

Land Use Authorities

City of Arcata

Roles & Responsibilities



The City of Arcata (COA) is a coastal city located in the northern region of Humboldt Bay. There are several departments of the COA currently or likely to be involved with SLR planning and adaptation: Community Development, Environmental Services, Building and Engineering, and Transportation. The COA has stated their goal is to take a sea level rise adaptation approach that balances agriculture, coastal access, wetlands, development, and economic feasibility.

Community Development – Planning Division

This division of the COA oversees land use and development within the city, guided by their General Plan and Zoning Code, and by their Local Coastal Program (LCP) within the coastal zone. The LCP was originally certified in 1989 and is in the process of an update that will include the addition of SLR policies.

Environmental Services

Parks, Facilities and Natural Resources Division – This Division oversees recreation, natural resources, open spaces, parks, fields, government buildings and facilities, forests, wetlands and creeks, and trails.

Parks and Recreation Division – This Division provides programs, facility rentals, classes, and community events.

Streets/Utilities Division – This Division is in charge of street construction and maintenance, water distribution and maintenance, wastewater collection, confined drainage ways, traffic control, vegetation management

Water/Wastewater Division – The City of Arcata is a municipal water and sewer operator for residents within the City of Arcata, Jacoby Creek Water District, and a small community across from Mad River Community Hospital called Pacific Manor. The Humboldt Bay Municipal Water District is the primary source for Arcata’s water. This Division monitors, reports, tests and treats all drinking water for the city and the Jacoby Creek Water District; and monitors, reports, tests and treats all wastewater, including the Arcata Marsh and Wildlife Sanctuary's 55 acres of oxidation ponds and 225 acres of treatment and enhancement marshes.

Building and Engineering

Engineering Division – This Division provides design assistance for the repair and improvement of the City's infrastructure and oversees capital improvement projects for the city.

Public Transportation Division – This Division operates as a regional hub and serves as a regional Greyhound agency.

Specific Hydrological Unit Assets and Concerns

Arcata Bay

- **Highway 101 and Highway 255**
- **Arcata Wastewater Treatment Facility and Collection System/Arcata Marsh**
 - The most critical and vulnerable asset that could be impacted by sea level rise is the COA wastewater treatment facility which is a component of the Arcata Marsh and Wildlife Sanctuary. The sanctuary acts as a distributor (and not an operator) of water distribution.
- **Municipal water transmission lines and a booster pump station**
 - Jacoby Creek Community Service District gets their water from the City of Arcata
- **Sewer lines and lift stations**
- **Gas lines**
- **Power lines**
- **Public coastal access points**
 - Humboldt Bay Trail
 - Arcata Marsh Trails
- **Humboldt Bay Trail**
- **Bayside Wildlife Preserve**
- **South Samoa Boulevard**
 - Areas west of Old Arcata Road with associated infrastructure and land use is vulnerable on these former tidelands.



Eureka Slough

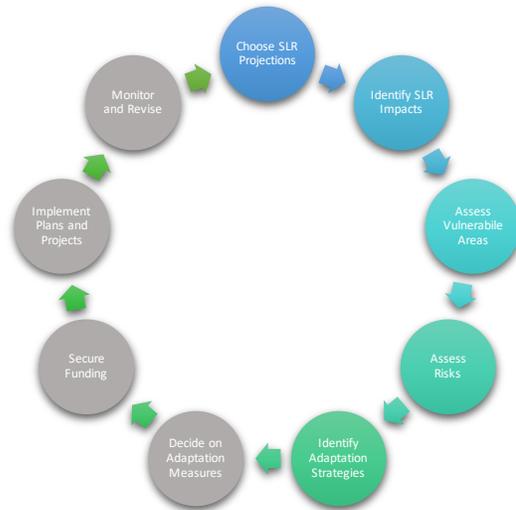
- **Dikes in vicinity of City of Eureka Mad River Pipeline**
- **Highway 101**

General Concerns

✓	Shoreline Management		Sea Level Rise Impacts:	
	Property Ownership and Adaptation Responsibility		✓	Erosion
✓	Regulatory Authorization and Compliance		✓	Tidal Inundation
✓	Feasible Adaptation Strategies		✓	Backwater and/or Emerging Groundwater Flooding
✓	Funding		✓	Saltwater Intrusion

Planning Efforts

The city has prepared a number of documents addressing sea level rise, available at the following link: <https://www.cityofarcata.org/DocumentCenter> under Community Development, Sea Level Rise. In 2018 Arcata completed a SLR Vulnerability Assessment and update to Sea-Level Rise in the Humboldt Bay Region (Update 2). In 2017 Arcata produced draft SLR policies to consider for the Coastal Land Use Element (CLUE) update and in 2018 produced a draft CLUE. Arcata is hosting virtual public engagement to obtain feedback on CLUE policies in 2020-2021.



The Arcata Living Shorelines Pilot Project proposes to test various living shoreline construction methods and materials at multiple sites within the Arcata Marsh and Wildlife Sanctuary. This project is in a planning stage and could provide important information on sediment accretion and salt marsh vegetation establishment.

In 2019, Arcata city officials held a meeting regarding the Arcata Wastewater Treatment Plant (WWTP) where they said they were discussing moving the WWTP to a different location in the future, but not presently due the expense. They cited a 40- year projection until the WWTP would need to be moved and decided to pursue the Wastewater Treatment Facility Plan and Plant Improvement Project in the meantime, which will make upgrades to the existing facility to help comply with state regulations. The planning process for the WWTP with a 25-year design timeline is almost done and includes a SLR evaluation due to its location and grant funding for levee improvements.

The City of Arcata has had a strategy for decades now of acquiring and restoring greenspace with SLR in mind during planning and implementation, often working in partnership with CDFW. An example project would be the McDaniels Slough Project. Restoration at McDaniel Slough involved over 250 acres of former tidelands and included raising existing levees to an elevation of between 12’ to 15’ to address future SLR.

The city is still in the process of working with the CCC to update their LCP and SLR policies. These updates have not yet been approved by Council.

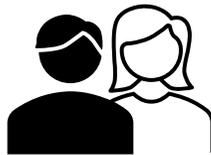
This agency was one of 22 partners in the Humboldt Bay Sea Level Rise Adaptation Planning Working Group (APWG) which ended in 2015.

Key Stakeholder Coordination Themes

During the SLR Stakeholder Interview 2021, 22 shared themes about SLR regional planning and adaptation were identified to have been explicitly mentioned by two or more stakeholder groups. The City of Arcata interview contained 7 of these shared themes as shown in the table to the right, reported from highest to lowest percent of stakeholder groups interviewed that shared each interview theme. For more description of themes, reference the Key Stakeholder Themes section of the Introduction on page 12.

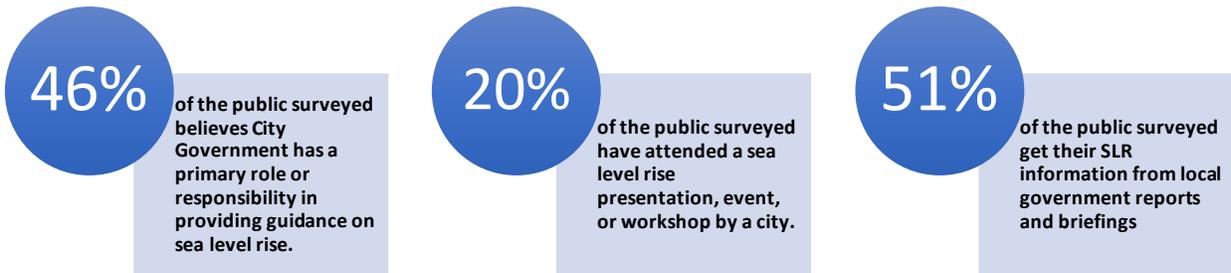
Interview Themes Important to City of Arcata

- Shared Funding Coordination
- Regional Coordination in General
- Communication between Stakeholders
- Permitting
- Wastewater Concerns
- Interest in County Leading
- Regional Prioritization of Projects



Relevant SLR Public Survey Findings

There were 577 total participants during the SLR Public Survey 2021, though participation varied by individual question. One question asked respondents to identify one or more entities that had a primary role or responsibility in providing guidance on SLR, and had the option of “City Government”, “County Government”, “State Government”, “Federal Government”, and “Other”. There were 266 respondents, or 46% of those responding to the question, who identified City Government as having a primary role or responsibility. Participants were also asked to estimate how many sea level rise presentations, events, or workshops they had attended in the last five years. Out of 308 respondents who had attended events, 20% (n=64) had attended a SLR outreach event hosted by a City Government. When asked where survey participants got their information about sea level rise, 51% (n=296) said local government reports and briefings.



Survey respondents were asked to rate the priority of assets located within the Humboldt Bay region for consideration in flood protection and future SLR planning. Some of these assets are identified above in

this catalogue section as City of Arcata assets that could be subject to sea level rise impacts, confirmed as such by City of Arcata representatives during the Stakeholder Interview 2021. Responses for priority ratings for the various assets ranged from “not at all a priority” to “exceptionally high priority”. The top three assets for priority ratings at moderate priority and above were “Sewer/water collection and treatment facilities” (89%, n=549), “Local roads and highways” (88%, n=546), and “Domestic water and treatment and conveyance facilities” (87%, n=548). In contrast, “Parks and similar public spaces” received far fewer ratings at moderate priority or higher and had less survey participation (n=539). Results for priority ratings are reported in the graph below.

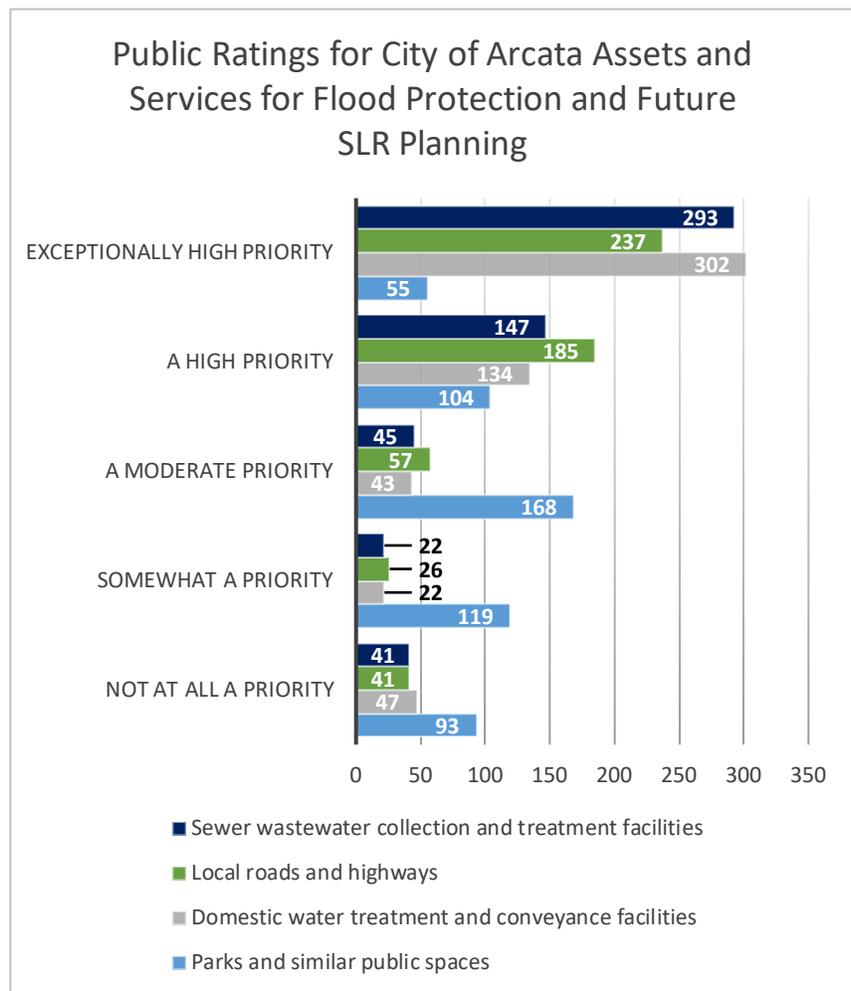
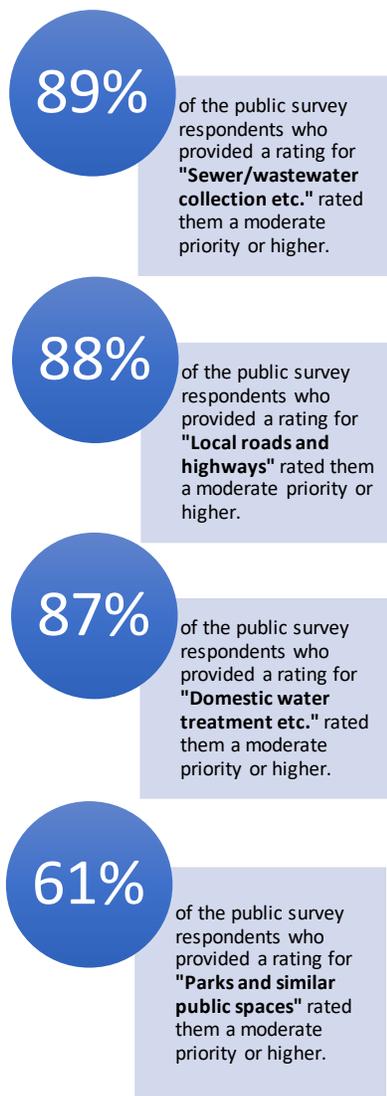


Figure 7. Priority Ratings for various assets that pertain to City of Arcata regarding Flood Protection and Future SLR Planning by participants of the SLR Public Survey 2021 (n=539-548)

Relevant SLR Coastal Professionals Survey Findings

Results presented in this section for the SLR Coastal Professionals Survey 2021 do not necessarily represent an official view of the agency/organization or categories with which respondents identified, as explained in the introduction. Results presented below are intended only to provide general guidance in future planning and collaboration efforts. For more information on sampling methods and data collection, refer to the section on Community Input within the Introduction on page 2 and Appendix ii - SLR Regional Coordination: Coastal Professional Survey Results within the Appendices beginning on page 229.

During the SLR Coastal Professionals Survey 2021, survey participants were given a sliding scale ranging from “Local” to “State” to “Federal” to show what level of government they thought should hold the majority of the planning control and authority for SLR. A total of 80 individuals provided responses, a majority (64%) of which preferred the planning authority to include a mix of local-and-state control as shown in the graph below.

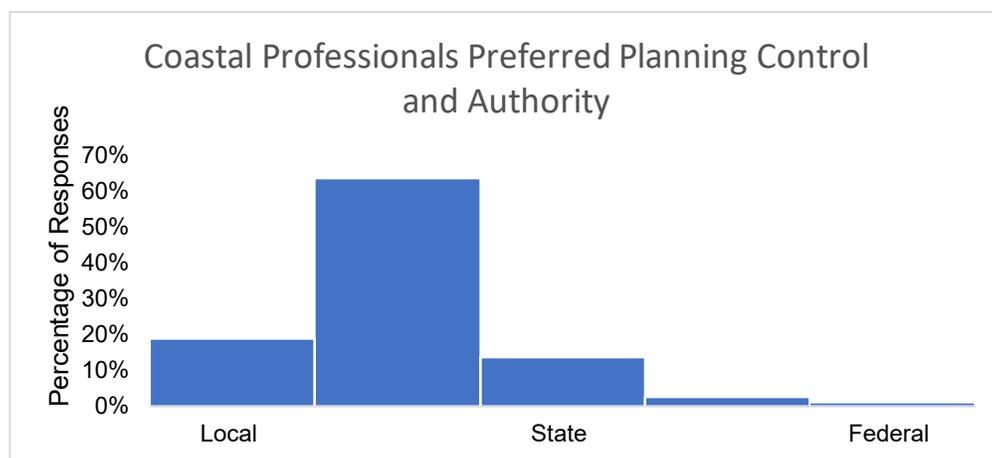


Figure 8. Survey respondents' preference for what level of government should hold the majority of the planning control and authority from the SLR Coastal Professionals Survey 2021 (n=80)

For the City Government category of participants, there was a total of 12 respondents from both the City of Arcata and the City of Eureka though participation for individual questions varied. These Coastal Professionals were asked a variety of questions including what the preferred level of involvement in SLR planning was for the City Government they represented. Respondents were given a sliding scale to rate their role ranging from “not involved” to “participate” and “lead”. The results for City Government ranged from “participate” to right below leading with a 50% split of effort preference as shown on the next page.

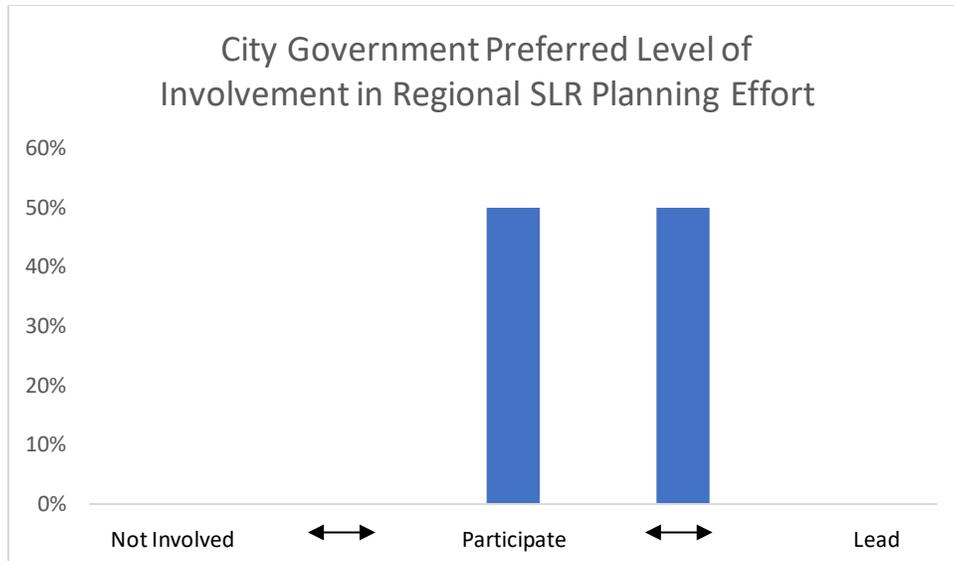


Figure 9. City Government respondents' preferred level of involvement in SLR planning effort from the SLR Coastal Professionals Survey 2021 (n=10).

These Coastal Professionals were also asked about their preferred spatial scale for SLR planning. Respondents were given a sliding scale ranging from planning on a “project by project” basis to planning on a larger scale of “Watershed/HU” and “Humboldt Bay”. The results for the City Government category ranged from a “Watershed/HU” to a “Humboldt Bay” spatial scale, with a 60% preference for a Humboldt Bay approach as shown in the graph below.

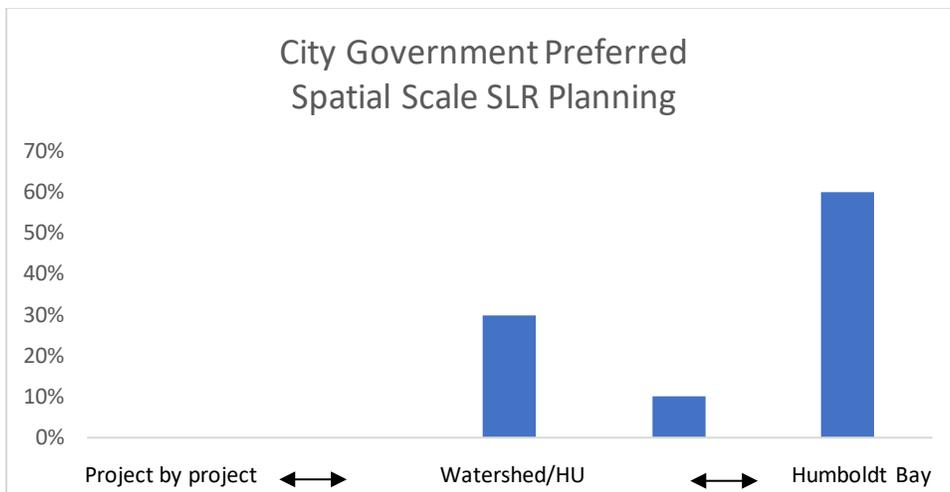


Figure 10. City Government respondents' preferred spatial scale to focus regional SLR coordination efforts in the SLR Coastal Professionals Survey 2021 (n=10)

To better understand the preferred style of future regional SLR coordination, Coastal Professionals were asked their level of support for several potential regional SLR planning options on a five-point Likert scale ranging from “strongly oppose” to “strongly favor”. The results for City Governments favored creating a formal collaborative partnership with 100% of respondents rating this option somewhat favorable or

higher. Similarly, 100% of respondents answered they somewhat or strongly oppose having no regional planning as shown in the graph below.

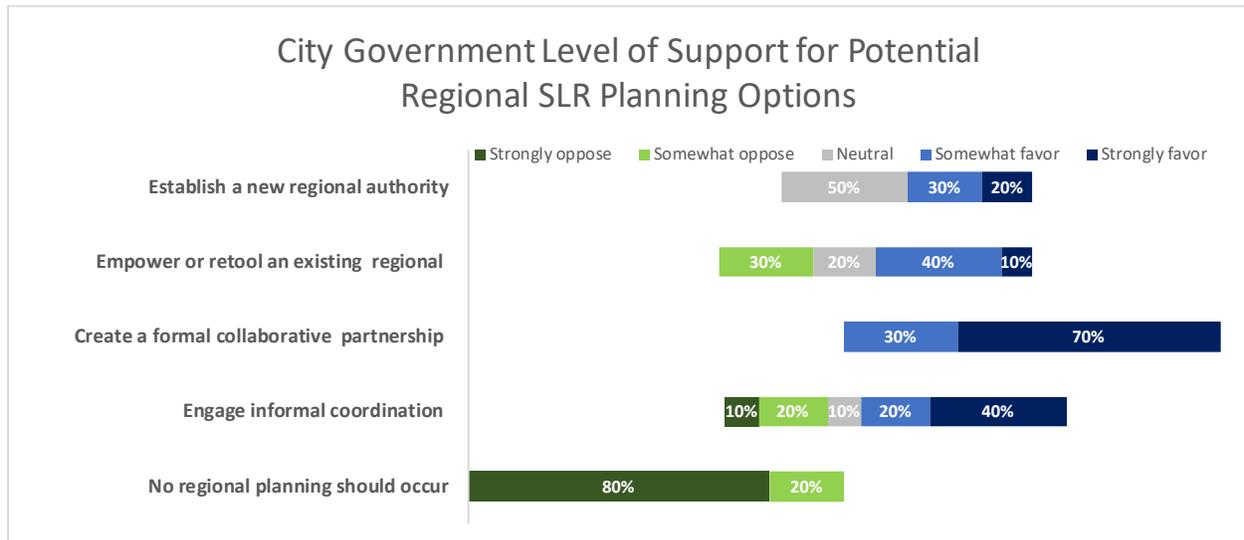


Figure 11. City Government respondents' level of support or opposition for various strategies for regional coordination of SLR planning from the SLR Coastal Professionals Survey 2021 (n= 10)

Reference Links

<https://www.cityofarcata.org/759/Sea-Level-Rise>

<https://www.cityofarcata.org/161/Certified-Local-Coastal-Program>

<https://www.cityofarcata.org/DocumentCenter> (under Community Development, Sea Level Rise)

<https://www.humboldtbykeeper.org/images/PDF/vulnerabilityrating.pdf>

<https://www.cityofarcata.org/DocumentCenter/View/7193/City-of-Arcata-Sea-Level-Rise-Risk-Assessment-04-2018?bidId=>

<https://www.times-standard.com/2019/11/16/arcata-city-officials-say-they-want-to-use-the-wetlands-for-wastewater-treatment-for-as-long-as-possible>

<https://www.cityofarcata.org/227/McDaniel-Slough-Project>

City of Eureka

Roles & Responsibilities



The City of Eureka (COE) is a coastal city centrally located within the Humboldt Bay region. There are several departments of the COE that are currently or likely to be involved with SLR planning and adaptation: Development Services – Planning, Zoning and Community Development Division, Community Services, and Public Works.

Development Services – Planning, Zoning and Community Development Division

The mission of this department is to foster opportunity and guide growth through partnerships with the community. The Planning Department oversees land use and development within Eureka, guided by their General Plan and Zoning Code, and by their Local Coastal Program (LCP) within the coastal zone. The city recently updated their General Plan and is in the process of updating their LCP which was originally certified in 1984. These two plans are tied together because the Land Use Plan component of the City's LCP is integrated into the General Plan.

The City's general plan states: *“Sea level rise policies address shoreline protective structures, requirements for new and existing development along the shoreline, and preservation of natural shoreline areas. Sea level rise adaptation policies cover protection of key coastal assets, establishment of a coordinated protection strategy, relocation of development where shoreline structures can no longer be maintained, and consideration of sea level impacts when designing City projects. Lastly, there are policies that cover disclosure and education of residents on potential sea level rise impacts.”* While these policies are included in the City's general plan, they have not been incorporated into the City's LCP and thus have not been certified by the Coastal Commission.

Key issues related to SLR from the General Plan Issues and Concerns Report include:

- Utilities, particularly in relation to flood prevention and protection
- Flooding could impose limitations on development projects in low lying areas along the coastline and bay shores
- Impact on existing and future land uses, critical transportation networks, and wastewater and drinking water infrastructure assets including the wastewater treatment plant
- Increasing difficulty of stormwater management and operation of mechanical tide gates and water control structures)
- Impacts to natural shoreline and shoreline structures due to increased erosion, and wave height and wave force
- Changes to sediment supply and movement that could worsen beach erosion and adversely impact coastal wetlands
- Saltwater intrusion that could contaminate drinking water and increase corrosion of subsurface infrastructure

Community Services

The Community Services Department consists of several divisions. Those divisions most relevant in regard to sea level rise concerns are Parks, Harbor Operations, and Facility Operations.

Harbor Operations Division – This division is responsible for overseeing the operation and maintenance of the Eureka Public Marina, and maintenance of other waterfront property and structures including the Samoa Bridge Boat Ramp, several docks, the Waterfront Boardwalk, the Del Norte Street Pier, the EDA fish plant, and PALCO Marsh and other City-owned wetland areas. The Waterfront Revitalization Program operates out of this division and involves planning, coordination, and review of twelve waterfront projects including dock reconstructions and others.

Parks Division – This division develops and maintains park and landscape facilities. These include six community park facilities, one of which is Halvorsen Park on the Humboldt Bay shoreline, seven neighborhood park facilities, and numerous landscape facilities, parking lots, and street trees.

Facility Operations – This division is responsible for the maintenance and systems operation of over eighty City buildings, including the Adorni Center and the Wharfinger Building located on Humboldt Bay. Facility maintenance is also provided to recreational facilities and traffic signal electrical services throughout the city system.

Public Works

The City of Eureka Public Works provides a variety of services potentially affected by SLR such as road and stormwater facility maintenance, and municipal utility services. This department consists of four main divisions:

- **Engineering** – responsible for the planning, design and capital improvement of the City’s infrastructure.
- **Field Operations** – responsible for fleet management, water distribution, wastewater collection and code enforcement
- **Building Safety**
- **Utilities Operations** – responsible for operating and maintaining the city’s potable water treatment and storage facilities, and the city’s wastewater treatment facilities.

Eureka is a municipal water and sewer provider for residents within Eureka city limits, and in some cases outside city limits within the HCSD service area. Conversely, HCSD provides sewer and water service within some areas of Eureka. The COE Public Works Department provides installation and maintenance of the water distribution and transmission system, installation of new domestic water connections, as well as provides fire service connections and fire hydrants. They maintain the Mad River Pipeline from Arcata to Eureka, which conveys the City’s water purchased from the Humboldt Bay Municipal Water District.

City of Eureka owns the Samoa Field Airport, a municipal airport on the Samoa Peninsula, within the jurisdiction of the County’s HBAP.

Specific Hydrological Unit Assets and Concerns

All hydrological units

- **Navigable channels**

Eureka Slough

- **Municipal water transmission line**

Eureka Bay

- **Highway 101 (Caltrans state highway)**
- **Wharfinger Building and Eureka Public Marina**
- **Waterfront industrial areas**
- **Highway 101/Broadway Corridor**
 - The 101-Broadway corridor is a Caltrans state highway, and is the most highly traveled corridor in COE. The Humboldt County Association of Governments (HCAOG), COE, and California Department of Transportation are working together to develop a plan to address safety issues and multimodal transportation in this SLR vulnerable location. Potential plans to address these corridor issues have included a new section of roadway built near or through the area of the PALCO Marsh, but specific proposals have not been made. Portions of the new roadway section in the PALCO Marsh area would be within CCC jurisdiction for issuance of a coastal development permit and could potentially be inundated with 1 meter of SLR under current shoreline conditions. There is also a reportedly high number of homeless encampments near this area.
- **Samoa Field Airport**
 - Formerly known as Eureka Municipal Airport and covering over 300 acres, significant portions would be tidally inundated by 1.5 meters of SLR.
- **Industrial areas**
 - The Eureka Waterfront has a long history of industrial operations that includes lumber mills, bulk oil storage, bulk oil handling facilities, wrecking yards, and railroad yards. These operations have given rise to the presence of contaminants such as heavy metals, petroleum products, and pentachlorophenols in both the soil and ground water of the surrounding areas. As a result, COE is coordinating the cleanup and redevelopment of the Waterfront with several responsible parties including Union Pacific Railroad, Simpson Timber Company, Chevron, Unocal, and Tosco oil companies, and others. Most of this area is under CCC retained or appeal coastal development permit jurisdiction.
- **Downtown**
 - There is an identified need for affordable housing within the COE downtown region and Humboldt County in general, through possibly mixed-use development and new condominiums. The Downtown area is mostly outside the coastal zone.
 - According to the Eureka 2040 Issues and Objectives Report, there is a *“large and visible group of the homeless living in encampments in the vicinity of Downtown and the Broadway Corridor and/or spending daylight hours on the streets”*.
- **Old Town**



- Several portions within this area are at risk of increased inundation and many of the main roadway corridors within it need substantial improvements for safety. There is also a desire to underground utility lines to beautify the area, which would need consideration for potential inundation as well. Old Town is, for the most part, located within the coastal zone with the majority either in local CDP jurisdiction or CCC appeal jurisdiction.

Elk River Slough

- **Highway 101 (Caltrans state highway)**
- **Mad River Pipeline**
- **Greater Eureka Area Wastewater Treatment Plant**

General Concerns

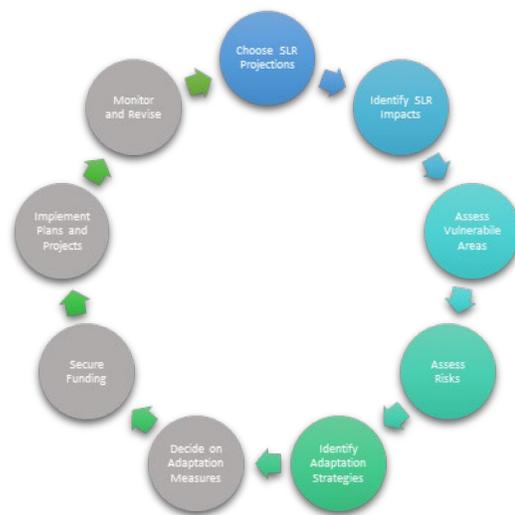
✓	Shoreline Management		Sea Level Rise Impacts:
✓	Property Ownership and Adaptation Responsibility	✓	Erosion
✓	Regulatory Authorization and Compliance	✓	Tidal Inundation
✓	Feasible Adaptation Strategies	✓	Backwater and/or Emerging Groundwater Flooding
✓	Funding	✓	Saltwater Intrusion

Planning Efforts

Eureka has prepared a number of documents addressing sea level rise, available in the Project Document Library for the City’s 2040 General Plan Update. This work included a SLR Adaptation Planning Report (2016) and Addendum (2016), and a SLR Assets Vulnerability and Risk Assessment to evaluate high priority assets, timing of impacts, and community consequences.

COE staff are members of the technical advisory team for the Sea Level Rise Adaptation Plan for Humboldt Bay/Eureka Slough Area (2018-2021).

Eureka conducted a Vulnerability Assessment for WWTP facilities (2019) to identify climate change and SLR primary and secondary facility and operations impacts.



In 2021, Humboldt County Public Works completed a “Sea Level Rise Adaptation Plan for Transportation Infrastructure and Other Critical Resources in the Eureka Slough Hydrographic Area, Humboldt Bay” which includes a planning framework, vulnerability assessment, and adaptation project planning. The study focuses on the Eureka Slough HU which includes the northeast border of the City of Eureka. The three new project concepts identified include two projects involving the Jacobs Avenue area of Eureka as well as a living shoreline between the unincorporated Humboldt County communities of Bracut and Brainard.

The Jacobs Avenue analysis portion of the study is particularly useful to Eureka due to the vulnerable nature of the area to flooding hazards and other SLR impacts.

Eureka is working on its LCP update, anticipated to include SLR policies.

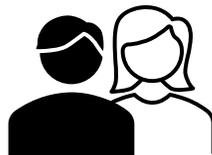
As a State Lands Commission Granted Lands Authority, the City of Eureka is required to prepare a SLR Impact Assessment pursuant to AB 691 and is compliant as of 2022. See the California State Lands Commission section for further information.

Key Stakeholder Coordination Themes

During the SLR Stakeholder Interview 2021, 22 shared themes about SLR regional planning and adaptation were identified to have been explicitly mentioned by two or more stakeholder groups. The City of Eureka interview contained 10 of these shared themes as shown in the table to the right, reported from highest to lowest percent of stakeholder groups interviewed that shared each interview theme. For more description of themes, reference the Key Stakeholder Themes section of the Introduction on page 12.

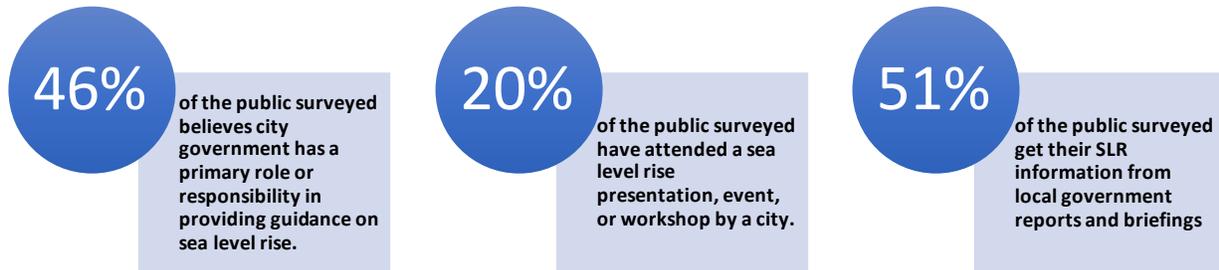
Interview Themes Important to City of Eureka

- Regional Coordination in General
- Permitting
- Diked Former Tidelands
- Shoreline
- Personnel Constraints
- Dedicated Time Constraints
- Transportation Infrastructure
- Wastewater Concerns
- Dredged Material
- Additional Governmental Guidance



Relevant SLR Public Survey Findings

There were 577 total participants during the SLR Public Survey 2021, though participation varied by individual question. One question asked respondents to identify one or more entities that had a primary role or responsibility in providing guidance on SLR and had the option of “City Government”, “County Government”, “State Government”, “Federal Government”, and “Other”. There were 266 respondents (46%) who identified City Government as having a primary role or responsibility. Participants were also asked to estimate how many sea level rise presentations, events, or workshops they had attended in the last five years. Out of 308 respondents who had attended events, 20% (n=64) had attended SLR outreach events hosted by a City Government. When asked where survey participants got their information about sea level rise, 51% (n=296) said local government reports and briefings.



Survey respondents were also asked to rate the priority of assets located within the Humboldt Bay region for consideration in flood protection and future SLR planning. Some of these assets are identified above in this catalogue section as City of Eureka assets that could be subject to sea level rise impacts, confirmed as such by City of Eureka representatives during the SLR Stakeholder Interview 2021. Responses for priority ratings ranged from “not at all a priority” to “exceptionally high priority”. The top three assets for priority ratings at moderate priority and above were “Sewer/water collection and treatment facilities” (89%, n=549), “Local roads and highways” (88%, n=546), and “Domestic water and treatment and conveyance facilities” (87%, n=548). In contrast, “Coastal-Dependent Industrial Lands spaces” received far fewer ratings at moderate priority or higher (66%) and had less survey participation (n=534). Results for priority ratings are reported in the graph on the next page.

89% of the public survey respondents who provided a rating for **"Sewer/wastewater collection etc."** rated it a moderate priority or higher for flood protection and future SLR planning.

88% of the public survey respondents who provided a rating for **"Local Roads and highways"** rated them a moderate priority or higher for flood protection and future SLR planning.

87% of the public survey respondents who provided a rating for **"Domestic water treatment etc."** rated them a moderate priority or higher for flood protection and future SLR planning.

66% of the public survey respondents who provided a rating for **"Coastal-Dependent Industrial lands etc"** rated them a moderate priority or higher for flood protection and future SLR planning.

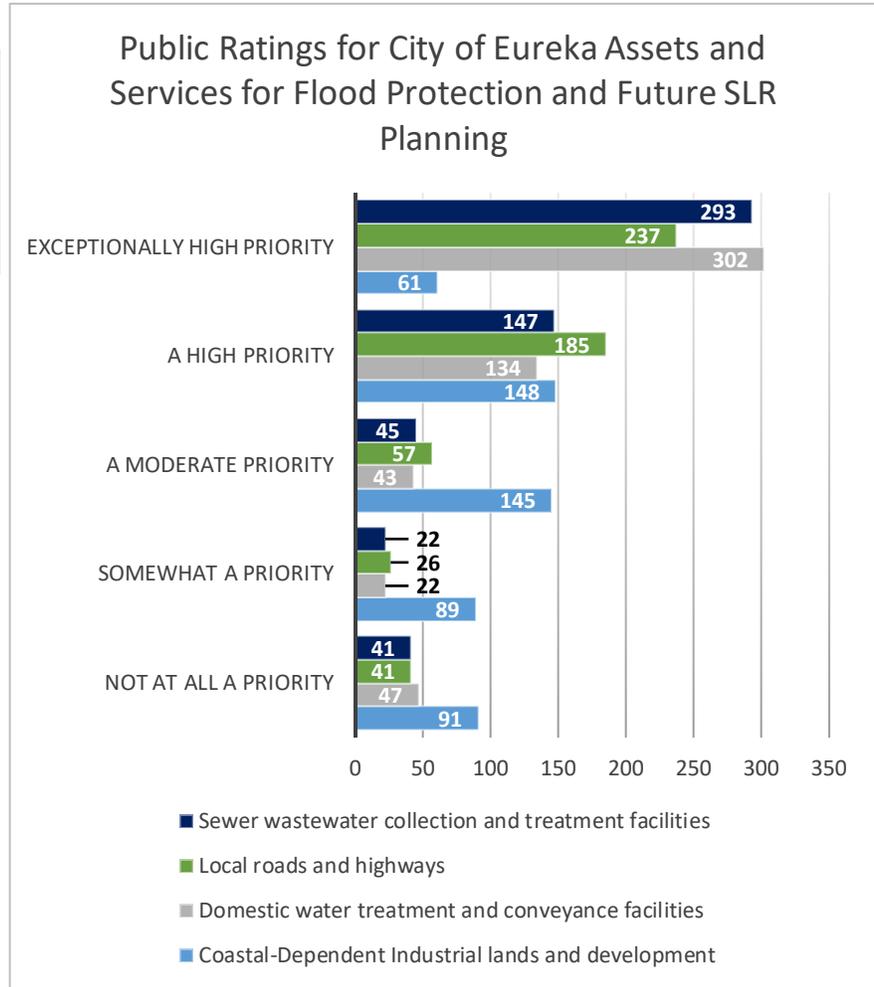


Figure 12. Priority Ratings for various assets that pertain to City of Eureka regarding Flood Protection and Future SLR Planning by participants of the SLR Public Survey 2021 (n=534-548)

Relevant SLR Coastal Professionals Survey Findings

Results presented in this section for the SLR Coastal Professionals Survey 2021 do not necessarily represent an official view of the agency/organization or categories with which respondents identified, as explained in the introduction. Results presented below are intended only to provide general guidance in future planning and collaboration efforts. For more information on sampling methods and data collection, refer to the section on Community Input within the Introduction on page 2 and Appendix ii - SLR Regional Coordination: Coastal Professional Survey Results within the Appendices beginning on page 229.

During the SLR Coastal Professionals Survey 2021, survey participants were given a sliding scale ranging from “Local” to “State” to “Federal” to show what level of government they thought should hold the majority of the planning control and authority for SLR. A total of 80 individuals provided responses, a majority (64%) of which preferred the planning authority to include a mix of local-and-state control as shown in the graph below.



Figure 13. Survey respondents' preference for what level of government should hold the majority of the planning control and authority from the SLR Coastal Professionals Survey 2021 (n=80).

For the City Government category of participants, there was a total of 12 respondents from both City of Arcata and City of Eureka though participation for individual questions varied. These Coastal Professionals were asked a variety of questions including what the preferred level of involvement in SLR planning was for the City Government they represented. Respondents were given a sliding scale to rate their role ranging from “not involved” to “participate” and “lead”. The results for City Government ranged from “participate” to right below leading with a 50% split of effort preference as shown in the graph on the next page.

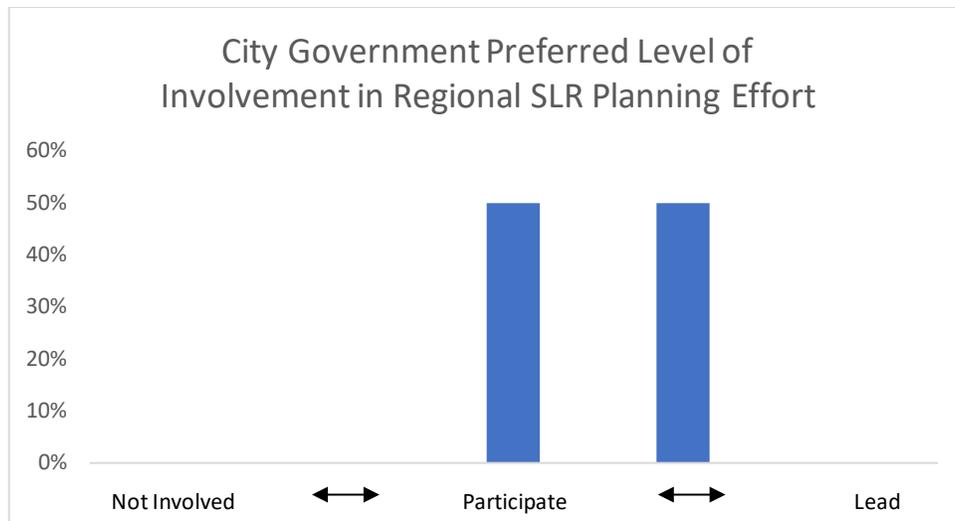


Figure 14. City Government respondents' preferred level of involvement in SLR planning effort from the SLR Coastal Professionals Survey 2021 (n=10).

These Coastal Professionals were also asked about their preferred spatial scale for SLR planning. Respondents were given a sliding scale ranging from “project by project” basis to “Watershed/HU” and “Humboldt Bay”. The results for the City Government category ranged from a Watershed/HU to a Humboldt Bay spatial scale, with a 60% preference for a Humboldt Bay approach as shown in the graph below.

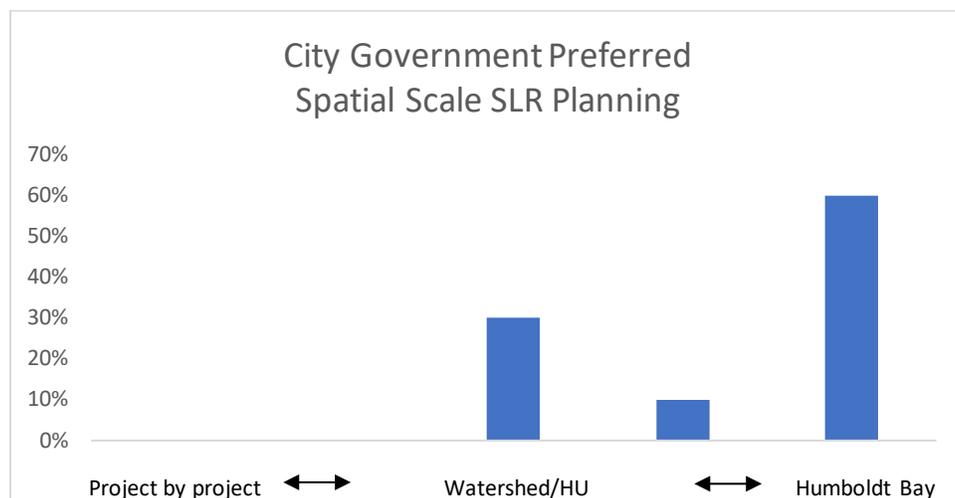


Figure 15. City Government respondents' preferred spatial scale to focus regional SLR coordination efforts in the SLR Coastal Professionals Survey 2021 (n=10)

To better understand the preferred style of future regional SLR coordination, Coastal Professionals were asked their level of support for several potential regional SLR planning options on a five-point Likert scale ranging from “strongly oppose” to “strongly favor”. The results for City Governments favored creating a formal collaborative partnership with 100% of respondents rating this option somewhat favorable or

higher. Similarly, 100% of respondents answered they somewhat or strongly oppose having no regional planning as shown in the graph below.

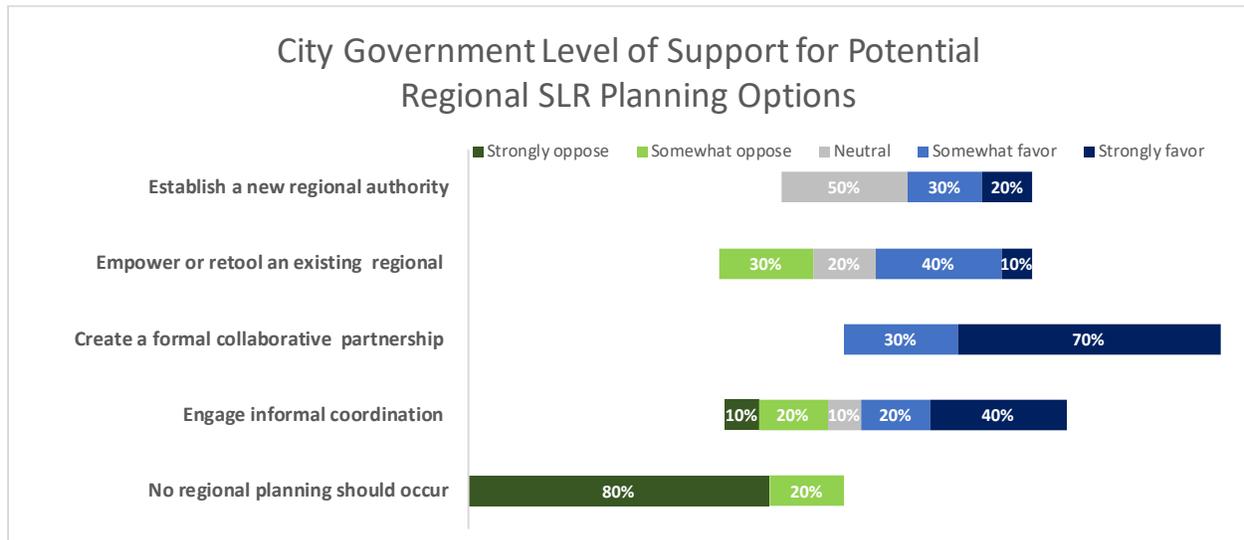


Figure 16. City Government respondents' level of support or opposition for various strategies for regional coordination of SLR planning from the SLR Coastal Professionals Survey 2021 (n= 10)

Reference Links

http://www.eureka2040gpu.com/project_document_library.html

http://www.eureka2040gpu.com/Links/pdfs/Final%20LCP%20Policy%20Paper_021715.pdf

<http://www.eureka2040gpu.com/Links/pdfs/Issues%20and%20Objectives%20Report%20FINAL%201.9.15.pdf>

http://www.eureka2040gpu.com/Links/pdfs/COE%20SLR%20Adaptation%20Plan_Final_161230.pdf

http://www.eureka2040gpu.com/Links/pdfs/Eureka%20Adaptation%20Plan%20Addendum_Final_161230.pdf

<https://www.humboldtkeeper.org/humboldt-bay-information/bay-issues/49-toxics>

<https://humboldt.gov/DocumentCenter/View/94677/Eureka-Slough-SLR-Adaptation-Plan---Executive-Summary>

Humboldt County

Roles & Responsibilities



Humboldt County is the agency undertaking the feasibility study on regional coordination for sea level rise adaptation on Humboldt Bay. There are several Humboldt County departments that are currently or likely to be involved with SLR planning and adaptation: Planning and Building, Public Works, Health and Human Services, Airports, and Sheriff's Office.

Planning and Building Department

The Humboldt County Planning and Building Department is responsible for building permit review and inspections consistent with California model codes as well as planning and development review and approval consistent with the county's General Plan and Zoning Code, and consistent with the County's certified Local Coastal Program (LCP) within the coastal zone. The county's Long Range Planning Division is in the process of updating the Humboldt Bay Area Plan (HBAP), one of six coastal area plans that comprise the Land Use Plan (LUP) portion of the County's LCP. A significant component of the HBAP update will be the addition of policies to address sea level rise in the Humboldt Bay region. The County does not have land use or coastal development permit jurisdiction over the unincorporated waters and tidelands of Humboldt Bay. These sovereign lands were granted in trust by the California Legislature to the Humboldt Bay Harbor District.

In addition to the HBAP update, the County Board of Supervisors formed a temporary ad hoc sub-committee of two board members to strategize for impending sea level rise in October 2019.

Public Works Department

The County owns and operates a wide variety of property, public buildings, and public structures that could be impacted by SLR. The Public Works Department is responsible for managing and maintaining County roads and bridges, County properties, and County infrastructure, including the maintenance of three County levee systems, seventeen County Park units, the County Trail systems and community forests, and the administration of solid waste franchises and facilities. Emergency response plans by the Sheriff's Office is reliant on Public Works facilities. It is additionally in charge of the preparation of plans and specifications, inspection of construction projects, preparation of environmental documents, and procurement of regulatory permits.

Road Maintenance Division- The Road Maintenance Division of the Public Works Department is responsible for maintaining roads and bridges. This includes appurtenant facilities such as storm drains, culverts and tide gates.

Environmental Services Division - The Environmental Services division of the Public Works Department is responsible for environmental permitting and compliance, resource management, natural hazard planning and mitigation, and recreation facilities. These responsibilities include serving as the regional grant administrator for the seven-county North Coast Resource Partnership and coordinator of the Humboldt County Fire Safe Council. Program areas include:

- Natural Resources – Responsibilities include environmental review and permitting for Public Works projects and operations to support environmental stewardship and appropriate resource management, and environmental regulatory compliance for county infrastructure and natural areas.
- Natural Resources Planning – Responsibilities include development and administration of programs for water resources, environmental restoration, habitat conservation, multi-hazard mitigation, and climate change adaptation projects.
- Parks & Trails – Responsibilities include operation and maintenance of recreational facilities and management of land for public safety, and for resource protection and conservation. The parks and trails system features 17 park units (nearly 950 acres) and the five-mile-long Hammond Trail in McKinleyville; county parks include ten beach parks, five parks with river access, five boat ramps, and five campgrounds.
- Water Management – Responsibilities include managing three levee systems including Mad River, assisting with technical studies, and planning related to flood management and sea level rise adaptation, among other water resource responsibilities.

Department of Health & Human Services

Environmental Health Division – This division is critical to the prevention of diseases within the local community by addressing challenges stemming from safe drinking water, pollution, proper sewage disposal, foodborne illness outbreaks, childhood lead poisoning, hazardous material spills, and solid waste management. SLR affects this division’s ability to regulate onsite water and wastewater systems.

Emergency Preparedness & Response Program – This program provides the tools and the staff to plan for emergency response to public health critical events, purchase the equipment necessary for these plans, and provide training valuable to the implementation of emergency plans.

Airports Department

Humboldt County owns and operates six public-use airports: California Redwood Coast-Humboldt County Airport (ACV), a FAR 139 certificated air carrier facility; and the general aviation facilities including Dinsmore (D63), Garberville (O16), Kneeland (O19), Murray Field (EKA) and Rohnerville (FOT) Airports. The only airport listed that is within the Humboldt Bay Area is Murray Field. This division ensures aeronautical safety, the safety of the traveling public, continued air service, and compliance with aviation rules, regulations, and advisories at a federal, state and/or local level.

Sheriff’s Office

Office of Emergency Services – The Humboldt County Sheriff’s Office of Emergency Services (OES) is the primary coordination agency for emergencies and disasters involving Humboldt County residents, public infrastructure, and government operations. They coordinate and participate in emergency planning, response, and recovery under the direction of the Sheriff and in collaboration with local, state, and federal partners. The Sheriff’s Office rely on Public Works facilities for emergency response.

Specific Hydrological Unit Assets and Concerns

All hydrological units

- **Roads**
 - Private levees with tide gates that protect county roads

Eureka Slough

- **Murray Field (EKA)**
 - One critical facility that the County operates that is highly susceptible to SLR is Murray Field, a county-owned regional general aviation airport located on filled land immediately east of Humboldt Bay in the City of Eureka. As a public general aviation facility, Murray Field provides a base of operation for local pilots and serves as a point of air access to Humboldt County communities. It was once used by FedEx Express for package delivery, but operations have moved to ACV. In addition, it plays a critical role for nearby communities by providing emergency services in the event of an emergency or natural disaster.
 - This airfield is built on reclaimed filled land. The California Coastal Commission has coastal development permit jurisdiction over its 131 acres. The entire airfield would be tidally inundated by 1.0 meter of SLR under current shoreline conditions.
- **Jacobs Garage**
 - This facility provides maintenance for the County's motor pool fleet and heavy equipment fleet.
- **Humboldt Bay Trail**

Eureka Bay

- **(Future) Samoa Wastewater Treatment System**
 - The communities of Fairhaven and Finntown currently do not have a wastewater treatment system and rely on individual septic systems for wastewater treatment and disposal, resulting in ongoing impacts to water quality. The process of implementing a wastewater treatment system to serve these communities is complicated by its location within the coastal zone, and in areas subject to tsunami and sea level rise impacts. Humboldt County is currently working in collaboration with PCSD to get CCC approval for the project, and the infrastructure funding effort has been initiated.
- **Samoa Campground**
- **Beach access points maintained by Public Works**
 - Fairhaven "T"
 - Samoa Power Pole Access Points
- **Fairhaven and Finntown**
 - Public Works maintains community streets and drainage infrastructure. New Navy Base Road is the only means of vehicular access to these communities.
- **Old Arcata Road at Jacoby Creek**
 - Road is subject to inundation during storm events coinciding with king tides



- **Humboldt Bay Trail**

Elk River Slough

- **City of Eureka Wastewater Treatment Plant (WWTP) facility**
 - HCSD owns capacity rights in this facility which services much of the County, but the County has no ownership in or jurisdiction over this facility.

South Bay

- **King Salmon**
 - Public Works maintains King Salmon Avenue and its bridge, the only means of vehicular access to King Salmon, and community streets as well as several stormwater control structures. Roads are subject to inundation during king tides. This is further exacerbated during storm events.
- **Fields Landing**
 - Public Works maintains community streets and stormwater runoff control structures in Fields Landing. Roads are subject to inundation during king tides. This is further exacerbated during storm events.
- **Berta Road**
 - Portions of this road border the Elk River. During storm events, this road currently floods. Sea level rise will extend the period of inundation as it will take longer for the river to drain into the bay.

General Concerns

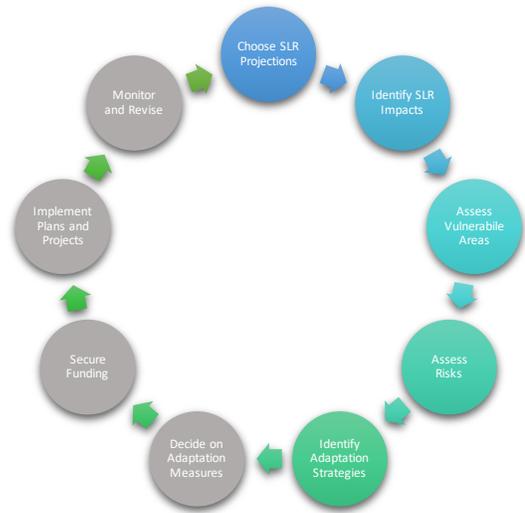
✓	Shoreline Management		Sea Level Rise Impacts:
✓	Property Ownership and Adaptation Responsibility	✓	Erosion
✓	Regulatory Authorization and Compliance	✓	Tidal Inundation
✓	Feasible Adaptation Strategies	✓	Backwater and/or Emerging Groundwater Flooding
✓	Funding	✓	Saltwater Intrusion

Planning Efforts

Planning Department

The HBAP update will further existing coordinated sea level rise planning efforts throughout the Humboldt Bay region. The update will provide policies for SLR adaptation for priority land uses, will include tsunami safety planning, and will also address a variety of coastal issues that have arisen in the roughly forty years since HBAP was originally certified in 1982. Policies for SLR adaptation will address a variety of SLR impacts, including those to:

- Coastal-dependent uses (Industry, recreation, etc.)
- Critical public facilities (Roads, wastewater treatment plants, shoreline protection, etc.)
- Communities (Particularly vulnerable and economically disadvantaged areas within the County including King Salmon, Fields Landing, and Fairhaven/Finntown)
- Agricultural land
- Environmentally sensitive habitat areas (ESHA)



The Humboldt Bay SLR Regional Planning Feasibility Study funded by the Coastal Commission LCP Planning Grant is a feasibility study to develop options for implementing a Humboldt Bay regional sea level rise adaptation planning effort to facilitate regional coordination and cooperation in developing and implementing sea level rise adaptation policies and strategies.

Public Works

The Environmental Services Division of Public Works has led multiple SLR projects including:

- The Humboldt Bay Sea Level Rise Adaptation Planning Working Group (APWG) which ended in 2015 and included partnerships with 22 entities. Humboldt County co-led this project with the Humboldt Bay Harbor Recreation and Conservation District.
- Sea Level Rise Adaptation Plan for Humboldt Bay/Eureka Slough Area (2018-2021) was funded by Caltrans Adaptation Planning Grant program and included input from the following stakeholders: City of Eureka, HCAOG, Caltrans, North Coast Railroad Authority, California Department of Fish & Wildlife, the Humboldt Bay Harbor, Recreation and Conservation District, Humboldt County Farm Bureau and Pacific Gas & Electric Company. A Cultural Landscape Investigation (June 2020 by Jerry Rohde) was conducted to inform this project.
- Natural Shoreline Infrastructure in Humboldt Bay for Intertidal Coastal Marsh Restoration and Transportation Corridor Protection (2020-2021) was funded by NFWF and OPC to perform site characterization and prepare preliminary design (50%) for a project utilizing natural shoreline infrastructure techniques to help protect a portion of the Eureka-Arcata transportation corridor along Humboldt Bay from flood hazards.

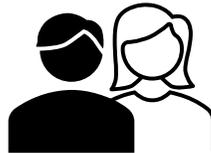
- Humboldt Bay Trail South Project – Although not a SLR project, the Project Description Report and 60% design plans completed in September 2020 discusses how the project proposes to integrate with the railroad and Highway 101 transportation corridor and how the project proposes to address flooding hazards and sea level rise along the Humboldt Bay shoreline. The project would expand the Humboldt Bay Trail by 4.25 miles and complete the trail connection between Eureka and Arcata.

Key Stakeholder Coordination Themes

During the SLR Stakeholder Interview 2021, 22 shared themes about SLR regional planning and adaptation were identified to have been explicitly mentioned by two or more stakeholder groups. The County of Humboldt interview contained 9 of these shared themes as shown in the table to the right, reported from highest to lowest percent of stakeholder groups interviewed that shared each interview theme. For more description of themes, reference the Key Stakeholder Themes section of the Introduction on page 12.

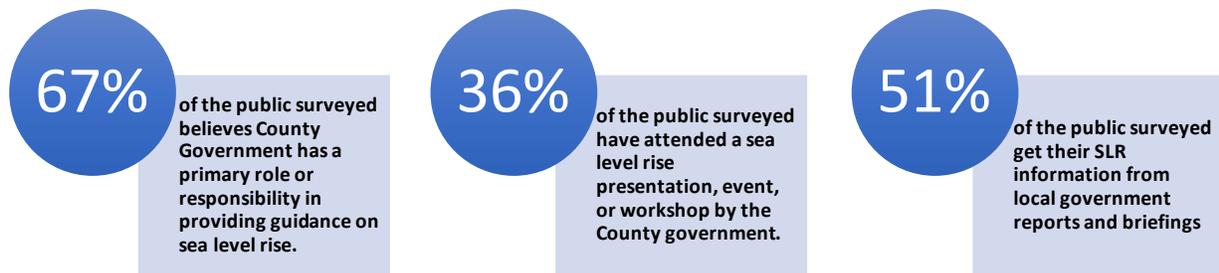
Interview Themes Important to County of Humboldt

Regional Coordination in General
 Permitting
 Diked Former Tidelands
 Shoreline
 Personnel Constraints
 Dedicated Time Constraints
 Transportation Infrastructure
 Wastewater Concerns
 Dredged Material



Relevant SLR Public Survey Findings

There were 577 total participants during the SLR Public Survey 2021, though participation varied by individual question. One question asked respondents to identify one or more entities that had a primary role or responsibility in providing guidance on SLR and had the option of “City Government”, “County Government”, “State Government”, “Federal Government”, and “Other”. There were 387 respondents (67%) who identified the County Government as having a primary role or responsibility. Participants were also asked to estimate how many sea level rise presentations, events, or workshops they had attended in the last five years. Out of 308 respondents who had attended events, 36% (n=112) had attended SLR outreach events hosted by a County Government. When asked where survey participants got their information about sea level rise, 51% (n=296) said local government reports and briefings.



Survey respondents were also asked to rate the priority of assets located within the Humboldt Bay region for consideration in flood protection and future SLR planning. Some of these assets are identified above in this catalogue section as Humboldt County assets that could be subject to sea level rise impacts, confirmed as such by County representatives during the SLR Stakeholder Interview 2021. Responses for priority ratings ranged from “not at all a priority” to “exceptionally high priority”. The top three assets for priority ratings at moderate priority and above were “Sewer/water collection and treatment facilities” (89%, n=548), “Local roads and highways” (88%, n=546), and “Government Facilities” (70%, n=543). In contrast, “Parks and similar public spaces” received much less ratings at moderate priority or higher (68%) and had less survey participation (n=539). Results for priority ratings are reported in the graph on the next page.

89% of the public survey respondents who provided a rating for **"Sewer/water collection and treatment facilities"** rated them a moderate priority or higher.

88% of the public survey respondents who provided a rating for **"Local roads and highways"** rated them a moderate priority or higher.

76% of the public survey respondents who provided a rating for **"Government facilities"** rated them a moderate priority or higher.

60% of the public survey respondents who provided a rating for **"Parks and similar public spaces"** rated them a moderate priority or higher.

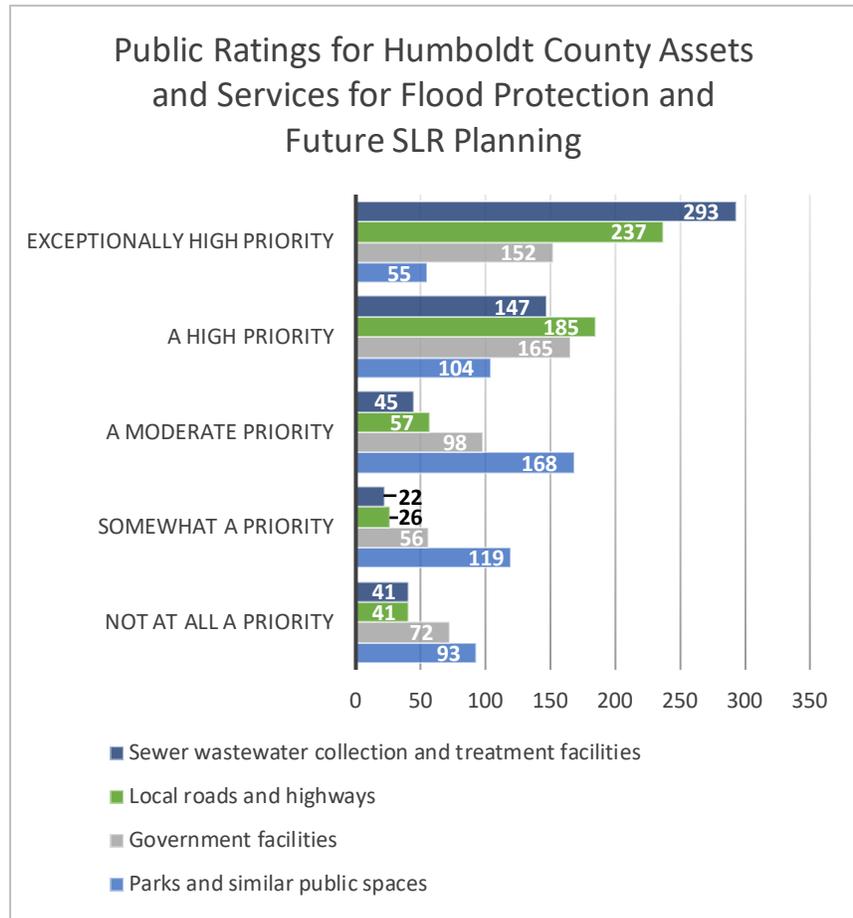


Figure 17. Priority Ratings for various assets that pertain to Humboldt County regarding Flood Protection and Future SLR Planning by participants of the SLR Public Survey 2021 (n = 539-548)

Relevant SLR Coastal Professionals Survey Findings

Results presented in this section for the SLR Coastal Professionals Survey 2021 do not necessarily represent an official view of the agency/organization or categories with which respondents identified, as explained in the introduction. Results presented below are intended only to provide general guidance in future planning and collaboration efforts. For more information on sampling methods and data collection, refer to the section on Community Input within the Introduction on page 2 and Appendix ii - SLR Regional Coordination: Coastal Professional Survey Results within the Appendices beginning on page 229.

During the SLR Coastal Professionals Survey 2021, survey participants were given a sliding scale ranging from “Local” to “State” to “Federal” to show what level of government they thought should hold the majority of the planning control and authority for SLR. A total of 80 individuals provided responses, a majority of which preferred the planning authority to include a mix of local-and-state control at 64% as shown in the graph below.



Figure 18. Survey respondents' preference for what level of government should hold the majority of the planning control and authority from the SLR Coastal Professionals Survey 2021 (n=80).

For the County Government category of participants, there was a total of 5 respondents. These Coastal Professionals were asked a variety of questions including the preferred level of involvement in SLR planning for the County Government. Respondents were given a sliding scale to rate their role ranging from “not involved” to “participate” and “lead”. The results for the County Government ranged from “participate” to “lead” with a 60% preference for a mix of participation and leading as shown in the graph on the next page.

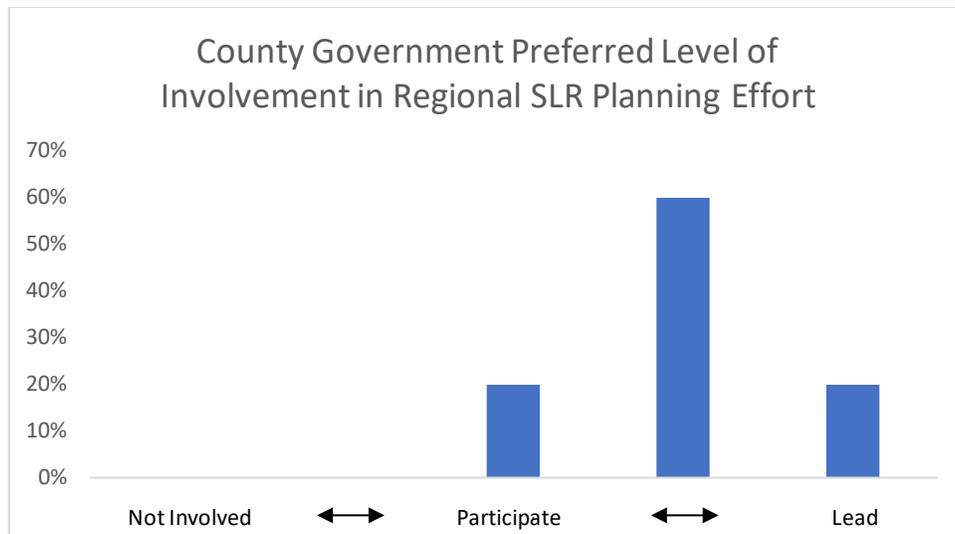


Figure 19. County Government respondents' preferred level of involvement in SLR planning effort from the SLR Coastal Professionals Survey 2021 (n=5).

These Coastal Professionals were also asked about their preferred spatial scale for SLR planning. Respondents were given a sliding scale ranging from planning on a “project by project” basis to planning on a larger scale of “Watershed/HU” and “Humboldt Bay”. The results for the County Government category ranged from a Watershed/HU to a Humboldt Bay spatial scale, with an 80% preference for a Humboldt Bay approach as shown in the graph below.

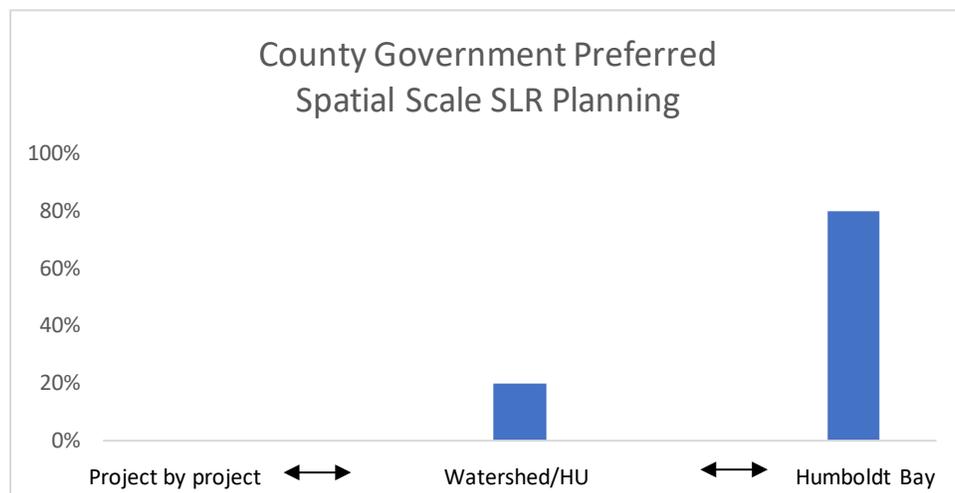


Figure 20. County Government respondents' preferred spatial scale to focus regional SLR coordination efforts in the SLR Coastal Professionals Survey 2021 (n=5)

To better understand the preferred style of future regional SLR coordination, Coastal Professionals were asked their level of support for several potential regional SLR planning options on a five-point Likert scale ranging from “strongly oppose” to “strongly favor”. The results for the County Government favored creating a formal collaborative partnership with 100% of respondents rating this option somewhat

favorable or higher. Similarly, 80% of respondents answered they strongly opposed having no regional planning as shown in the graph below.

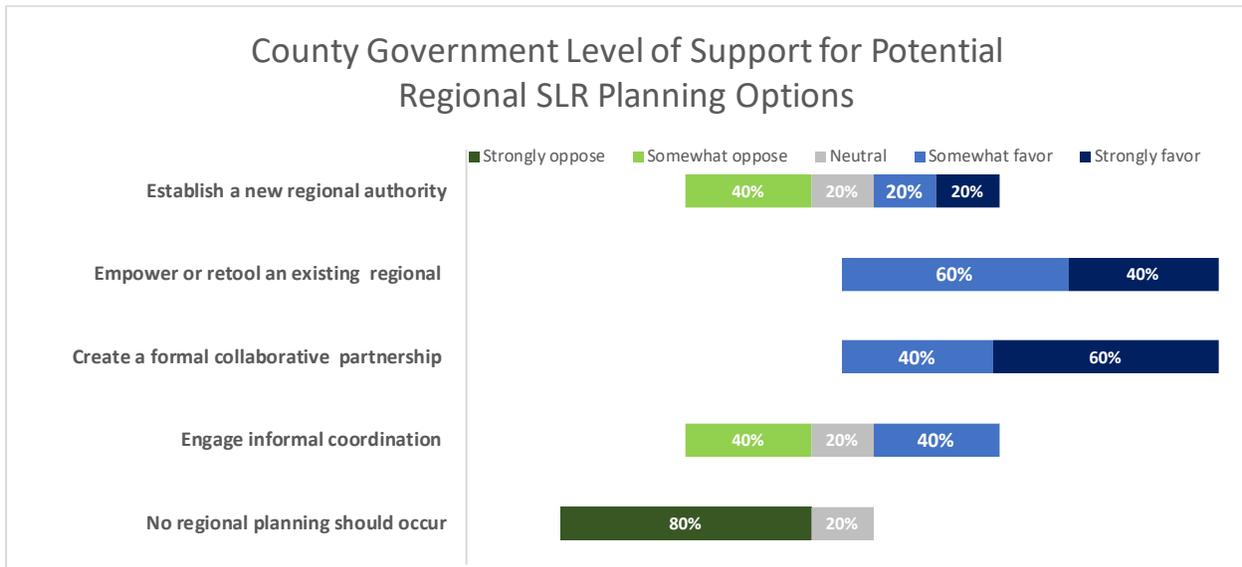


Figure 21. County Government respondents' level of support or opposition for various strategies for regional coordination of SLR planning from the SLR Coastal Professionals Survey 2021 (n= 5)

Reference Links

<https://humboldt.gov/2487/Sea-Level-Rise>

<https://humboldt.gov/1678/Local-Coastal-Plan-Update>

<https://www.slc.ca.gov/granted-public-trust-lands/grantees/humboldt-bay-harbor-recreation-and-conservation-district/>

<https://humboldt.gov/330/Public-Health>

<https://humboldt.gov/1400/Environmental-Services>

<https://humboldt.gov/562/Emergency-Preparedness-Response>

<https://humboldt.gov/1396/Airports>

<https://humboldt.gov/356/Office-of-Emergency-Services>