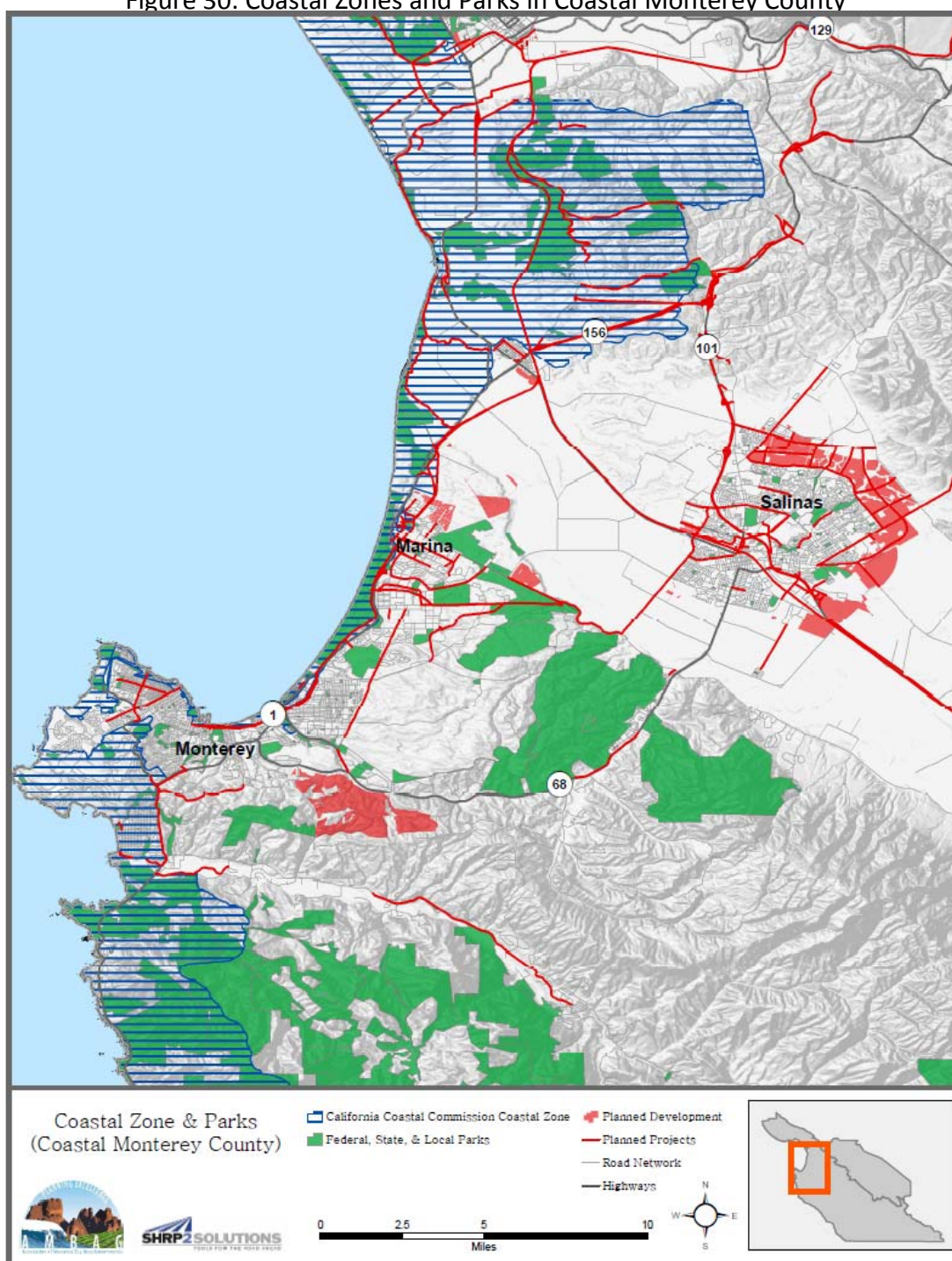
Figure 29: Coastal Zones and Parks in the Central Monterey Bay



Coastal Monterey County

Many projects along Highway 1 fall within the of the California Coastal Commission's Coastal Zone, especially projects north of Marina, and South-West of Monterey in the Community of Carmel-by-the-Sea and areas South. Some projects occur near large parks which often host sensitive plant species and provide habitat for sensitive animal species.

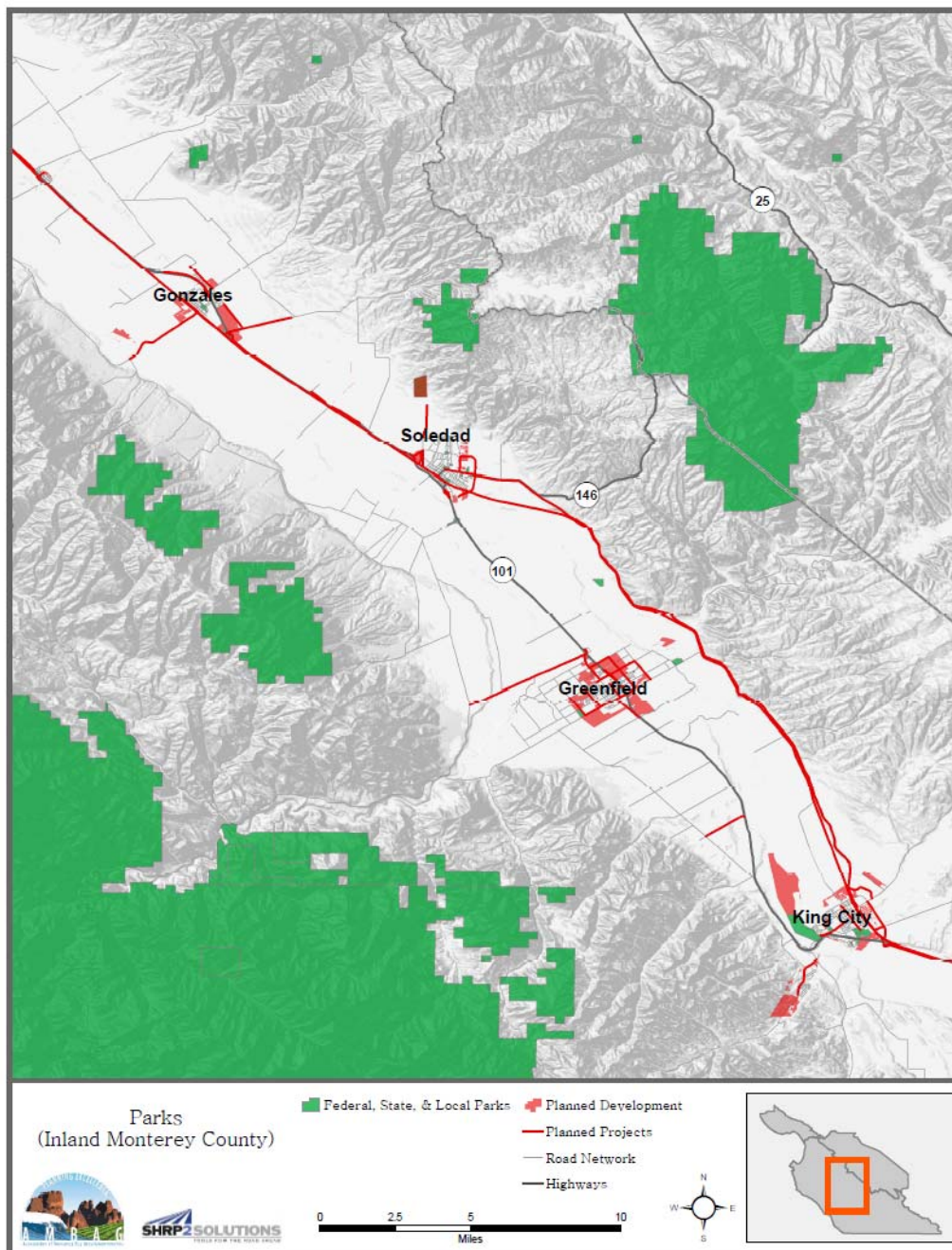
Figure 30: Coastal Zones and Parks in Coastal Monterey County



Inland Monterey County

Planned transportation projects do not occur near the larger Pinnacles National Park to the North-East and the Los Padres National Forest to the South-West. Since Pinnacles National Park was recently made into an official National Park in 2013 and expected to attract more vehicular traffic, improving access to this national resource along State Route 146 and State Route 25 is becoming increasingly important.

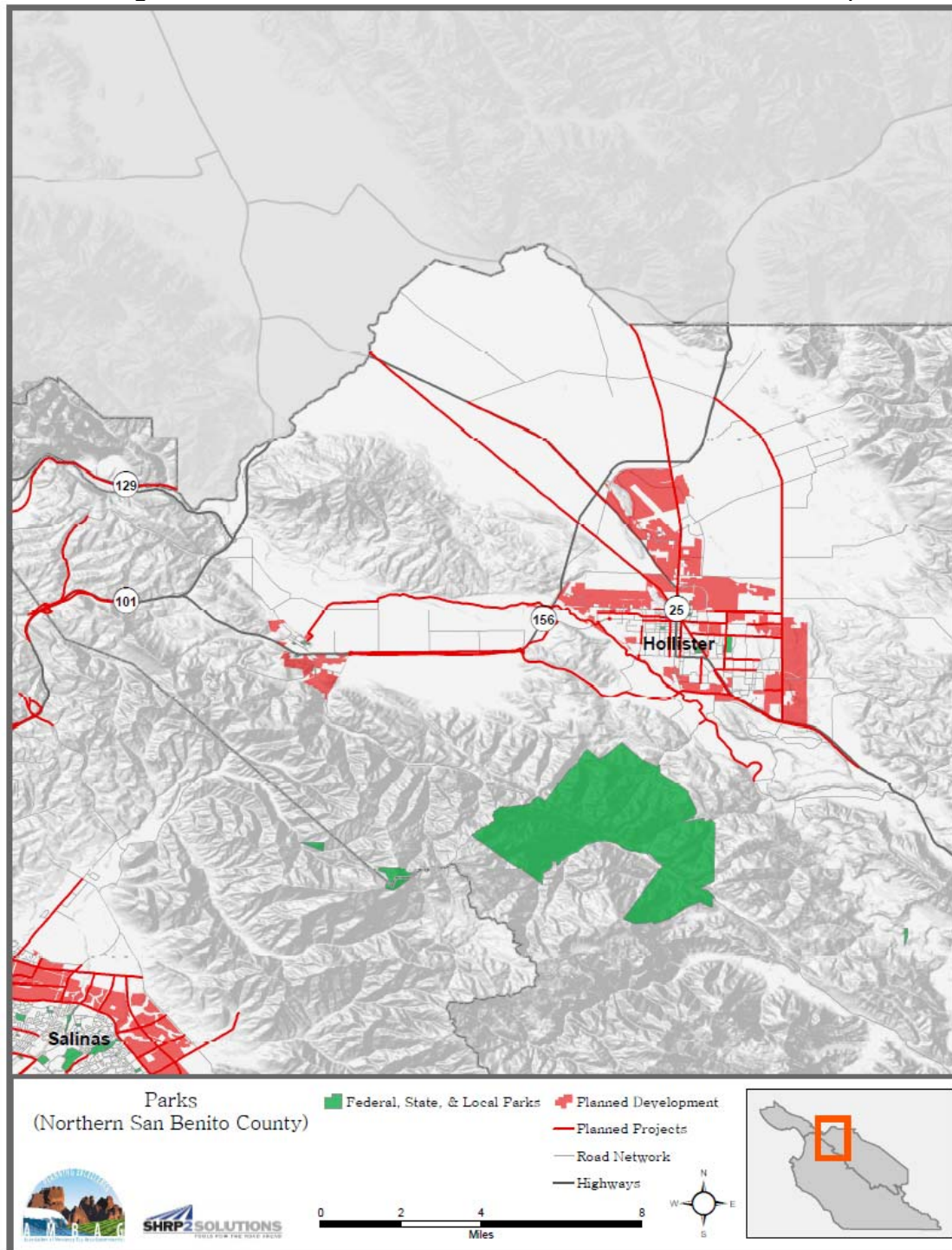
Figure 31: Coastal Zones and Parks in Inland Monterey County



Northern San Benito County

Transportation projects in Northern San Benito avoid the Hollister Hills State Vehicular Recreation Area but occur near a number of city parks.

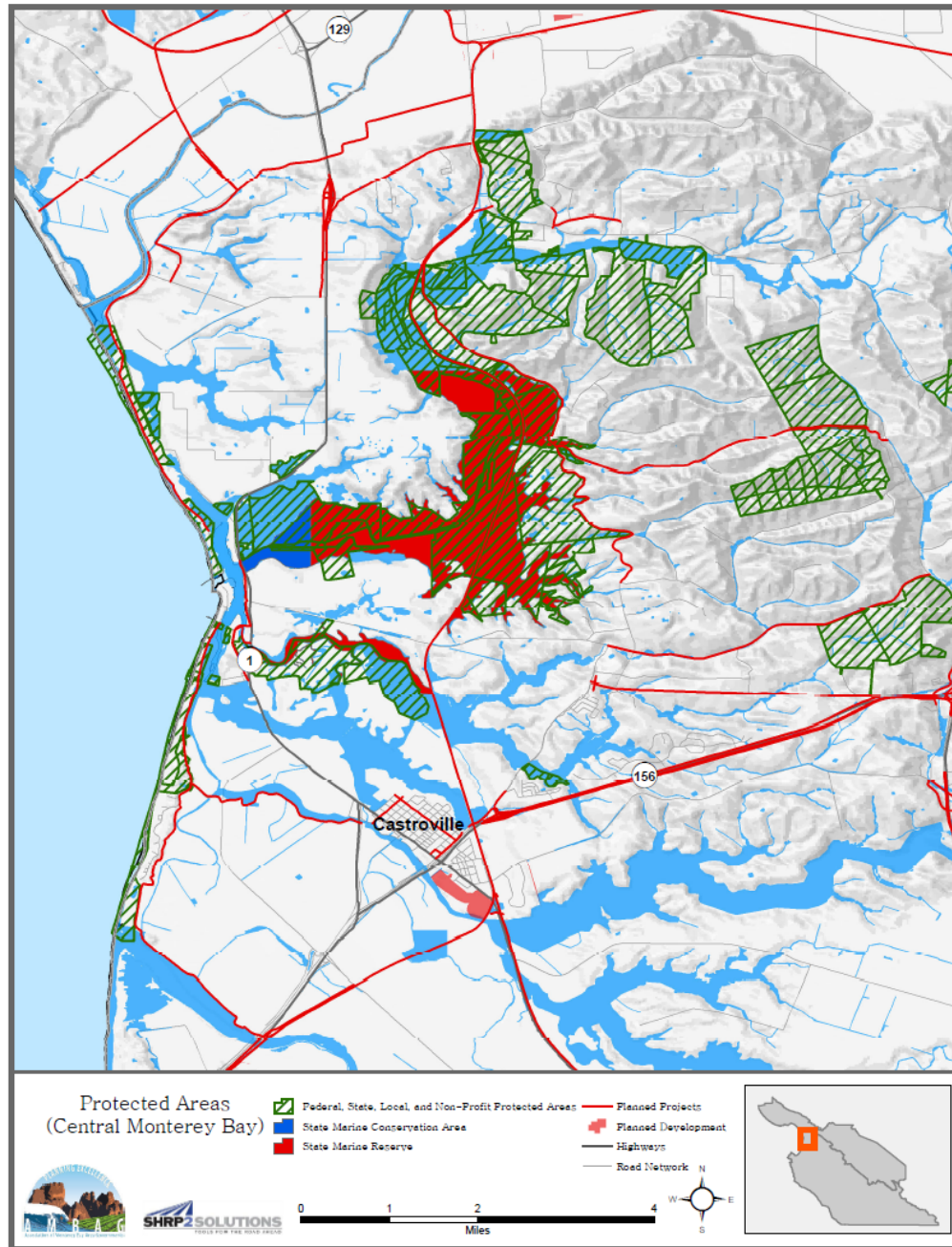
Figure 32: Coastal Zones and Parks in Northern San Benito County



H. Protected Areas

The Elkhorn Slough area in the extreme North-West corner of Monterey County is home to a number of wetlands, and Federal, State, and locally protected areas. These range from State Marine Conservation Areas, to State Marine Reserves, to additional protected areas. Planned projects through these areas should engage in early consultation with the responsible agency for each of these areas to assure sufficient project mitigation and to avoid project delays.

Figure 33: Protected Areas in the Central Monterey Bay, at Elkhorn Slough



5. Analysis and Conclusions

The Elkhorn Slough area off of the coast of the Monterey Bay has the highest concentration of sensitive resources in the region. This area is home to a number of sensitive species, hosts many special protected areas, is protected by the California Coastal Commission, and is bordered by sensitive farmlands. Projects in this area should expect significant environmental issues. Early consultation with resource management agencies will be key to the success of projects in this area.

Wetlands and sensitive farmlands are found in proximity to nearly every planned project throughout the region. As a result, project managers must constantly be aware of wetlands issues and specially designated farmlands. Early consultation with the United States Army Core of Engineers, the California Environmental Protection Agency, and the State Water Resources Control Board (SWRCB) is recommended for all projects to identify wetlands, and explore options for modifying the project to minimize impacts early in project development. Consultation with the Department of Parks and Recreation, Department of Fish and Game, the California Coastal Conservancy, and any special conservation or reserve districts should be undertaken as needed.

The areas surrounding the Santa Cruz and Monterey metropolitan areas are home to a large number of sensitive plant and animal species. Early consultation with the U.S. Fish and Wildlife Service, the California Department of Fish and Wildlife, and the National Oceanic and Atmospheric Administration National Marine Fisheries Service is recommended to identify project impacts on migratory patterns and construction methods which mitigate impacts on sensitive plant species.

The areas with the fewest sensitive resources are inland along the Salinas Valley and in the Northern San Benito County area. While project managers must be mindful of the constellation of sensitive resource issues, especially resources which are not addressed in this report such as archeological sites, it is expected that relatively few project-resource conflicts will be encountered in these inland areas.