

RECREATION

Asset Profile: Recreation & Public Access

Marin County is treasured for its immense recreation opportunities. Vulnerable recreation assets are small beaches, parks, marsh lands, trails, boating and fishing along the shoreline. Several of these recreational activities, and other such as wildlife viewing and kayaking, may simply shift as sea level rises, or require minimal management actions. However, ensuring continued safe public access to existing recreation areas could be a challenge.

Most recreation areas vulnerable to sea level rise are managed by local, county, state, and federal agencies for public use. Major examples include: Golden Gate National Recreation Area, China Camp State Park, the Bay Trail, Paradise Beach, Mc Near's Beach, and others. Others, such as the biplane rides, are privately managed.

The following are key issues related to public access and recreation vulnerability:

- Sea level rise may push shoreline and bay recreation opportunities inland where possible. Where not possible, the asset could be lost.
- Access to recreational areas may become limited as roads and trails flood and erode.
- Tour buses could be impeded from visiting the area.
- Visitor serving business, such as restaurants, hotels and inns, boat rentals, and others, could be vulnerable to sea level rise and storm damage, and also to a host of other potential vulnerabilities in utility networks.

About 100 parks could be impacted to some degree, whether just kissed by the sea or completely claimed by it. Roughly 1,100 acres of the 12,000 acres in these parks could flood at MHHW. With a 100-year storm surge coincidence, an additional five parks and 120 acres could be impacted. Counted separately, school playgrounds amount to roughly 200 acres across 15 schools. For details on impacts to schools, see the Parcels & Buildings Profile.

| Thousands of residents, millions of visitors | | |
|---|----------|---|
| Boating Facilities Pathways & trails Athletic fields Playgrounds Parks Fishing Piers | | Property Owners CSP County Parks & Roads Caltrans |
| 8 Beaches | 20 Parks | |



Boats docked at a Lowrie Yacht Harbor, San Rafael. Credit: BVB Consulting LLC



Mill Valley-Sausalito Multi-use path is well used by residents and visitors. Credit: S. Crooks.

IMPACTS AT-A-GLANCE: SCENARIO 6

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Table 43. Recreation Assets Vulnerable to Sea Level Rise at MHHW

M= Marin County Jurisdiction

| | Near-term | | Medium-term | | Long-term | |
|-----------------------------------|---|------------------|------------------|---|---|--|
| | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 | Scenario 5 | Scenario 6 |
| A | 47 Parks | 47 Parks | 47 Parks | 47 Parks | 94 Parks | 105 Parks |
| II | 287 Acres | 718 Acres | 510 Acres | 810 Acres | 1,084 Acres | 1,222 Acres |
| Incorporated Jurisdictions | | | | | | |
| Belvedere | | | | | Belvedere Community Center Mini Park | |
| Corte Madera | Triangle Marsh | See scenario 1 | See scenario 1 | See scenario 1 Susan Marker Trail ^L | See scenario 1 Bike Trail ^M Hal Brown Park ^M Madera Gardens Lagoons Ring Mountain ^M Shorebird Marsh Town Park Skunk Hollow Park | See scenarios 1 & 5 |
| Larkspur | Bon Air Landing Park Cal Park Wetland ^M Bon Air Landing Park Piper Park Remillard Park | See scenario 1 | See scenario 1 | See scenario 1 | See scenario 1 Heatherwood Park Niven Park San Clemente Park | See scenarios 1 & 5 Hamilton Park |
| Mill Valley | Bayfront Park Mill Valley/ Sausalito Path ^M | See scenario 1 | See scenario 1 | See scenario 1 | See scenario 1 Freeman Park Hauke Park Mill Valley Rec Center Sycamore Park | See scenarios 1 & 5 Enchanted Knolls Park |
| Novato | | | | | Bahia Mini Parks Future Hamilton Rec Area Hamilton Airport Park Hamilton Amphitheater Park Slade Park Hamilton Community Center South Hamilton Park | See scenario 5 Scottsdale Marsh |

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| | Near-term | | Medium-term | | Long-term | |
|-------------------------------------|--|----------------|----------------|----------------|---|--|
| | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 | Scenario 5 | Scenario 6 |
| San Rafael | Beach Park Gallinas Creek Pickleweed Park Starkweather Shoreline Park Open space off Bay Way | See scenario 1 | See scenario 1 | See scenario 1 | See scenario 1 Albert Park Peacock Gap Park Schoen Park Canal/Shoreline Open Space | See scenarios 1 & 5 |
| Sausalito | Dunphy Park Mill Valley/ Sausalito Path ^M Schoonmaker Beach Swedes Beach Tiffany Beach Turney Street Boat Ramp Yee Tock Chee Park | See scenario 1 | See scenario 1 | See scenario 1 | See scenario 1 | See scenario 1 City Government Facilities Gabrielson Park Island Park Marinship Park |
| Tiburon | Blackie's Pasture McKegney Green Pt. Tiburon Richardson Bay Lineal Park Shoreline Park The Cypress Garden Park | See scenario 1 | See scenario 1 | See scenario 1 | Bel Aire Park Pt. Tiburon Marsh Zelinsky Park | See scenarios 1 & 5 Pt. Tiburon Tennis Courts South-Of-The-Knoll Park |
| Unincorporated Jurisdictions | | | | | | |
| Almonte | Charles F. McGlashan Pathway ^M | See scenario 1 | See scenario 1 | See scenario 1 | See scenario 1 | See scenario 1 |
| Bel Main Keys | Cavalía Cay Park Bahama Reef Boat Launch Dolphin Isle Boat Launch | See scenario 1 | See scenario 1 | See scenario 1 | See scenario 1 Bel Marin Keys Public Dock Bel Marin Keys Yacht Club Caribe Isle Park Montego Park Calypso Bay Public Dock Bahama Reef Boat Launch Del Oro Park | See scenarios 1 & 5 |
| Black Point | Black Point Boat Launch ^M | See scenario 1 | See scenario 1 | See scenario 1 | See scenario 1 | See scenario 1 |

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| | Near-term | | Medium-term | | Long-term | |
|---------------|---|----------------|----------------|----------------|---|---------------------|
| | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 | Scenario 5 | Scenario 6 |
| No. Novato | | | | | Rush Creek ^M Deer Island ^M | See scenario 5 |
| Sta. Venetia | Santa Margarita Island ^M Santa Venetia Marsh ^M | See scenario 1 | See scenario 1 | See scenario 1 | Pueblo Park ^M Adrian Rosal Park ^M Castro Park ^M Candy's Park ^M | See scenarios 1 & 5 |
| Strawberry | Brickyard Cove Community Park Community Park Boat Launch Strawberry Point Tidal Area ^M Strawberry Point Park Aramburu Island ^M | See scenario 1 | See scenario 1 | See scenario 1 | See scenario 1 | See scenario 1 |
| St. Vincent's | John F. McInnis Park ^M | See scenario 1 | See scenario 1 | See scenario 1 | See scenario 1 | See scenario 1 |
| Tiburon | Paradise Beach Park ^M | See scenario 1 | See scenario 1 | See scenario 1 | See scenario 1 | See scenario 1 |

Source: *MarinMap, CoSMoS*

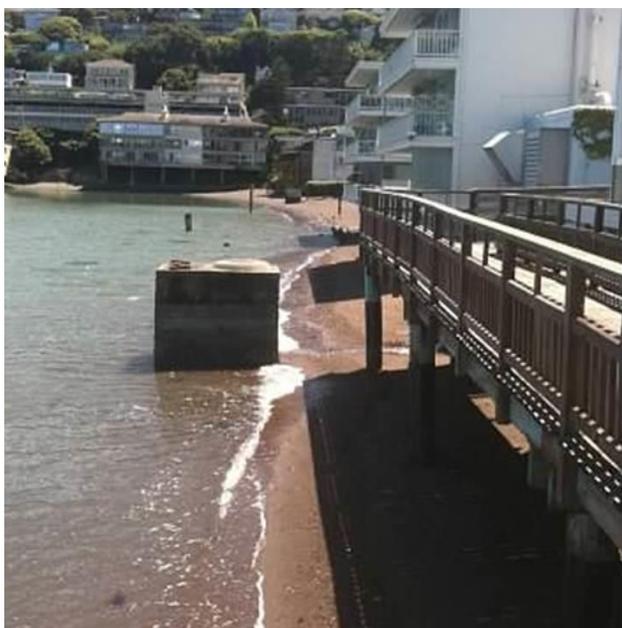
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Beaches

Beaches are used for wildlife viewing, sunbathing, and accessing bay waters for swimming, kayaking, paddle boarding, and fishing. Sea level rise could inundate existing beaches and increase rates of shoreline erosion. This could potentially force beach recreation opportunities inland where beaches are not impeded by development, roads, or bluffs.¹²⁰

Beaches commonly used for recreation that could be vulnerable to sea level rise and storms include:

- Schoonmaker Beach, Sausalito,
- Swedes Beach, Sausalito,
- Tiffany Beach, Sausalito,
- Private beaches in Tiburon,
- Paradise Beach, Unincorporated Tiburon,
- Larkspur Landing Beach,
- Pt. San Quentin Beach (private),
- Marin Rod & Gun Club, San Rafael,
- McNear's Beach, Pt. San Pedro,
- Brick Yard Beach, San Rafael,
- China Camp State Park Beaches, and
- McInnis Beach, San Rafael.



Narrow Tiffany and Swede beaches in Sausalito. Credit: Sausalito

¹²⁰ Feagin, R.A., D.J. Sherman, and W.E. Grant. 2005. Coastal erosion, global sea-level rise, and the loss of sand dune plant habitats. *Frontiers in Ecology and the Environment* 7:359-364.

Estuaries, Wetlands, & Marshes

Primary recreational activities in estuarine areas such as the shoreline areas of Richardson's Bay, San Pablo Bay, and the San Francisco Bay, are hiking, kayaking, paddle boarding, boating, bird watching, fishing, swimming, and other passive forms of recreation. Without a comparable increase in land elevation from sediment delivery, these recreational areas could flood.^{121,122} Like beaches, estuaries can be prevented from moving landward when bordering development or cliffs. Vulnerable estuaries, wetlands, and marshes include:

- Bothin Marsh, Mill Valley,
- Santa Venetia Marsh,
- Shorebird Marsh, Corte Madera,
- Pt. Tiburon Marsh, and
- San Pablo Bay Wildlife Area, in the Bay off St. Vincent's.

Freshwater Resources

In scenario 5, with 60 inches of sea level rise, saltwater can travel miles inland up to, especially in Corte Madera Creek and the Petaluma River. This could significantly alter existing habitat and wildlife viewing opportunities, and may require adapting to create new opportunities. Creeks passing through parks that could be impacted by sea level rise include:

- Arroyo Corte Madera del Presidio,
- Baccaglio Basin Drainage,
- Castro Ditch,
- Corte Madera Channel,
- Corte Madera Creek,
- Corte Madera Outfall Channel,
- Coyote Creek,
- Estancia Ditch,
- Gallinas Creek,
- Glen Creek,
- Glenwood Creek,
- Greenbrae Creek,
- High Canal,

¹²¹ Largier, J.L., B.S. Cheng, and K.D. Higgason, editors. 2010. *Climate Change Impacts: Gulf of the Farallones and Cordell Bank National Marine Sanctuaries*. Report of a Joint Working Group of the Gulf of the Farallones and Cordell Bank National Marine Sanctuaries Advisory Councils.

¹²² Ackerly, D. D., R. A. Ryals, W. K. Cornwell, S. R. Loarie, S. Veloz, K. D. Higgason, W. L. Silver, and T. E. Dawson. 2012. *Potential Impacts of Climate Change on Biodiversity and Ecosystem Services in the San Francisco Bay Area*. California Energy Commission. Publication number: CEC-500-2012- 037.

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- Larkspur Creek,
- Low Canal,
- Lynwood Slough,
- Mahon Creek
- Marin City Stormwater Pond Channel,
- Meadow Way Creek,
- Miller Creek,
- Nyhan Creek,
- Petaluma River,
- Reed Creek,
- Rush Creek,
- Ryan Creek,
- Salt Works Canal,
- San Rafael Canal,
- Sunny Oaks Drainage,
- Alto Shopping Center, and
- Wolfe Grade Creek.

Federal Parks

The National Park Service released [*Adapting to Climate Change in Coastal Parks: Estimating the Exposure of Park Assets to 1 m of Sea-Level Rise*](#).¹²³ Note that the National Parks report uses a different methodology than this Assessment to determine vulnerability. While outside of the study area for this report, these federal park lands draw tourists and residents to and through Marin's bay area. Their report finds that high exposure to sea level rise could impact 43 assets valued at \$57,870,724 and several recreational and habitat areas in the Marin County portion of the Golden Gate National Recreation Area.

Bay

Several open water recreation activities begin and end on the shoreline. While activities themselves will likely continue despite sea level rise, the facilities to serve these water based activities may need to adjust. These facilities include piers, harbors, marinas, boat launches, and fishing piers. Boating facilities using float systems for the docks and piers versus hydraulic lifts will fare better. Piers that are too short can be replaced, and ideally any project in the near future would incorporate a few extra feet

above the current standard to be prepared for uncertainties in the future. A few of these facilities depend on jetties or break walls to protect the boats within them. These structures may also need to have elevation added to withstand higher tides. Jetties are also prone to subsidence and erosion.

- Arques Shipyard and Marina,
- Buck's Landing,
- Cass Gidley Marina,
- Clipper Yacht Harbor,
- Hi-Tide Boat Sales & Services,
- Loch Lomond Marina,
- Lowrie Yacht Harbor,
- Marin Yacht Club,
- McNear Public Fishing Pier
- Marina Plaza Harbor,
- Paradise Cay Yacht Harbor,
- Pelican Yacht Harbor,
- Petaluma River Public Fishing Access,
- Richardson Bay Marina,
- San Rafael Yacht Club,
- San Rafael Yacht Harbor,
- Sausalito Marine,
- Sausalito Yacht Harbor,
- Schoonmaker Point Marina, and
- Travis Marina.

According to Buck's Landing asset managers, monthly high tides that extend above the boat launch could cause up to a 75 percent reduction in capacity.¹²⁴

¹²³ McDowell Peek, Katie, R. S. Young, R. L. Beavers, C. Hawkins Hoffman, B. T. Diethorn, S. Norton. *Adapting To Climate Change in Coastal Parks: Estimating the Exposure of Park Assets to 1 m of Sea-Level Rise*. Natural Resource Technical Report NPS/NRSS/GRD/NRR—2015/916. http://www.nature.nps.gov/geology/coastal/coastal_assets_rep_ort.cfm.

¹²⁴ Marin County Parks Asset Manager Interview

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Mill Valley/Sausalito Multi-modal Pathway. Dec. 2014 King Tides. Credit: DPW



Mill Valley/Sausalito Multi-modal Path through Bothin Marsh. Dec. 2015. Credit: J Poskazner



Richardson's Bay Shoreline seating area. Dec. 2014 King Tide. Credit: DPW

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Sporting Facilities

In addition to the passive recreation, several sites offer sporting facilities such as soccer fields, baseball diamonds, tennis courts, and other features. These facilities typically have electronic centers to control lighting that could be vulnerable. In most cases, only portions of a park are impacted. At McInnis Park the miniature golf, batting cages, driving range, and restaurant are not vulnerable. However, the entrance to the facility is compromised in the long-term and the creek side soccer fields are impacted earlier. Other parks in this category include:

- Swede's Beach, Sausalito,
- Dunphy Park, Sausalito,
- Gabrielson Park, Sausalito,
- Marinship Park, Sausalito,
- Piper Park baseball, soccer, and cricket fields, Larkspur,
- McNear's pool, tennis courts, and volley ball courts, Pt. San Pedro,
- Tiburon tennis courts,
- Mill Valley Recreation Center ball fields,
- Corte Madera's Town Park facilities,
- Albert Park, San Rafael, where the minor league baseball team plays,
- Pickleweed Park and Children's Center,
- Belvedere Community Center basketball courts and park, and
- A small piece of the Strawberry Recreation District baseball field could be vulnerable

Bikeways and Trails

Several residents and visitors use the extensive bike and trail systems on a year around basis. The most well-known is the Bay Trail, a regionally managed asset that travels along the majority of the shoreline. The trail is vulnerable in low-lying locations; however, several elevated locations are overtopped by 3 feet of sea level rise and higher. Another well-traveled trail is the Mill Valley-Sausalito Pathway. This pathway is already in a tidal zone and experiences seasonal flooding. The areas just inland from the trail floods at high tides at about 4.5 feet NGVD about 20 to 30 times every year. In the near future, flooding could reduce travel capacity significantly during high tides and increase maintenance needs. The Corte Madera Creek and Charles F. McGlashan Pathways are also vulnerable to sea level rise. In addition, bike travel along roads is vulnerable when the roads could be vulnerable.

To see list of potentially vulnerable roads, refer to the Transportation Profile.

Map 38. Marin County Area Bay Trail



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Private Recreation

Several of the previous shoreline recreation activities are available and enhanced by private service providers. These include hotels, boat suppliers, surfing schools, restaurants, markets, tours, and several could be vulnerable to sea level rise. Of the 35 or so hotels in eastern Marin, fifteen could be vulnerable to regular high tides and storms. Seaplane Adventures is also a unique asset that will likely need to adjust to higher waters. Other major examples of areas featuring private recreational assets include:

- Marin Country Mart shops and dining (access issues only),
- Shelter Bay shops and dining, Mill Valley,
- Downtown Tiburon shops and dining,
- Tam Junction shops and dining,
- Sausalito shops and dining,
- Downtown San Rafael shops and dining, and
- Mt. Tam Racquet Club, Larkspur.

Vulnerable hotels include:

- Embassy Suites by Hilton, Santa Venetia,
- Acqua Hotel, Mill Valley,
- Water's Edge Hotel, Tiburon,

- The Lodge, Tiburon,
- Best Western Corte Madera,
- Marin Suites Hotel, Corte Madera,
- Extended Stay America, San Rafael,
- Travel Lodge, San Rafael,
- North Bay Inn, San Rafael,
- Motel 6, San Rafael,
- Holiday Inn Express, Mill Valley,
- America's Best Value Inn & Suites (access issues only), Mill Valley,
- Travelodge Mill Valley/Sausalito,
- Hotel Sausalito, and
- The Inn Above Tide, Sausalito

Table 44 lists some potentially vulnerable recreational assets at mean higher high water (MHHW) for each sea level rise scenario. Many recreational assets are shoreline based or water features. Some assets are only vulnerable to saltwater flooding in long-term scenario 6. These include Larkspur's Niven Park, Tiburon's tennis courts.

Table 44. Example Vulnerable Recreation Assets Ranked by Onset and Flooding at MHHW

| Location | Asset | Near-term | Medium-term | Long-term |
|------------------------|-----------------------------|-------------------------------|-------------|------------|
| | | Scenario 1 | Scenario 3 | Scenario 5 |
| Sausalito | Swedes Beach | Floods at existing high tides | | |
| Sausalito | Tiffany Beach | Floods at existing high tides | | |
| Novato | Scottsdale Marsh | Floods at existing high tides | | |
| Tamalpais Valley | Bothin Marsh | Floods at existing high tides | | |
| Unincorporated Tiburon | Paradise Beach Park | Floods at existing high tides | | |
| Sausalito | GG Sausalito Ferry | No data | No data | No data |
| State Park | Angel Island State Park | 14'1" | 14'10" | 17'9" |
| San Rafael | Spinnaker Pt. open space | 10'3" | 11'1" | 25'4" |
| Tiburon | Pt. Tiburon Shoreline Park | 8' | 8'8" | 11'6" |
| Pt. San Pedro | China Camp State Park | 7'6" | 8'1" | 18'4" |
| San Rafael | John F. McInnis Park | 7'6" | 8'6" | 10'6" |
| Larkspur | Piper Park | 7'2" | 7'11" | 10'8" |
| Santa Venetia | Santa Venetia Marsh | 7' | 7'10" | 9'11" |
| San Pablo Bay | San Pablo Bay Wildlife Area | 6'9" | 7'2" | 19' |
| Santa Venetia | Santa Margarita Island | 5'8" | 6'8" | 8'8" |
| Sausalito | Arques Shipyard and Marina | 5'7" | 8'6" | 21'9" |
| Sausalito | Marina Plaza Harbor | 5'7" | 8'6" | 21'9" |
| San Rafael | Starkweather Shoreline Park | 5'4" | 6' | 16'3" |
| Larkspur | Bay Trail | 0-5'4" | 0-6' | 0-8'6" |
| Bel Marin Keys | Del Oro Park | 5'2" | 5'8" | 8'9" |

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| Location | Asset | Near-term | Medium-term | Long-term |
|------------------|--|------------|-------------|------------|
| | | Scenario 1 | Scenario 3 | Scenario 5 |
| Sausalito | Dunphy Park | 5'1" | 5'8" | 13'8" |
| Bel Marin Keys | Cavalía Cay Park | 5'1" | 5'8" | 8'9" |
| Bel Marin Keys | Dolphin Isle Boat Launch | 5'1" | 5'8" | 8'9" |
| San Rafael | Pickleweed Park | 5' | 5'8" | 8'9" |
| Tiburon | Downtown shops & restaurants | 0-5' | 6"-3'11" | 1'4"-12'9" |
| Larkspur | Cal Park Wetlands | 4'10" | 5'3" | 8'2" |
| Bel Marin Keys | Bahama Reef Boat Launch | 4'6" | 5'2" | 8'1" |
| Waldo Point | Richardson Bay Marina | 4'5" | 7'4" | 18'7" |
| Larkspur | Bon Air Landing Park | 4'4" | 5' | 8'6" |
| Pt. San Pedro | Mc Nears Beach Park | 4'4" | 5'9" | 8' |
| Belvedere | Corinthian Yacht Club | 4' | 4'3" | 11' |
| Sausalito | Shops & restaurants | 3'6" | 4'6" | 11'6" |
| San Rafael | Open space off Bay Way | 3'2" | 3'11" | 6'10" |
| Tiburon | Mc Kegney Green | 3'1" | 5'7" | 15'3" |
| Tiburon | Richardson Bay Lineal Park | 0-3' | 1"-3'7" | 1"-15' |
| Larkspur | Remillard Park | 2'11" | 3'6" | 6'2" |
| Black Point | Black Point Boat Launch | 2'8" | 3'10" | 7' |
| San Rafael | Bay Trail | 0-2'3" | 0-3' | 0-10'3" |
| Belvedere | San Francisco Yacht Club | 2'2" | 3'6" | 8'10" |
| San Rafael | San Rafael Yacht Harbor | 1'2" | 4' | 10'4" |
| Almonte | Seaplane Adventures | 9" | 2' | 5' |
| San Rafael | Lowrie Yacht Harbor | 2" | 9" | 3'7" |
| Tiburon | The Cypress Garden Park | 7" | 1'4" | 4'4" |
| San Rafael | Hi-Tide Boat Sales | 6" | 3'4" | 8'5" |
| Corte Madera | Corte Madera Creek Path | 4" | 1'11" | 6'10" |
| Sausalito | Sausalito Yacht Harbor | 4" | 1' | 3' |
| Paradise Cay | Paradise Cay Yacht Harbor | 2" | 1'6" | 3'10" |
| San Rafael | Marin Yacht Club | 1" | 1'6" | 3'9" |
| Tiburon | Blackie's Pasture | 0-9" | 5'4" | 12'9" |
| Tamalpais Valley | Tam Junction shops & restaurants | 0-8" | 7"-2' | 1'5"-5'3" |
| Corte Madera | San Clemente Park | No data | | |
| San Rafael | Open Space 025 | | 9'2" | 12'2" |
| San Rafael | Beach Park | | 8'11" | 11'10" |
| Mill Valley | Bayfront Park | | 8'3" | 4'-11'6" |
| Mill Valley | Bay Trail | | 0-8' | 3"-12'5" |
| Almonte | Charles F. McGlashan Path | | 7'6" | 10'8" |
| Sausalito | Schoonmaker Beach | | 7'2" | 10'1" |
| Strawberry | Brickyard Cove | | 6'11" | 9'11" |
| Corte Madera | Hal Brown Park | | 6'3" | 9'2" |
| San Rafael | Peacock Gap Neighborhood Park | | 6'3" | 9' |
| Strawberry | Strawberry Recreation District Boat Launch | | 5'11" | 8'11" |
| Strawberry | Greenwood Cove area community park | | 5'4" | 10' |
| Corte Madera | Shorebird Marsh | | 5'3" | 10'9" |
| Strawberry | Strawberry Point Tidal Area | | 5'1" | 8'1" |

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| Location | Asset | Near-term | Medium-term | Long-term |
|----------------|------------------------------------|------------|-------------|------------|
| | | Scenario 1 | Scenario 3 | Scenario 5 |
| Strawberry | Strawberry Point Park | | 4'10" | 9'2" |
| Strawberry | Seminary Marsh area community park | | 4'4" | 8'1" |
| San Rafael | Loch Lomond Marina | | 3'7" | 9'7" |
| Corte Madera | Bay Trail | | 0-3'4" | 0-8'6" |
| Sausalito | Schoonmaker Point Marina | | 3'3" | 8'2" |
| Sausalito | Clipper Yacht Harbor | | 2'5" | 6'3" |
| San Rafael | San Rafael Yacht Club | | 2'2" | 5'7" |
| Bel Marin Keys | Montego Park | | 2' | 5'4" |
| Sausalito | Cass Gidely Marina | | 2' | 3'2" |
| San Rafael | Downtown shops & restaurants | | 1"-1'3" | 3"-3'3" |
| San Rafael | Pickleweed Park facilities | | 1'2" | 3' |
| Larkspur | Hamilton Park | | 10" | 3'9" |
| Mill Valley | Shelter Bay | | 2"-9" | 6"-1'10" |
| Novato | Bay Trail | | 0-8" | 0-12'7" |
| Corte Madera | Bay Trail County Rte 17 | | | 13'4" |
| Corte Madera | Higgins Dock | | | 11'10" |
| Novato | South Hamilton Park | | | 11'6" |
| Novato | Deer Island | | | 10'10" |
| Novato | Hamilton Amphitheater Park | | | 10'6" |
| Corte Madera | Madera Gardens Lagoons | | | 10'4" |
| San Rafael | Gallinas Creek | | | 10'2" |
| Novato | Hamilton Airport Park | | | 10' |
| Corte Madera | Town Park | | | 9'10" |
| San Rafael | Albert Park | | | 9'3" |
| Novato | Rush Creek | | | 8'10" |
| Sausalito | Turney Street Boat Ramp | | | 8'8" |
| Mill Valley | Sycamore Park | | | 8'6" |
| Larkspur | Heatherwood Park | | | 8'2" |
| Novato | Slade Park | | | 8' |
| Novato | Hamilton Community Center | | | 8' |
| Novato | Future Hamilton Rec. Area | | | 7'6" |
| Corte Madera | Susan Marker Trail | | | 1'2"-7'6" |
| Bel Marin Keys | Caribe Isle Park | | | 7'4" |
| Bel Marin Keys | Calypso Bay Public Dock | | | 7'4" |
| Bel Marin Keys | Bel Marin Keys Dock | | | 7'4" |
| Bel Marin Keys | Bel Marin Keys Yacht Club | | | 7'4" |
| Santa Venetia | Castro Park | | | 6'11" |
| Novato | Bahia Mini Parks | | | 6'9" |
| Santa Venetia | Candy's Park | | | 6'3" |
| Santa Venetia | Adrian Rosal Park | | | 5'10" |
| Belvedere | Mini Park | | | 5'3" |
| San Rafael | Canal/ Shoreline Park | | | 5'1" |
| Santa Venetia | Pueblo Park | | | 4'11" |
| Tiburon | Zelinsky Park | | | 4'10" |
| Tiburon | Pt. Tiburon Marsh | | | 4'4" |
| Belvedere | Community Center | | | 4'4" |
| San Rafael | Schoen Park | | | 4'2" |

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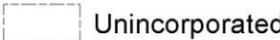
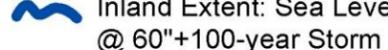
| Location | Asset | Near-term | Medium-term | Long-term |
|---------------|------------------------|--------------------|-------------|------------|
| | | Scenario 1 | Scenario 3 | Scenario 5 |
| Mill Valley | Freeman Park | | | 4'1" |
| Strawberry | Baseball diamonds | | | 3'10" |
| Mill Valley | Mill Valley Rec Center | | | 3'6" |
| Corte Madera | Ring Mountain | | | 3'6" |
| Mill Valley | Hauke Park | | | 3'4" |
| Tiburon | Bay Trail | | | 6"-3' |
| Corte Madera | Skunk Hollow Park | | | 3' |
| Sausalito | Yee Tock Chee Park | | | 2'11" |
| Sausalito | Bay Trail | | | 7"-2'3" |
| Tiburon | Bel Aire Park | | | 2'4" |
| Larkspur | Bon Air Landing Park | | | 2'4" |
| Fort Baker | Travis Marina | | | 4'10" |
| Black Point | Golf Course | | | No data |
| Santa Venetia | Buck's Landing | No data | | |
| Sausalito | Pelican Yacht Harbor | No data | | |
| Larkspur | Marin Country Mart | Access issues only | | |

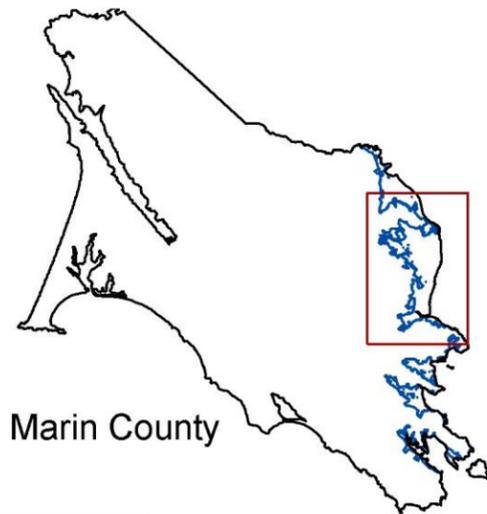
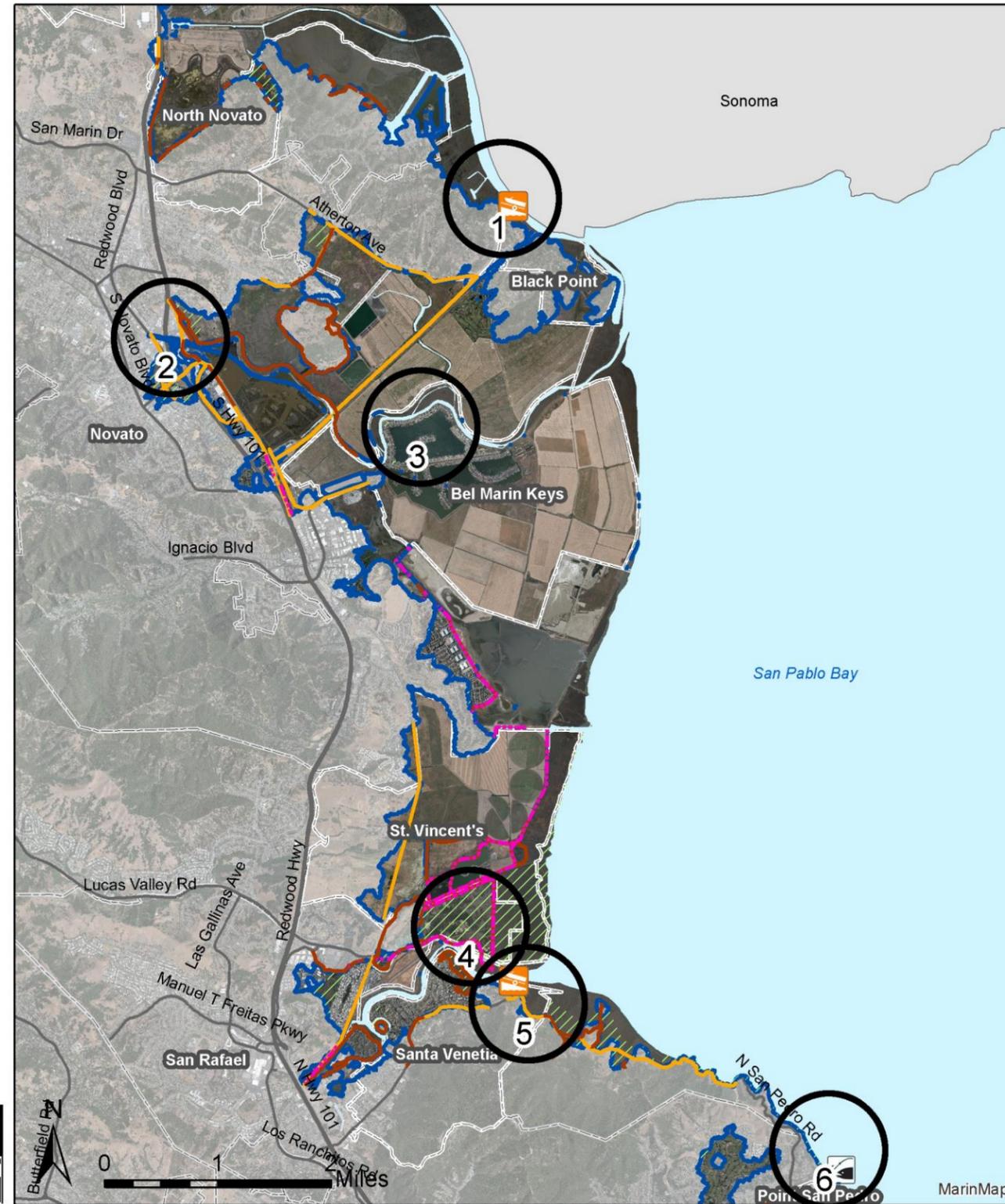
Source: MarinMap, CoSMoS

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Map 39. Northern Study Area Vulnerable Recreation Assets

Vulnerable Assets

-  Public Boat Launch
 -  Public Fishing Pier
 -  Bay Trail
 -  Trail
 -  Bikeway
 -  Park
- Location Indicators**
-  Unincorporated
 -  Municipality
 -  Road
 -  Bay
 -  Inland Extent: Sea Level @ 60"+100-year Storm



Date: 1/25/2017



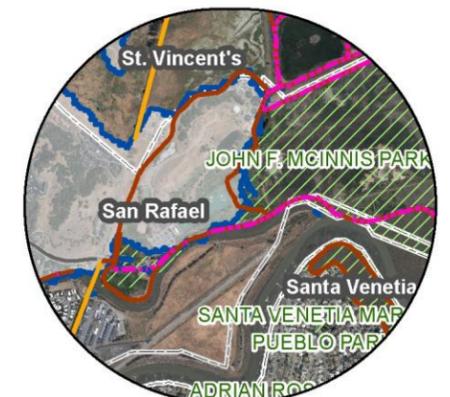
1: Black Point



2: Scottsdale Marsh



3: Bel Marin Keys



4: McInnis Park



5: Buck's Landing



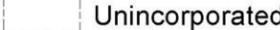
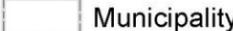
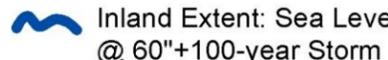
6: McNears Beach Park

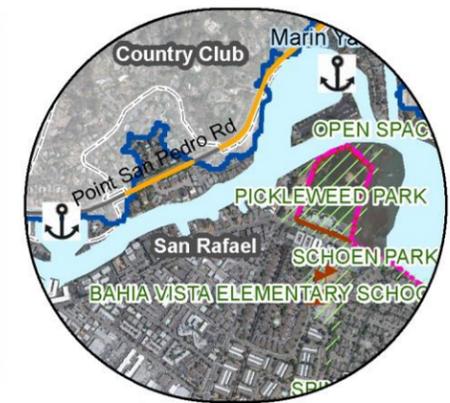
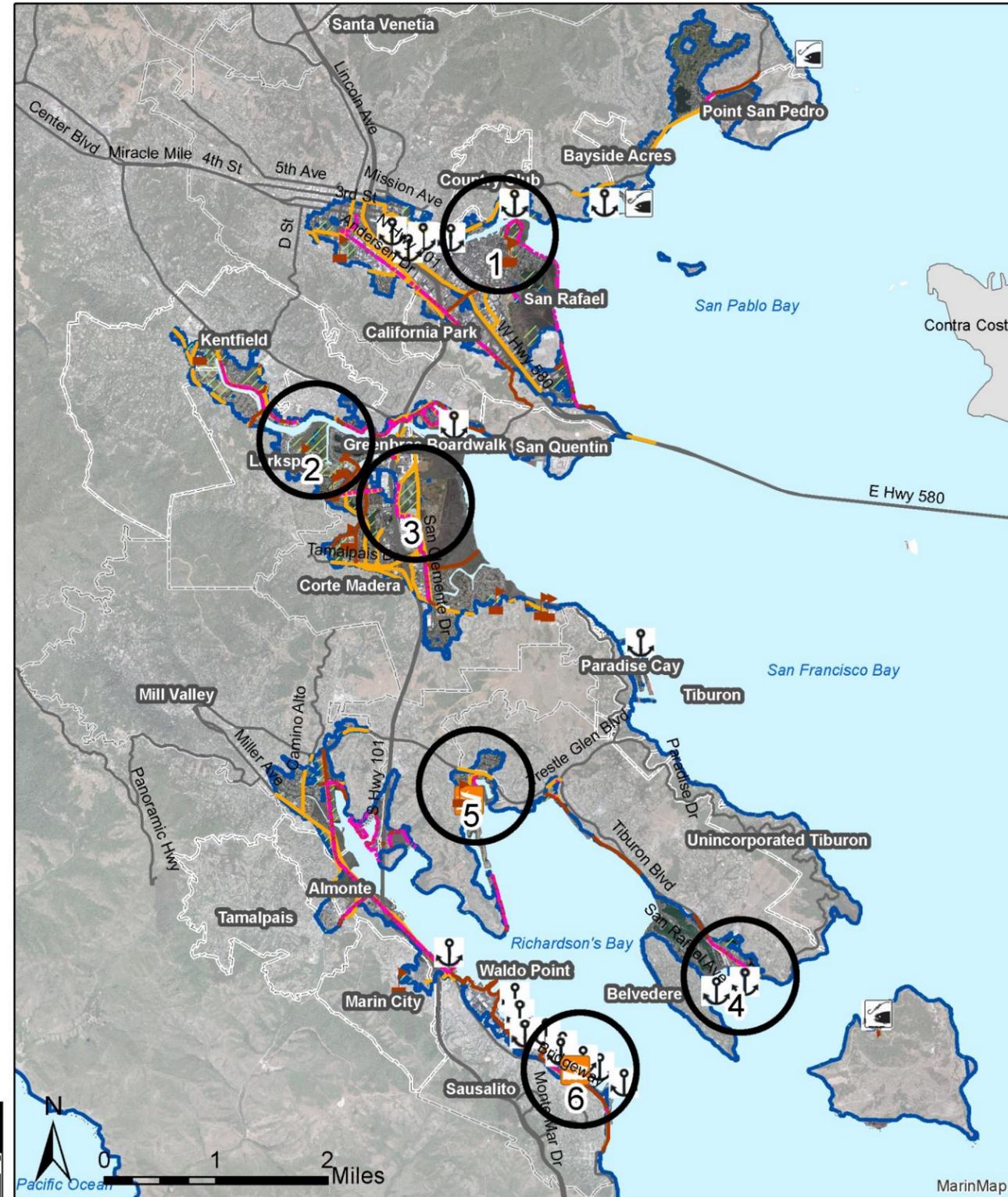
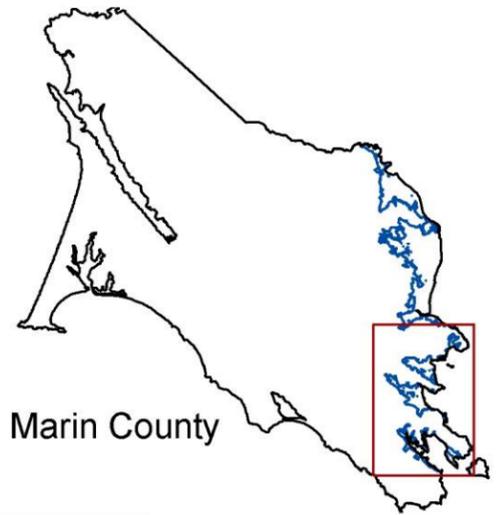
Disclaimer: Vulnerability Assessment maps, tables, etc. can be used as a resource to help identify potential hazardous areas and vulnerable assets. Marin County, and data providers here in, make no warranties of the accuracy or completeness of maps and data. Maps are representational and subject to future revision. Local site conditions must be examined. Commercial use is prohibited.

RECREATION

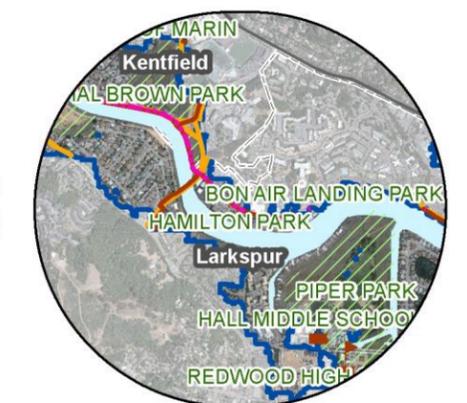
Map 40. Southern Study Area Vulnerable Recreation Assets

Vulnerable Assets

-  School
 -  Public Boat Launch
 -  Public Fishing Pier
 -  Marina
 -  Bay Trail
 -  Trail
 -  Bikeway
 -  Park
- ### Location Indicators
-  Unincorporated
 -  Municipality
 -  Road
 -  Bay
 -  Inland Extent: Sea Level @ 60"+100-year Storm



1: San Rafael Canal



2: Corte Madera Creek



3: Corte Madera Marsh



4: Belvedere/Tiburon



5: Strawberry



6: Sausalito Shoreline

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RECREATION

Other Considerations

Economic

Active and passive recreation on and along Marin's shoreline are critical economic contributors to the regional economy that could be negatively impacted with rising seas. Several assets are national and regional draws. If roads, regional airports and transit service is disrupted these visitors may not be able to travel. This would greatly impact the tourist economy. Moreover, creating new spaces would require significant funding from taxes and user fees.

Environmental

Creating new access and activity areas could have serious temporary and long-term environmental impacts. Several species require buffers between their habitats and human activity, especially for breeding and nesting. Allowing human activity in new areas could greatly impact wildlife roosting and feeding habitats.

Social Equity

Beaches, estuaries, wetlands, and marshes provide unique low cost opportunities for wildlife viewing, shoreline access, and scenic enjoyment that could be lost to sea level rise.¹²⁵ The losses could be felt unequally across income levels because as free or low cost public access points are lost to the rising sea there could be less capacity to accommodate lower income households. This impact could also be experienced differently across geographies where reaching recreation opportunities is already hindered or could become hindered in the future. Those who fish for sustenance at bayside fishing piers, such as McNears Beach Park public fishing pier, could be disproportionately impacted and experience food insecurity.

Management

Protecting public access to natural resources and wildlife is a state and local priority. However, as Marin residents' daily lives become more and more vulnerable, preserving recreation opportunities could become a lower priority. National priorities could also affect Marin public lands and sanctuaries under federal jurisdiction.

The Countywide Plan and local general plans seek to preserve recreational opportunities for residents and visitors, and to maintain and expand opportunities for public access. The County of Marin's Baylands district provides for open space, outdoor recreation, and other open lands, including areas suited for park and recreational purposes, access to beaches, and areas that link major recreation areas.

In addition, public trust lands include submerged land and tidelands below the mean high tide line in areas that do not contain tidal marsh and up to five feet above mean sea level in areas of tidal marsh. The Bay Conservation Development District (BCDC) retains development permit authority over:

- The Bay itself (all areas that are subject to tidal action, including sloughs, from the south end of the Bay to the Golden Gate to the Sacramento River,
- A shoreline band of land extending inland for 100 feet from the shoreline of the Bay,
- Select salt ponds,
- Select managed wetlands, and
- Certain waterways consisting of all areas that are subject to tidal action on named tributaries that flow into the Bay.

As sea level rise advances, the boundary of public trust lands would also move inland.



Paddle boarder on Miller Avenue near Bothin Marsh. Credit: Unknown

¹²⁵ BCDC Vulnerability Assessment.