

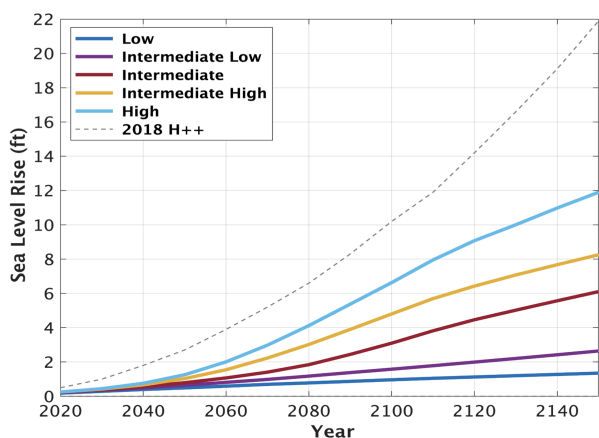
Surfrider Foundation Policy Statement: Restore Sloat

Background:

The Surfrider Foundation advocates for responding to sea level rise and coastal erosion in California with solutions that preserve public beach space and equitable coastal access to the coastline. We have supported a climate adaptation project at South Ocean Beach for more than ten years because of the dramatic impact that sea level rise is expected to continue having on the beach, coastal access and public infrastructure South of Sloat if no action is taken. **However, we are asking for changes to the project currently being proposed by the San Francisco Public Utilities Commission (SFPUC) so that the project is able to adapt to sea level rise and maintain a beach south of Sloat.**

All of the following are true about the need for a sea level rise project in South Ocean Beach:

- Sea levels have been rising steadily in California for more than a hundred years but are [projected to accelerate dramatically](#) within the next fifty years. All over coastal California, rising tides are meeting with development that is locked in place, resulting in 'coastal squeeze' that destroys beaches and makes coastal infrastructure highly vulnerable to damage and flooding.



Left: *Ocean Protection Council Draft 2024 Sea Level Rise Guidance*. The intermediate projection is generally considered realistic and represents exponential sea level rise increase over the course of the century.

Right: *Managing the Coastal Squeeze*. Development built too close to coastal bluff pictures the effect of coastal squeeze on once wide beaches in Solana Beach.

- South Ocean Beach is especially vulnerable to coastal squeeze caused by sea level rise because erosion naturally occurs fastest at this particular stretch of Ocean beach – [the area has been described as an 'erosion hot spot'](#) by the United States Geological Survey (USGS) erosion scientists since as far back as 2012 due to wave energy and a number of other influences in this area.



[Synthesis Study of an Erosion Hotspot in Ocean Beach](#). USGS erosion studies have long identified South Ocean Beach as a fast-eroding area of the beach.

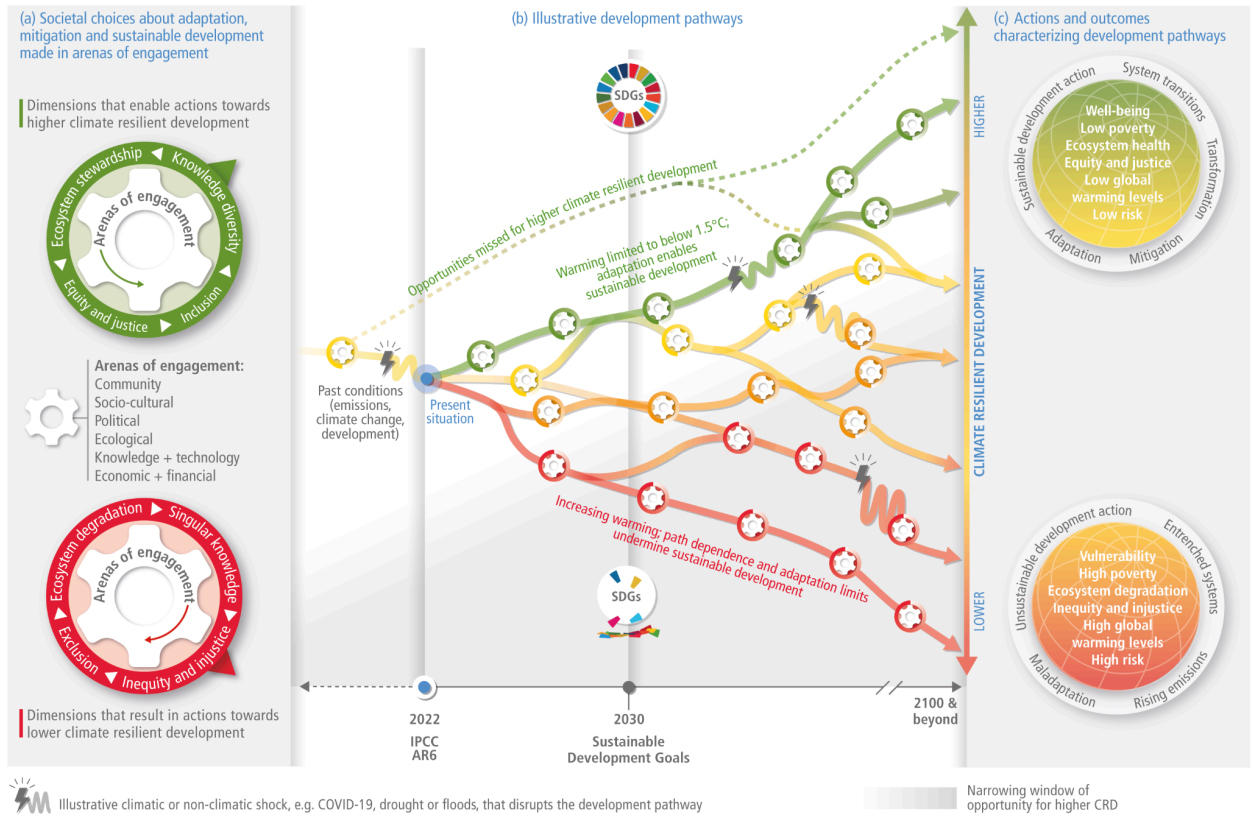
- Additionally, infrastructure at South Ocean Beach has been [placed too close to the ocean](#). The beach is already disappearing due to high tides meeting with the location of the Great Highway Extension, the Lake Merced Tunnel underneath it, and the wastewater treatment plant behind it. About a mile of beach as well as wastewater infrastructure serving approximately a third of the city's residents is vulnerable to sea level rise by 2050.
- Seawalls, which have been erected in many places around California to protect coastal infrastructure, [are well known to accelerate beach erosion](#): they reflect wave energy and prevent natural sand dynamics. Seawalls lead to the loss of vital beach habitats, the narrowing of beaches, and reduced public access. Seawalls that are covered by sand (also known as "buried seawalls") can have less of an impact on erosion if they remain buried with sand. It can be difficult to keep seawalls buried in high energy wave environments, and it is important to know that they still set an artificial back to the beach as sea levels rise.



An unarmored stretch of Santa Cruz versus an armored stretch where development has been built too close to the water shows how seawalls erode beaches. South Ocean Beach already has much development built too close to the water, as well as rip rap that is contributing to the erosion problem.

- The State [generally discourages seawalls on beaches due to their dramatic negative impacts on public trust land and habitat](#). They are permitted only when homeowners are legally entitled to them to protect private property and/or when critical public infrastructure is in need of immediate protection. One way to avoid killing beaches where public infrastructure like power plants, rail lines and wastewater treatment plants require protection from sea level rise is to commit to [phased adaptation](#).

There is a rapidly narrowing window of opportunity to enable climate resilient development



[IPCC Sixth Climate Assessment](#). Phased adaptation is a globally recognized strategy to build resilience to climate change. This picture makes the point that the sooner we begin pursuing adaptation solutions that promote resilience, the more opportunities we will have to enhance them in the future. Going down the wrong road of management actions can dramatically limit the type of options that are available in the long-term as the associated resources are affected.

- Where legally permissible, phased adaptation can allow a damaging solution like a seawall to be permitted in the short term; so long as it is designed to minimize its negative impacts to the greatest extent possible, and so long as relocation of the infrastructure is genuinely committed to in the long term. A successful example of phased adaptation can be found in The San Diego Association of Government’s commitment to relocate its rail line off the Del Mar Bluffs in San Diego County by 2030 while a beach-killing seawall is being permitted to prevent erosion in the short term.



[DMB5 CDP Correspondence with the Coastal Commission](#) Surfrider generally does not support seawalls, but one of the walls pictured above is undoubtedly better than the other for the beach. The wall on the left was designed to be removable by 2030 as part of the phased adaptation permit for stabilizing and eventually relocating the Del Mar portion of the LOSSAN rail corridor. The wall on the right will be significantly more difficult and expensive to remove.

In response to a need for visioning South of Sloat and sea level rise concerns, SFPUC's Ocean Beach Climate Adaptation Project proposes to:

- Remove existing rubble and sandbags
- Remove the Great Highway Extension and reroute traffic via Sloat and Skyline Boulevards
- Protect approximately 1 mile of the Lake Merced Tunnel with a 3,200 foot long seawall. The seawall will be 3 feet thick and the top of the wall would be +16 to +21 NAVD. The wall would be set 27 feet seaward of the Lake Merced Tunnel.
- 'Bury' the seawall in sand by monitoring for triggers and executing a sand management plan that includes putting sand on the beach if beach width is less than 50 feet wide across 500 feet of beach. Sand placements would occur as soon as possible and generally within 1 year.
- Construct a multi-use pedestrian pathway behind the seawall. The pathway will be 15-20 feet wide. A service road will also sit adjacent to the multi-use path.
- Stabilize and revegetate a slope over the wall using a cementitious slope stabilization layer at a 3:1 slope intended to provide a foundation for sand.
- Revegetate the bluff.

- Construct 18 inch seat walls or coastal viewing walls made of concrete
- Construct two 85-long stairways leading to the beach
- Construct a new 1,080 foot restroom
- Include a new paved parking lot near the Sloat/Skyline Intersection with 60 parking spots



Surfrider Foundation's Position:

SFPUC's design has sought to satisfy multiple very complex problems, including the vulnerability of major wastewater treatment infrastructure near the ocean, interest in coastal access via viewing and biking, traffic management, availability of parking, and the protection of local beach resources including habitat. This is a challenging task when rising seas are considered, and many compromises to please multiple stakeholders including Surfrider are evident in the existing proposal. Surfrider fears that the compromises reached in the City's proposals will result in the pouring of way too much concrete next to a rising ocean, and leave little room to set a long-term vision for making room for the beach in this area over time.

What We Stand for at South Ocean Beach:

- **Long-Term Beach Preservation:** We advocate for a climate adaptation project that ensures the existence of the beach at South Sloat despite rising sea levels, and we do not feel the current proposed project meets this objective. Any project approved in the area should formally recognize this key priority as it has been part of the Ocean Beach Master Plan stakeholder vision for the area for a decade. The existence of the beach in this area will support surfing at Sloat, lateral access to the beach, recreational shore-based fishing, and habitat for endangered species including Snowy Plovers.
- **Adaptive Project Design:** We understand that wastewater infrastructure sitting adjacent to the ocean cannot be left vulnerable in the short term and we do not want to see sewage spills on the beach – therefore we lament but acknowledge the current pressure to put a seawall in front of the Lake Merced Tunnel. However, it should be proven that the seawall's impacts are being mitigated to the greatest extent possible. An example of a seawall proposal with less negative impacts on the beach would include one that is set farther back, sits lower, is constructed of a design and material that facilitates natural sand movement in the area, and be constructed in a way that it is clearly intended to be removed (ie a wall with a slat and be retained over the tunnel.) Such a wall would also be accompanied by a sand management plan that more clearly guarantees how the wall will not be a major source of erosion by staying buried. Additionally, we support a dramatic reduction in use of concrete in the project, which will make it very difficult to move the project back and make space for the beach in the long-term. Project modifications could include narrowing the bike path and making it out of dirt, as has been done in Presidio Park. The current plan to put such a large amount of concrete in an erosion hotspot as sea levels rise doesn't take advantage of a decade of sea level rise planning, legislation and policy in California to encourage coastal resilience.

- **Infrastructure Relocation:** Detailed plans for the long-term relocation of critical sewage infrastructure are essential. The Lake Merced Tunnel will eventually need to be relocated due to its vulnerability to sea level rise. While we understand that SFPUC has studied the cost and feasibility of relocation in the past, it is not clear that the long-term costs of protecting infrastructure in place have been weighed against the estimated cost of relocation (estimated \$268.4 million, according to [“Alternatives Analysis Report for Coastal Adaptation Strategies for South Ocean Beach Wastewater Systems, a report prepared by Wastewater Enterprises for SFPUC”](#)) At some point, rising seas will force relocation of infrastructure, and it is critical to lay groundwork now to pursue relocation outside an emergency scenario and in a way that protects resources and taxpayer dollars.
- **Commitments to Enhance Adaptive Capacity:** In order to truly commit to a more adaptive design pathway and ultimately long-term relocation, SFPUC’s project needs to include realistic targets for maintaining a beach in the area, preliminary phased adaptation timelines and options, financial commitments and aggressive monitoring components. Surfrider does not believe the related components currently included in the EIR have been designed to safeguard the existence of the beach. For instance, one monitoring trigger that is designed to preserve a walkable beach commits SFPUC to putting sand on top of the proposed seawall when 50 feet of beach width is lost over 500 feet of walkable beach. The trigger requires the City to then pour sand on the wall ‘as quickly as possible or within one year.’ Given that the proposed dune design does very little to facilitate natural sand movement or retention, and given this is the area of Ocean Beach is exposed to the highest wave energy, the ability of this trigger to keep the wall buried consistently should be scrutinized. If a mile-long wall is exposed throughout the winter, erosion and loss of the beach will be dramatically accelerated. Surfrider supports coastal access and beach protection: In other words we facilitate parking and stairs and viewing spots near a beach that still exists. When these amenities are made of concrete too close to the ocean, they can come at the expense of the beach itself.

Conclusion:

Surfrider recognizes the complex challenges at South Ocean Beach and supports a climate adaptation project in the area. We are asking for the following changes to the current project proposal: 1) A significant reduction in concrete in the current project design 2) further attempts to locate the seawall landward, plus design and finance commitments to facilitate its future removal 3) Robust sand management plan aimed at avoiding any exposure of the wall, as well as a detailed estimate on potential wall exposure with proposed appropriate mitigation 4) strong commitments toward relocation of the Lake Merced Tunnel and entire adaptation project in the future based on an up-to-date cost-benefit analysis of retaining the wall in place.

We also recognize that SFPUC's current project proposal has a number of very strong benefits to the beach and community which should not be delayed. We support a timely public hearing that can facilitate prior-to-construction conditions for closing the Great Highway Extension and removing the current rubble on the beach.