

APPENDIX 1a: San Francisco General Plan [Introduction, Housing (2009), Commerce and Industry (2010), Recreation and Open Space(2010), Transportation (2010), Urban Design (2010), Environmental Protection (2004), Community Facilities (1990), Community Safety (2012), Arts (2004), Air Quality (n.d.)]

Document	Code	Segment
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Intellectual and Experiential	early settlers
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Intellectual and Experiential	reveal extraordinary vistas.
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Intellectual and Experiential\Information and knowledge	biotechnology
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Intellectual and Experiential\Information and knowledge	clean technology
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Intellectual and Experiential\Information and knowledge	“Redevelop Hunters Point Shipyard to provide employment in the light-industrial, research & development.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Intellectual and Experiential\Recreation and community activities	„[...] rich variety of experience.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Intellectual and Experiential\Recreation and community activities	“San Francisco’s neighborhoods’ support a variety of life choices through the quality of life elements they provide. Such elements include open space, child care facilities and other neighborhood services such as libraries, neighborhood-serving retail (including grocery stores), community centers, medical offices, personal services, locally owned businesses, and a pedestrian and bike-friendly environment. These elements enable residents to continue to live in their neighborhood as their needs change, and encourage neighborhood relationships. Access to these amenities and services at a neighborhood level enables residents to make many trips on foot or public transportation.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Intellectual and Experiential\Recreation and community activities	maritime activities
The General Plan San Francisco, intro, housing, commerce	Cultural Services\Intellectual and Experiential\Recreation and community activities	“An important factor in choosing to locate in San Francisco or to remain once here is the attractiveness of the city as a place to live, work and pursue recreational interests.”

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and industry		
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Intellectual and Experiential\Recreation and community activities	Recognition must be given to the importance of public efforts to improve the environmental quality in residential neighborhoods, provide recreational and cultural opportunities
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Those aspects of the city have direct economic value.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Intellectual and Experiential\Recreation and community activities	„If the city is to maintain its economically vital areas, it must assure that these social, cultural and environmental factors remain strong assets.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Encourage maritime activity which complements visitor activity and resident recreation.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Intellectual and Experiential\Recreation and community activities	passenger ships.
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Cruise activities have contributed to the positive image of the Port of San Francisco as well as brought visitors to the city.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Boating has become an increasingly popular recreational sport. Additional small boat marinas, small boat docks and berthing areas along the San Francisco, waterfront can provide attractive waterside improvements which bring revenue to the city and should be provided at appropriate locations.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Other commercial and recreational maritime activities such as excursion boats, ferries, water taxies and berthing of historic ships also provide attractions unique to the waterfront.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Symbolic\Aesthetic and heritage	dramatic physical beauty

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The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Symbolic\Aesthetic and heritage	“ [...] bay and ocean surrounding a cluster of hills that are often illuminated by brilliant sun or shrouded in silvery fog.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Symbolic\Aesthetic and heritage	“The early settlers, in their scramble to forge a new life, imposed a simple grid system on the land.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Symbolic\Aesthetic and heritage	“The views from these hilltops were given to us inadvertently.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Symbolic\Aesthetic and heritage	“ [...] efforts to maintain the area's quality of life are imperative.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Symbolic\Aesthetic and heritage	“esthetic value“
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Symbolic\Aesthetic and heritage	“Ensure well-being of its residents, workers, and visitors.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Symbolic\Aesthetic and heritage	[...] cultural and economic diversity of our neighborhoods.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Symbolic\Aesthetic and heritage	“ [...] landmarks and historic buildings be preserved.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Symbolic\Aesthetic and heritage	“ [...] open space and their access to sunlight and vistas be protected from development.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Symbolic\Aesthetic and heritage	“[...] Prioritized their own neighborhoods’ physical and cultural character.”

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The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Symbolic\Aesthetic and heritage	“Consider environmental justice issues when planning for new housing, especially affordable housing.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Symbolic\Aesthetic and heritage	“Foster development that strengthens local culture sense of place and history [...]physical design, land use, scale, and landmark elements, neighborhood character is also defined by long-standing heritage, community assets, institutional and social characteristics. Maintaining the linkages that such elements bring, by connecting residents to their past, can contribute to the distinctiveness of community character and unique sense of place; as well as foster community pride and participation.” Policy
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Symbolic\Aesthetic and heritage	“Thus, as the City prioritizes sustainability in housing development, all actions need to keep in mind its broad range of environmental, economic and social components, by ensuring that housing development does not degrade environmental quality, or contribute emissions that further impact our resources; by promoting economic vitality so that all citizens have access to housing that is within their means and close to their workplace; and by protecting the rights of all citizens, including preventing their displacement.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Symbolic\Aesthetic and heritage	“San Francisco's unique and attractive environment is one of the principal reasons San Francisco is a desirable place for residents to live, businesses to locate, and tourists to visit.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Symbolic\Aesthetic and heritage	“The pursuit of employment opportunities and economic expansion must not be at the expense of the environment appreciated by all.”
The General Plan San Francisco, intro, housing, commerce and industry	Cultural Services\Symbolic\Aesthetic and heritage	“Some are opposed to high-rise office development because of the consequences of large office buildings such as loss of views [...]”
The General Plan San Francisco, intro, housing, commerce and industry	Provisioning Services\Energy\Renewable abiotic energy	“The City’s power networks need to be given the same cooperative consideration. While the City is currently well supplied with power, and is supplementing that system regularly with new technologies such as wind and solar, aging infrastructure, funding constraints and deferred maintenance highlight the need for continued master planning if the emerging vision for a more sustainable system is to be achieved.”
The General Plan San Francisco, intro, housing, commerce and industry	Provisioning Services\Energy\Renewable abiotic energy	“San Francisco is often seen as a leader in urban sustainable development, because of its early adoption of a Sustainability Plan (1997), and subsequent policies, from prohibitions on plastic bags and bottled water to the recently adopted Green Building Ordinance. However, sustainable development does not focus solely on environmental issues. It should encompass the way we promote economic growth, so that the most vulnerable, disadvantaged residents get an equal share of the benefits of growth. Also critical is the concept of social equity, which embraces a diversity of values that are not perhaps as easily quantified as greenhouse gas emissions or marketplace dollars, such as housing & working conditions, health, educational services and recreational

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		opportunities, and general quality of life.”
The General Plan San Francisco, intro, housing, commerce and industry	Provisioning Services\Energy\Renewable abiotic energy	“One of the most promising incubator industries is the solar heating industry, due to rising costs of natural gas and heating oil.”
The General Plan San Francisco, intro, housing, commerce and industry	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	“Restore the fishing industry in San Francisco.”- Policy
The General Plan San Francisco, intro, housing, commerce and industry	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	“The many restaurants and close residential areas created a significant market for their catch. Fishing has benefited San Francisco's economy as employer, retailer and as a part of the large and growing tourist industry.”
The General Plan San Francisco, intro, housing, commerce and industry	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	“In past years, the facilities for docking and fish processing deteriorated and the fleet diminished. Local unavailability of fish and the high cost of land and facilities in San Francisco had serious effects on the industry. However, the completion in 1995 of seismic repairs to Pier 45 and construction of state-of-the-art fish handling facilities are a major improvement for the industry. In addition, the Port plans to replace most existing berths with a new Hyde Street Fishing Harbor adjacent to Pier 45. These improvements will support and expand commercial fishing, fish processing and businesses which provide services to the fishing fleet in Fisherman's Wharf.”
The General Plan San Francisco, intro, housing, commerce and industry	Regulating Service\Flow regulation\Air,Water, Mass	“REALIZE SAN FRANCISCO'S FULL MARITIME POTENTIAL. San Francisco began and has developed as a maritime City. Historically, the city offered great natural advantages as a port. Maritime activity stimulated the development of San Francisco as a commercial center of the West Coast and contributed as much to the special flavor of San Francisco.”
The General Plan San Francisco, intro, housing, commerce and industry	Regulating Service\Flow regulation\Air,Water, Mass	“[...] most maritime activity offers the additional benefit of being a relatively "clean" industrial activity; many of its potential adverse consequences, such as congestion and noise, can be overcome.”
The General Plan San Francisco, intro, housing, commerce and industry	Regulating Service\Flow regulation\Air,Water, Mass	cargo industry
The General Plan San Francisco, intro, housing, commerce and industry	Regulating Service\Flow regulation\Air,Water, Mass	„Develop and implement a comprehensive long-range maritime development program for the port.”- Policy
The General Plan San Francisco, intro, housing, commerce and industry	Regulating Service\Regulation of the physical environment	physical beauty

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The General Plan San Francisco, intro, housing, commerce and industry	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“Preservation and rehabilitation of existing buildings is in and of itself a “green” strategy, normally consuming far less energy than demolition and new construction. But truly addressing climate change must include upgrades to these buildings as well.”
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Document	Code	Segment
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Information and knowledge	“[...]select interesting routes along the Bay, Ocean, and linking the City's primary ridgeline and hilltop parks, in areas that provide information about the city's history, frame vistas of the City and Bay region, and permit the opportunity to view and visit interesting cultural, architectural and natural geographical features.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Information and knowledge	“Once fully implemented, the Bay and Coastal Trails will achieve this objective and provide enjoyable visual, educational and recreational experiences for many users. In addition to providing space for pedestrian and bicycle movement, the trails should also provide inviting seating areas and viewpoints of waterfront activities.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Information and knowledge	“Develop recreational uses which will have only minimal effect on the natural environment. Support creation and continued development of an environmental education center.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Nearly half of the City's shoreline was preserved in parkland and military forts, and many parks have been created on the City's hilltops.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“The shoreline holds the greatest potential for new parks.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“State park and recreation areas are scattered throughout the region. In addition to property managed as regional parkland, water and utility districts preserve and manage thousands of acres of watershed lands throughout the Bay Area.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“The Bay Area has developed to the point where an extensive regional open space system is needed. Such a system should preserve undeveloped or predominantly undeveloped land or water area which has value for 1) conservation of land and other natural resources, 2) recreation and park land, 3) historic or scenic purposes, 4) controlling the location and form of urban development, and 5) agriculture.”

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The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“ [...] regional open spaces often encompass delicate ecological systems which are strained when subjected to intensive recreational use.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“In general, recreational activities in regional open spaces should be oriented around the natural qualities of the area. Natural site characteristics should be the primary determinants of the types of recreational activities allowed.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“DEVELOP AND MAINTAIN A DIVERSIFIED AND BALANCED CITYWIDE SYSTEM OF HIGH QUALITY PUBLIC OPEN SPACE. Public open spaces serving the entire city offer a variety of opportunities to city residents and visitors alike. Unlike neighborhood facilities which aim at a basic level of service in every community, city serving facilities tend to be larger and provide specialized programs, activities or recreation opportunities.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Golden Gate Park is the keystone of the citywide system because of its size and the specialized landscape elements and recreational opportunities available within it.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Other highly visible landscaped city parks, hilltop open spaces, waterfront parks and plazas are also important elements in the citywide system. Although primarily undeveloped at present, John McLaren Park because of its size has the potential of becoming a major component of the citywide system.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“ [...] the City should increase the per capita supply of public open space within the City.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“They may also contain facilities for specialized active recreation requiring large areas, such as for day camp, golfing, boating, horseback riding and bicycling.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“ [...] make parks and playgrounds frequent candidates as sites for recreation and cultural buildings.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“San Francisco s neighborhoods are densely populated, and many residents have no access to open spaces other than that provided by the City. Even in those areas with private yards, city parks make neighborhoods more livable. San Francisco s parks and playgrounds are a great asset to the City. Building in them results in a loss of open space which can rarely be replaced.”

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The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“ [...] where new recreation and cultural buildings are needed they should be located outside of existing parks and playgrounds.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“San Franciscans, however, should not be put in the position of developing indoor facilities at the expense of valuable outdoor open space and the amount of outdoor open space in parks and playgrounds should not have to be reduced in order to avoid buying land for new indoor recreation or cultural facilities.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“When public land becomes surplus to one public use, the General Plan states that it should be reexamined to determine what other uses would best serve public needs. The General Plan gives priority to direct public uses that meet either immediate or long-term public needs. One of these uses is open space.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Where necessary and desirable, jurisdiction of surplus land which meets open space criteria, such as land with high natural, recreational, or open space values, should be transferred to the Recreation and Park Department.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Preserve sunlight in public open spaces [...]solar access to public open space should be protected.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“This is because climatic factors, including ambient temperature, humidity, and wind, usually combine to create a comfortable climate only when direct sunlight is present. Therefore, the shadows created by new development nearby can critically diminish the utility of the open space.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Preserve the open space and natural historic, scenic and recreational features of the Presidio.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Develop a recreational trail system that links city parks and public open space, ridge lines and hilltops, the Bay and ocean, and neighborhoods, and ties into the regional hiking trail system.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“The third would be a Coastal Trail route along Ocean Beach. The trails should accommodate hikers and bicyclists.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Maintain and expand the urban forest. Trees planted in city parks, on public open space, on city streets and on private property, collectively form the "urban forest". This urban forest contributes substantially to the quality of life in the city. “

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The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“With 1,017 acres, it is the largest and most diverse park in the city system and provides places for active recreation, cultural institutions, as well as landscaped areas of pastoral character. The park is enjoyed by city and Bay Area residents, as well as national and international visitors.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Community gardens are a valuable use of open space in dense urban areas. They improve the quality of life in the city by revitalizing neighborhoods, and stimulating social interaction and neighborhood cooperation. In addition they provide opportunities for recreation and exercise for those who work in the gardens, and provide visual interest to the general public.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Natural area management plans should be developed for publicly owned land throughout the City which would identify potentially significant natural areas, inventory them, and identify the presence of natural resources. The plan should establish a consistent set of management policies and practices to protect and enhance the resources. It should also identify policies governing access and appropriate recreational use and enjoyment of protected natural areas to ensure that the natural resource values are not diminished or impacted by public use.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“The Pacific Ocean, San Francisco Bay and their respective shorelines are the most important natural resources in San Francisco. Their open space potential is considerable. Together they offer unlimited opportunities for water oriented recreation.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Assure that new development adjacent to the shoreline capitalizes on its unique waterfront location, considers shoreline land use provisions, improves visual and physical access to the water.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Priority Land Uses. The most important uses of the shoreline should be those providing substantial long-term public benefits that cannot be provided on other sites within the city. Maritime shipping and freight handling facilities, ship repair: water-related public recreation, open space including shoreline public access and water-dependent habitat areas; commercial fishing; and commercial and recreational maritime activities (e.g. ferries, excursion boats, water taxis, historic ship and visiting ship berthing, recreational boating) and maritime support services are included in this category.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Once fully implemented, the Bay and Coastal Trails will achieve this objective and provide enjoyable visual, educational and recreational experiences for many users. In addition to providing space for pedestrian and bicycle movement, the trails should also provide inviting seating areas and viewpoints of waterfront activities.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Development should be in a concentrated area and strictly limited in coverage as further defined in this plan or other Elements of the General Plan to result in a small-scale, pedestrian-oriented facility that adds interest, variety, and amenity to recreational use of the shoreline [..].”

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The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	„The trails should also encourage fishing and other active water-oriented recreational uses along appropriate areas of the shoreline. This may be achieved by installing and maintaining water taps, and basins to facilitate cutting bait and cleaning fish.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“POLICY 3.4 Create a visually and physically accessible urban waterfront along the Embarcadero corridor between Fisherman's Wharf and China Basin.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Active recreational uses should be promoted along portions of the waterfront. These could include, but not be limited to, water oriented uses such as shoreline fishing, swimming, and boating.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Ocean Beach (GGNRA) Continue as natural beach area for public recreation.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Emphasize the naturalistic landscape qualities existing at the western portion of the park, and encourage increased visitor use in the area.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Develop public open space area for continued recreational use and preserve natural and historic features in conjunction with the Golden Gate National Recreation Area.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Develop the Crissy Field area to permit more intensive recreational uses without significantly altering the character of its open landscape. Enhance existing beach and lawn areas to accommodate varied active and passive recreational uses, and enhance views of the Golden Gate. “
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“ [...] provide continuous pedestrian access through waterfront activity areas and, where feasible, to south of China Basin.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Overlook areas between piers should be improved with attractive areas for sitting, fishing, and viewing maritime activities wherever they can be provided without interference with Port operations.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Develop and improve these open spaces to promote recreational use and enjoyment of the waterfront.”

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The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“As opportunities arise, expand the area into a major public waterfront park, providing large waterside areas for beach, park and picnic facilities with continuous, safe public access.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Warm Water Cove-Improve the park site and cove shoreline along the Bay at the end of 24th Street with shoreline fishing as the primary recreation use.”
The General Plan, Recreation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Neighborhood parks and recreation facilities are essential [..].”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“The Bay Area has developed to the point where an extensive regional open space system is needed. Such a system should preserve undeveloped or predominantly undeveloped land or water area which has value for 1) conservation of land and other natural resources, 2) recreation and park land, 3) historic or scenic purposes, 4) controlling the location and form of urban development, and 5) agriculture.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“City-serving open spaces vary in size, from small areas with unique features to large parks. Examples include Golden Gate Park, Twin Peaks, and John McLaren Park. City-serving open spaces exist throughout the City. Characteristically, they contain unique features which may include forested areas, fields and open landscapes, water features, and vista points.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“Open spaces such as these are a very important part of the city s open space system. They supplement playgrounds and parks and are a major visual asset.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“[...] view protection”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“Preserve the open space and natural historic, scenic and recreational features of the Presidio.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“The following guidelines should apply to new development and land use changes in the Presidio: No new structures should be built that would adversely affect the scenic beauty and natural character of the Presidio.”

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The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“[...] frame vistas of the City and Bay region, and permit the opportunity to view and visit interesting cultural, architectural and natural geographical features.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“Strolling through a grove of trees in a City park, a private yard, or along a public sidewalk, or viewing a forest on a distant hilltop, are experiences that enrich one's enjoyment of the city.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“The landmarks and structures element should evaluate historic values [...]”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	„[...] park's unique landscape areas. “
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“Development of the park should capitalize on the site's natural conditions, including topography, existing native vegetation, and views.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“Community gardens are a valuable use of open space in dense urban areas. They improve the quality of life in the city by revitalizing neighborhoods, and stimulating social interaction and neighborhood cooperation. In addition they provide opportunities for recreation and exercise for those who work in the gardens, and provide visual interest to the general public.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“They are the pride of San Francisco's views and the source of the city's agreeable climate.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“Assure that new development adjacent to the shoreline capitalizes on its unique waterfront location, considers shoreline land use provisions, improves visual and physical access to the water.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“[...] fully implemented, the Bay and Coastal Trails will achieve this objective and provide enjoyable visual, educational and recreational experiences for many users. In addition to providing space for pedestrian and bicycle movement, the trails should also provide inviting seating areas and viewpoints of waterfront activities.”

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The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“In urban design terms, new developments should make maximum use of their shoreline locations and complement the shoreline as San Francisco's most important natural resource.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“Development should be designed to preserve view corridors and create open views to the water and provide usable open space accessible to the general public free of charge.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“The Bay and Coastal trails should be designed to provide amenity along the waterfront by installing trees and vegetation that can thrive in the marine environment.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“POLICY 3.4 Create a visually and physically accessible urban waterfront along the Embarcadero corridor between Fisherman's Wharf and China Basin.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	„Golden Gate Park-Strengthen the visual connection and physical access between the park and the beach. “
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	„Extend the reforestation program, which has been established to replace dead and dying trees at the windbreak along the ocean, throughout the park to ensure vigorous forest tree growth and maintain high visual quality.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“Restore selected landscape elements and improve overlooks. Protect the natural bluffs. Keep the hillside undeveloped in order to protect the hilltop land-form, and maintain views to and from the park. Acquire the former Playland-at-the-Beach site north of Balboa if funds become available.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“ Enhance views of the Golden Gate.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	„Fish Alley And Vicinity-Maintain the existing authentic character of Fish Alley and lagoon areas north of and parallel to Jefferson Street, which historically has supported the commercial fish handling and distribution industry.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“Maintain and improve view corridors from public rights-of-way into fish handling areas, the outer lagoon, open waters of the Bay, and back to the City. “

APPENDIX 1a: San Francisco General Plan [Introduction, Housing (2009), Commerce and Industry (2010), Recreation and Open Space(2010), Transportation (2010), Urban Design (2010), Environmental Protection (2004), Community Facilities (1990), Community Safety (2012), Arts (2004), Air Quality (n.d.)]

The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“[...] providing outlooks to the Bay.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“Enhance visual and physical connections between the City and the Bay.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“Maintain and enhance view corridors along Islais Creek to the Bay.”
The General Plan, Recreation	Cultural Services\Symbolic\Aesthetic and heritage	“Create grassy picnic areas and reserve vista points with good views over the Bay and to the downtown area. “
The General Plan, Recreation	Institutional cooperation	“Without a single agency with the power to raise money and preserve open space land uses, it will be difficult to preserve an adequate amount of open space for the future. Until such a regional agency is formed, the City will have to coordinate its planning efforts with other open space planning agencies throughout the region.”
The General Plan, Recreation	Institutional cooperation	“Areas which should remain in open space because they have one or more of these characteristics have been identified in the Association of Bay Area governments (ABAG) Regional Plan and the Bay Conservation and Development Commission (BCDC) Bay Plan. Some areas include major natural features of the region such as coastal plains, beaches, portions of the Bay and its shoreline, vineyards and grazing lands, or forests.”
The General Plan, Recreation	Institutional cooperation	“Coordinate with existing regional park districts, open space agencies, private sector and nonprofit institutions to acquire and manage a regional greenbelt.”
The General Plan, Recreation	Institutional cooperation	“Public agencies and private organizations and individuals are working to maintain open space in the Bay Region. These bodies include the Federal Government, the State of California, a multitude of local governments, several sub-regional open space agencies, as well as public nonprofit organizations and private landholders. Preserving a regional open space system is beyond the scope of the seventy-odd local governments in the nine county Bay Area. Valuable open spaces cross city and county lines and individual municipalities have neither the regulatory powers nor the funds to retain them. Preservation of such spaces will depend upon regional action.“

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The General Plan, Recreation	Institutional cooperation	<p>“Ideally, regional open space should be handled by a regional agency with the authority to 1) enact an official regional plan and have temporary permit powers over all open spaces of regional value until the plan is adopted, 2) acquire open space through the eminent domain process, and 3) raise money to purchase, manage and develop the regional open space system through methods such as grant application and taxation.</p> <p>Until a regional open space agency is formed, the City should facilitate efforts of existing agencies and organizations working toward regional open space goals. The City should encourage and work with these groups to secure additional land for open space retention and management, and to maintain existing open space areas in their current undeveloped open space status. The city should also support use of selected areas of open space lands within its jurisdiction for appropriate recreational uses.”</p>
The General Plan, Recreation	Institutional cooperation	<p>„Both the National Park Service and the Army are responsible for preserving the Presidio's natural setting, and protecting against development that would destroy its scenic beauty and natural character.”</p>
The General Plan, Recreation	Institutional cooperation	<p>“Much of the area under the jurisdiction of the U.S. Army is maintained as open space, a substantial part of which is accessible to the public. Most of the shoreline area has been transferred to the National Park Service. As mandated by the terms of the enabling legislation, jurisdiction of a 10-acre area just east of Long Avenue, currently being used as a motor pool and storage area, should be transferred to the National Park Service to be managed as part of Fort Point National Historic Site. If the Coast Guard station is closed and its function relocated, this property should also be transferred to the GGNRA.”</p>
The General Plan, Recreation	Institutional cooperation	<p>„Trails should be planned and designed to avoid impacting environmentally sensitive areas such as wetlands, and in a manner consistent with the policies of the land management agency through which the trail traverses.”</p>
The General Plan, Recreation	Institutional cooperation	<p>“A number of City agencies have authority over San Francisco's urban forest. The Recreation and Park Department plants and maintains trees and other landscape materials in City parks, and on some other public land. The Department of Public Works Urban Forestry Division has permit jurisdiction over all street trees, and plants and maintains trees along certain public streets.”</p>
The General Plan, Recreation	Institutional cooperation	<p>“Interagency Coordination and Public Information</p> <p>Currently the responsibility of maintaining San Francisco's urban forest rests with several city agencies, and private property owners throughout the city. Tree planting, maintenance and removal standards should be prepared by the Department of Public Works and Recreation and Park Department, and made available to other City agencies and the public. The same standards should be used by everyone responsible for maintaining the city's urban forest. Equipment and trained professionals could be shared by the implementing agencies. Nonprofit corporations, such as the Friends of the Urban Forest, can also provide assistance to neighborhood groups and individuals.”</p>

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The General Plan, Recreation	Institutional cooperation	“City departments should fully cooperate with neighborhood organizations and non-profit organizations, such as the San Francisco League of Urban Gardeners, SLUG, to establish, maintain, and administer community gardens at sites throughout the City. The City should also investigate opportunities to preserve existing gardens, in order to maximize the opportunity for San Franciscans to use, enjoy, and benefit from community gardens.”
The General Plan, Recreation	Institutional cooperation	“Most of San Francisco's shoreline open spaces are located on the headlands and on the western and northern shorelines. For the most part they are now incorporated as part of the Golden Gate National Recreation Area, and administrated by the National Park Service which has made them much more accessible to the public. However, the National Park Service must be adequately funded to assure they are adequately maintained and policed.”
The General Plan, Recreation	Institutional cooperation	“The beaches and tidal flats in the Warm Water Cove, Agua Vista and Mission Rock areas have been dumping grounds for tires, auto parts, concrete slabs, and other debris that limits public use and enjoyment. In addition, severe winter storms have eroded sections of the shoreline. While periodic shoreline clean-up efforts and shoreline stabilization at Warm Water Cove have occurred, regular maintenance should be improved and should include repair and stabilization of any future erosion along these shoreline areas. Several city agencies, as well as the State and Federal government, provide public open space along the shoreline. Additional coordination and cooperation between agencies could result in more consistent maintenance and result in increased public use and enjoyment. Plans for improvements and renovation should also be coordinated by the affected agencies.”
The General Plan, Recreation	Institutional cooperation	“The Recreation and Park Department should continue to work closely with the Port of San Francisco and Redevelopment Agency to provide these new parks, and provide additional recreational opportunities and public access along the Bay Shoreline.”
The General Plan, Recreation	Institutional cooperation	“WESTERN SHORELINE* *The Western Shoreline Plan, which is part of the General Plan, is the City's plan for the Local Coastal Zone established by the California Coastal Commission. This plan includes objectives and policies pertaining to open space in the area covered by the plan (see Map 5). A summary of these provisions is included here. The Western Shoreline Plan should be consulted for details.”
The General Plan, Recreation	Institutional cooperation	“EASTERN SHORELINE* *The Central Waterfront Plan, which is part of the Master PlanGeneral Plan, includes objectives and policies pertaining to open space. A summary of these provisions is included here. The Central Waterfront Plan should be consulted for details.”

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The General Plan, Recreation	Provisioning Services\Materials\Abiotic materials	“Other areas have been designated as open space because of the natural resources they contain, or because of their proximity to urbanizing areas. “
The General Plan, Recreation	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	“The most important uses of the shoreline should be those providing substantial long-term public benefits that cannot be provided on other sites within the city. Maritime shipping and freight handling facilities, ship repair: water-related public recreation, open space including shoreline public access and water-dependent habitat areas; commercial fishing; and commercial and recreational maritime activities (e.g. ferries, excursion boats, water taxis, historic ship and visiting ship berthing, recreational boating) and maritime support services are included in this category.”
The General Plan, Recreation	Provisioning Services\Nutrition\Portable water	“Make open space lands already in public ownership accessible to the public for compatible recreational uses. The City and County of San Francisco owns over 60,000 acres of open space lands in San Francisco, Alameda, Contra Costa and San Mateo Counties. These lands are managed as watershed lands and serve as the city's major water source. Because of the need to protect water quality and the filtration capability of the existing system, the watershed property has not been open to large-scale public recreational use.”
The General Plan, Recreation	Provisioning Services\Nutrition\Terrestrial plant and animal	“The Bay Area has developed to the point where an extensive regional open space system is needed. Such a system should preserve undeveloped or predominantly undeveloped land or water area which has value for 1) conservation of land and other natural resources, 2) recreation and park land, 3) historic or scenic purposes, 4) controlling the location and form of urban development, and 5) agriculture.”
The General Plan, Recreation	Regulating Service\Flow regulation\Air, Water, Mass	“Improve and stabilize sand dunes where necessary with natural materials to control erosion.”
The General Plan, Recreation	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“ [...] restoration of the native vegetation communities”.
The General Plan, Recreation	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“Protect natural vegetation and marine wildlife habitat at the northeast portion of the site.”
The General Plan, Recreation	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“Maintain support of the a significant seasonal shorebird and wildlife population and restore and enhance marsh and tidal mudflats.”
The General Plan, Recreation	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	„ [...] replanting of indigenous vegetation”

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The General Plan, Recreation	Regulating Service\Regulation of the biotic environment\Life cycle maintainance and habitat protection	“City-serving open spaces vary in size, from small areas with unique features to large parks. Examples include Golden Gate Park, Twin Peaks, and John McLaren Park. City-serving open spaces exist throughout the City. Characteristically, they contain unique features which may include forested areas, fields and open landscapes, water features, and vista points.”
The General Plan, Recreation	Regulating Service\Regulation of the biotic environment\Life cycle maintainance and habitat protection	“A mixture of naturalistic grassland and forest should be maintained in existing open space areas. The Presidio's forestry management plan should promote a balanced approach to maintenance of the forest resource and restoration of the native vegetation communities.”
The General Plan, Recreation	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Some areas, although partially modified, provide habitat or natural features that make them unique and valuable. Natural resource areas include forested areas, woodlands, grassy open fields and hilltops, chaparral, coastal scrub, mud flats, beaches and sand dunes, as well as wetlands, fresh water lakes and streams. They also include natural resource areas and naturalistic areas within existing developed City parks.”
The General Plan, Recreation	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Priority Land Uses. The most important uses of the shoreline should be those providing substantial long-term public benefits that cannot be provided on other sites within the city. Maritime shipping and freight handling facilities, ship repair: water-related public recreation, open space including shoreline public access and water-dependent habitat areas; commercial fishing; and commercial and recreational maritime activities (e.g. ferries, excursion boats, water taxis, historic ship and visiting ship berthing, recreational boating) and maritime support services are included in this category.”
The General Plan, Recreation	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Design the seawall, promenade, and beach access system to afford maximum protection to the dune ecosystem.”
The General Plan, Recreation	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Extend the reforestation program, which has been established to replace dead and dying trees at the windbreak along the ocean, throughout the park to ensure vigorous forest tree growth and maintain high visual quality.”
The General Plan, Recreation	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Investigate potential to reintroduce marsh and mudflats to restore these habitats for native flora and fauna.”
The General Plan, Recreation	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“Trees impart a sense of nature, provide shade and moderate the microclimate.”

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The General Plan, Recreation	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	“Create a more interesting park landscape by regrading the site to maximize Bay views, and improve the soil as required to permit more vigorous vegetation growth and install marine tolerant plant species.”
The General Plan, Recreation	Regulating Service\Regulation of the physical environment\Water quality regulation	“Because of the need to protect water quality and the filtration capability of the existing system, the watershed property has not been open to large-scale public recreational use.”
The General Plan, Recreation	Regulating Service\regulation of wastes\Bioremediation	“Planting, Tree Replanting and Maintenance A reforestation and horticultural maintenance element should provide a framework for program implementation. Principles of urban planning, landscape design, and horticulture should be employed to determine appropriate form, texture, color and scale of trees to be planted. The diversity of species planted throughout the city should be increased. The species or variety planted in any area should be chosen for design objectives identified in the Urban Design Element of the General Plan, as well as the tree's ability to thrive in the area's microclimate and soil conditions.”
The General Plan, Recreation	Regulating Service\regulation of wastes\Bioremediation	“ [...] capitalize on the site's natural conditions, including topography, existing native vegetation.”
The General Plan, Recreation	Regulating Service\regulation of wastes\Bioremediation	“The site contains rare, threatened, or endangered species, as identified by the U.S. Fish and Wildlife Service or California Department of Fish and Game, or contains habitat that has recently supported and is likely again to support rare, threatened, or endangered species.”
The General Plan, Recreation	Regulating Service\regulation of wastes\Bioremediation	“The site is adjacent to another protected natural resource area and, if protected from development, the two areas together would support a larger or more diverse natural habitat.”
The General Plan, Recreation	Regulating Service\regulation of wastes\Bioremediation	„Natural Resource Area Management Plan Once protected from development by public ownership, the natural resources of the site should be protected and enhanced through restrictions on use and appropriate management practices. Native plant habitats should be preserved and efforts undertaken to remove exotic plant species from these areas”
The General Plan, Recreation	Regulating Service\regulation of wastes\Dilution and sequestration	“Because of the need to protect water quality and the filtration capability of the existing system, the watershed property has not been open to large-scale public recreational use.”

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Document	Code	Segment
The General Plan, Transportation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Walking should be given priority for the following kinds of trips and/or in the specified areas: In parks, on trails and in other recreational areas, and where the enjoyment of slow movement and the preservation of the natural environment would be severely compromised by automobile traffic.”
The General Plan, Transportation	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Bicycling should be given priority for the following kinds of trips and/or in the specified areas: In parks, on trails, on roads of particular scenic beauty, and in other recreational areas, and where the enjoyment of slow movement and the preservation of the natural environment would be severely compromised by automobile traffic.”
The General Plan, Transportation	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Secure a berth for cruise ships in an attractive location, well-served by public transportation, to enhance San Francisco as a recreational port destination.”
The General Plan, Transportation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Other forms of water transportation, such as passenger ferries, may also be used to shuttle goods across the bay.”
The General Plan, Transportation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“OBJECTIVE 8 MAINTAIN AND ENHANCE REGIONAL PEDESTRIAN, HIKING AND BIKING ACCESS TO THE COAST, THE BAY AND RIDGE TRAILS. In addition to pedestrian continuity along all of these trails, continuous bicycle access should be facilitated along the Bay and Coast Trails, which are important regional recreational and touristic facilities.”
The General Plan, Transportation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Ensure that the Coast Trail, the Bay Trail and the Ridge Trail remain uninterrupted and unobstructed where they pass through San Francisco.”
The General Plan, Transportation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Mitigate and reduce the impacts of automobile traffic in and around parks and along shoreline recreation areas. Streets in large parks, around small parks and along recreational parts of the shoreline should function primarily for access to recreational facilities and for scenic driving, not as thoroughfares. Heavy or fast surface traffic endangers pedestrians and cyclists, cuts off access to recreation and reduces the pleasure of being in parks by causing noise, pollution and visual disharmony. “

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The General Plan, Transportation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Facilitate and continue ferries and other forms of water-based transportation as an alternative mode of transit between San Francisco and other communities along the Bay, and between points along the waterfront within San Francisco. Since the Loma Prieta earthquake, ferry service has resumed between San Francisco and the East Bay. Commuter ferries now provide service between San Francisco and Vallejo, Larkspur, Tiburon, Sausalito, Oakland and two points in Alameda. They help reduce traffic congestion while providing a pleasant and useful alternative to a number of commuters who might otherwise choose to drive, and should be promoted in accordance with the recommendations of MTC's Regional Ferry Plan and any future local and regional transit expansion programs.”
The General Plan, Transportation	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Special attention should be paid to identify and map popular recreational destinations which may not be on regular through commuter routes, such as around Lake Merced [..].”
The General Plan, Transportation	Cultural Services\Symbolic\Aesthetic and heritage	“The setting of the San Francisco Bay Area -- the bay, the ocean, the mountains, the three large city centers and the other communities along the bay and the inland valleys -- is a fundamental part of its celebrated quality of life.”
The General Plan, Transportation	Cultural Services\Symbolic\Aesthetic and heritage	“Where the mode, such as a water taxi, affords a trip of special scenic quality.”
The General Plan, Transportation	Cultural Services\Symbolic\Aesthetic and heritage	“The modes of transportation used, as well as the location of routes and design of the system, have a large influence on development patterns and the quality of the overall environment. “
The General Plan, Transportation	Cultural Services\Symbolic\Aesthetic and heritage	“Design and locate facilities to preserve the historic city fabric and the natural landscape, and to protect views. Care must be taken to ensure that street and transit improvements are made to enhance the beauty and delicate fabric of the city and to protect views of the city, the bay, the ocean and the hills.”
The General Plan, Transportation	Cultural Services\Symbolic\Aesthetic and heritage	“The close-knit urban fabric of San Francisco, combined with the dramatic hills and sweeping vistas, makes walking an ideal mode for exploring and moving about the city.”
The General Plan, Transportation	Cultural Services\Symbolic\Aesthetic and heritage	“Public open space gives neighborhoods their identity, a visual focus, and a center for activity.”
The General Plan, Transportation	Cultural Services\Symbolic\Religious and Spiritual	“Organize the transportation system to reinforce community identity, improve linkages among interrelated activities and provide focus for community activities. The manner in which the transportation system is organized may contribute to or undermine social and environmental stability.”

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The General Plan, Transportation	Institutional cooperation	“Ensure adequate and appropriate environmental review under the California Environmental Quality Act for the Bicycle Plan and all discretionary actions under the Bicycle Plan that may have a direct or indirect physical environmental impact. Consider updating the transportation impact guidelines to include analysis of bicycle-related issues when evaluating impacts of new projects.”
The General Plan, Transportation	Provisioning Services\Energy\Renewable biofuels	“Reduce pollution, noise and energy consumption. Bicycling and walking, the quietest, cleanest and most energy-efficient forms of transportation, should be promoted whenever possible. Gasoline- and diesel-powered automobiles and buses pollute the air, generate substantial noise and consume fossil fuel, in comparison with electric vehicles.”
The General Plan, Transportation	Provisioning Services\Energy\Renewable biofuels	“For instance, where it is not feasible to use the existing electric transit vehicles, diesel buses should be replaced by quieter and less polluting transit vehicles. Another example is the placement of stop signs in relation to topography to avoid substantial noise caused by acceleration and deceleration.”
The General Plan, Transportation	Provisioning Services\Energy\Renewable biofuels	“Promote the electrification of bus operation. Electric trolley buses are cleaner, quieter and often faster than diesel buses. “
The General Plan, Transportation	Regulating Service\Regulation of the biotic environment\Life cycle maintainance and habitat protection	Maintain and expand the planting of street trees
The General Plan, Transportation	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“On the other hand, some of the most fundamental problems contributing to the deterioration of the quality of life in an urban area -- air pollution, traffic congestion, suburban sprawl, visual blight, depletion of natural resources -- are caused by the inadequate and inefficient provision of transportation services, particularly in relation to the use of adjacent land.”
The General Plan, Transportation	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“The air quality in San Francisco and the nine-county Bay Area has been maintained above all applicable federal standards of pollutants, such that in 1995 the Bay Area became the only large metropolitan area in California to be designated as an Attainment Region by the Environmental Protection Agency. This designation removes the threat of relevant federal sanctions in San Francisco and the Bay Area, removes administrative burdens on its industries, and relieves them from imposition of more extreme emission controls.”
The General Plan, Transportation	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“POLICY 2.2 Reduce pollution, noise and energy consumption.”
The General Plan, Transportation	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“ [...] air quality have become more severe. State legislation requires that each urban county develop a Congestion Management Program to address these problems.”

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The General Plan, Transportation	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“DEVELOP AND IMPLEMENT PROGRAMS IN THE PUBLIC AND PRIVATE SECTORS, WHICH WILL SUPPORT CONGESTION MANAGEMENT AND AIR QUALITY OBJECTIVES, MAINTAIN MOBILITY AND ENHANCE BUSINESS VITALITY AT MINIMUM COST.”
The General Plan, Transportation	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“Encourage the use of alternative fuels for City vehicles, transit vehicles and as feasible, any other motor vehicles as a means of reducing toxic automobile emissions and conserving energy.”
The General Plan, Transportation	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“POLICY 20.11 Promote the electrification of bus operation. Electric trolley buses are cleaner, quieter and often faster than diesel buses. In planning for the conversion of bus operation, consideration should be given to topography, bus operation in traffic, air quality, noise and visual impacts of the overhead wires.”
The General Plan, Transportation	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“Active encouragement of bicycle use as an alternative to automobile use, whenever possible, is essential in light of the continually increasing traffic congestion caused by motorized vehicles which aggravates air pollution, increases noise levels and consumes valuable urban space.”
The General Plan, Transportation	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“San Francisco's healthful climate and compactness make travel by bicycle practical.”
The General Plan, Transportation	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“Adverse effects such as traffic accidents, noise, vibration, emissions and truck intrusion into residential areas are concerns which must be addressed.”
The General Plan, Transportation	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	“The space requirements, the questionable seismic soundness and the physically divisive effects of such freeway structures create significant problems in the city. Connections to any such freeway structures that are built outside the city should be made with at-grade arterials that are better integrated within the existing urban street system.”
The General Plan, Transportation	Regulating Service\regulation of wastes\Dilution and sequestration	“[..]street trees are an important environmental consideration as they contribute to cleaner air. An appropriate program of irrigation and maintenance should be implemented with street tree planting.”

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Document	Code	Segment
The General Plan, urban design	Cultural Services\Intellectual and Experiential\Information and knowledge	“The citizens of San Francisco have an uncommon awareness that the environment is finite, and that the advantages of greater size and intensity may have ultimate limits. That awareness is healthy and progressive and should be fostered. It should be given new outlets to help shape the physical form of the city. As in this Urban Design Plan, it can identify the attributes of the city that need to be protected and enhanced. Good planning, supported by an interested public, can channel growth to the right places in the city, build growth around previously established transportation systems and other services, cause other public costs to be borne in part by the developers who benefit from them, and hold in place the natural regulators of growth such as streets and open spaces. Above all, it can and should control the form of individual buildings so that they will be compatible with the character of the city.”
The General Plan, urban design	Cultural Services\Intellectual and Experiential\Recreation and community activities	“WATER, the Bay and Ocean, which are boundaries for the city and a part of its climate and way of life. The water is open space, a focus of major views and a place of human activity.”
The General Plan, urban design	Cultural Services\Intellectual and Experiential\Recreation and community activities	“OPEN SPACES AND LANDSCAPED AREAS, whose dark green patterns enrich the color of the city and define and identify hills, districts and places for recreation. These areas may be large, as at the Presidio, Lake Merced and Golden Gate Park, smaller but still prominent as at Bayview Hill and Alta Plaza.”
The General Plan, urban design	Cultural Services\Intellectual and Experiential\Recreation and community activities	“The Bay is itself a resource of nature, although it has been encroached upon by filling and by barriers that prevent access to much of its present shoreline. Hardly any of the original shoreline remains, but the water of the Bay is still a natural area that can be seen and used by the city's residents as an important part of their lives.
The General Plan, urban design	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Further filling and replacement of filled areas should be severely limited to cases in which there are strong public purposes to be served and clear opportunities for increased public use and enjoyment of the Bay and its shoreline.”
The General Plan, urban design	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Access includes physical contact with the water and the shore at recreation areas [...]”
The General Plan, urban design	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Another element of good neighborhoods is the presence of open space and recreation opportunities. The most satisfying recreation space is close by and visible, with a feeling of nature and a variety of facilities for all age groups. Such recreation space may be found on private properties, in neighborhood parks, along the sidewalks and in undeveloped street areas. On a citywide scale, larger recreation facilities that require travel away from home provide an even greater variety of opportunities. On this larger scale, the shoreline of San Francisco Bay has a potential that is not fully used.”
The General Plan, urban design	Cultural Services\Intellectual and Experiential\Recreation and community activities	“San Francisco Bay is included among the major recreation resources of the city, and visual and physical access to the Bay should be increased, with a maximum interface of land and water made available in new developments having public access.”

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The General Plan, urban design	Cultural Services\Intellectual and Experiential\Recreation and community activities	“New developments along the shoreline of the Bay should whenever possible provide recreation space or general public access to the Bay.”
The General Plan, urban design	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Install, promote and maintain landscaping in public and private areas.”
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“The unique relationships of natural setting and man's past creations are extremely fragile.”
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“WATER, the Bay and Ocean, which are boundaries for the city and a part of its climate and way of life. The water is open space, a focus of major views and a place of human activity.”
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“HILLS AND RIDGES, which allow the city to be seen, define districts, and more than any other feature produce the variety that is characteristic of San Francisco. The central mass of Twin Peaks separates the city into quadrants, for example, while Telegraph Hill, Sunset Heights and Potrero Hill are neighborhoods. In the topographic form of the city, the valleys and plains are as important as the hills, for they define their own districts and give the hills their visual meaning.”
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“ [...] emphasize the hills and valleys, provide vistas and open space.”
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“San Francisco has an image and character in its city pattern which depend especially upon views, topography, streets, building form and major landscaping.”
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“Recognize and protect major views in the city, with particular attention to those of open space and water. Views contribute immeasurably to the quality of the city and to the lives of its residents.”
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“ [...] important views that should not be blocked by landscaping.”

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The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	Natural areas are one such irreplaceable resource. Few examples remain of the original sand dunes, hills, cliffs and beaches that once characterized the peninsula, and fewer still are the examples of natural ecology. Reduction of such areas by development has continued until recent time, and the city can be seen to have reached an irreducible minimum if it is to keep a sense of unspoiled nature for future generations.”
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“The natural areas answer human needs for rest, quiet, escape from the city's pace and freedom from confinement. They provide places to view the city from afar, but just as often they can turn the viewer's attention to the secluded interior of the area or to the expanses of the Ocean or the Bay.
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“Natural areas and features such as sand dunes, cliffs, hills and beaches--particularly where a relatively undisturbed natural ecology exists--are irreplaceable and of special public value and benefit within an intensely developed city.”
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“The function and beauty of natural areas [..].”
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“Blocking, construction or other impairment of pleasing street views of the Bay or Ocean, distant hills, or other parts of the city can destroy an important characteristic of the unique setting and quality of the city.”
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“Natural areas in the city that remain in their original state are irreplaceable and must not be further diminished. Significant development should not take place in these areas, and facilities necessary to aid in human enjoyment of them should not disturb their visual feeling or natural ecology.”
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	„Access includes physical contact with the water and the shore at recreation areas, and it also includes visual contact through views of the water and of water-related activities.”
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“Preserve notable landmarks and areas of historic, architectural or aesthetic value.”
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“Promote efforts to achieve high quality of design for buildings to be constructed at prominent locations. Certain buildings will achieve prominence, whatever their design, because of their exposed locations. Among such locations are those at tops of hills; those fronting on permanent open space such as the Bay, parks, plazas and areas with height limit.”

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The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“Promote building forms that will respect and improve the integrity of open spaces and other public areas. New buildings should not block significant views of public open spaces, especially large parks and the Bay. Buildings near these open spaces should permit visual access, and in some cases physical access, to them.”
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“Tall, slender buildings should occur on many of the city's hilltops to emphasize the hill form and safeguard views, while buildings of smaller scale should occur at the base of hills and in the valleys between hills. In other cases, especially where the hills are capped by open spaces and where existing hilltop development is low and small-scaled, new buildings should remain low in order to conserve the natural shape of the hill and maintain views to and from the open space. “
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“The heights of buildings should taper down to the shoreline of the Bay and Ocean, following the characteristic pattern and preserving topography and views.”
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“There are many other elements that can bring amenity to the neighborhood environment. Planting in streets and yards, well designed and well cared for, adds immeasurably to the visual quality of an area, softening and complementing the hard appearance of pavement and buildings.”
The General Plan, urban design	Cultural Services\Symbolic\Aesthetic and heritage	“Portions of parks that are unlandscaped should also be considered for new planting, especially when the areas are visible from nearby neighborhoods.”
The General Plan, urban design	Cultural Services\Symbolic\Religious and Spiritual	“It provides organization and measured relationships that give a sense of place and purpose and reduce the degree of stress in urban life.”
The General Plan, urban design	Cultural Services\Symbolic\Religious and Spiritual	“Outlooks upon a pleasant and varied pattern provide for an extension of individual consciousness and personality, and give a comforting sense of living with the environment.”
The General Plan, urban design	Cultural Services\Symbolic\Religious and Spiritual	“People also have a need to understand their city, its logic and its means of cohesion. They need to know where to find activities, and how to reach their destinations in shopping areas, downtown, at institutions and at places of entertainment and recreation.”
The General Plan, urban design	Institutional cooperation	“Avoid encroachments on San Francisco Bay that would be inconsistent with the Bay Plan or the needs of the city's residents.”

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The General Plan, urban design	Institutional cooperation	“These areas do not have buildings of uniform age and distinction, or individual features that can be readily singled out for preservation. It is the combination and eloquent interplay of buildings, landscaping, topography and other attributes that makes them outstanding. For that reason, special review of building proposals may be required to assure consistency with the basic character and scale of the area. “
The General Plan, urban design	Institutional cooperation	“Because neighborhood quality is defined in the residents' own terms, the neighborhood environment will be better if residents participate in the planning of local improvements.”
The General Plan, urban design	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“Care should be taken to select species of trees suitable to each location. “
The General Plan, urban design	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“One type of feature that can be readily adjusted to the street system is landscaping. Accordingly, a plan should be put into effect for street landscaping that indicates the relative importance of streets by the degree of formality of tree planting and the species and size of the trees. “
The General Plan, urban design	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“ [...] maintain a sense of openness and green space, and produce a more livable environment.”

Document	Code	Segment
The General Plan, Environmental protection Element	Cultural Services\Intellectual and Experiential\Information and knowledge	“Provide environmental education programs to increase public understanding and appreciation of our natural surroundings. If we are to preserve and enhance the quality of our surroundings, we must cherish their values. Environmental education programs promoting an understanding and appreciation of our natural systems serve to expand public awareness of environmental problems and man's place in the world.Course instruction on the nature and problems of the environment should be continued and emphasized in the public schools, adult education centers, and colleges.”
The General Plan, Environmental protection Element	Cultural Services\Intellectual and Experiential\Information and knowledge	„Encourage and promote research on the necessity and feasibility of water reclamation.”
The General Plan, Environmental protection Element	Cultural Services\Intellectual and Experiential\Information and knowledge	“Such applications increase the efficiency of energy use while providing opportunities to inform and educate the public.”

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The General Plan, Environmental protection Element	Cultural Services\Intellectual and Experiential\Information and knowledge	„Changes in land use policies and regulatory codes can significantly increase local reliance on renewable energy resources. These programs include expediting permit applications, consumer protection, information services, and special programs for low-income residents and small commercial businesses.”
The General Plan, Environmental protection Element	Cultural Services\Intellectual and Experiential\Information and knowledge	„Develop information resources to assist in the use of renewable energy. Providing reliable information is an important activity in the marketing of renewable energy. Such information can motivate individuals to install energy conservation measures and renewable energy technologies.”
The General Plan, Environmental protection Element	Cultural Services\Intellectual and Experiential\Information and knowledge	“A local renewable resource information service should keep citizens informed of technology developments, while acting as a clearing house on land use and code requirements. “
The General Plan, Environmental protection Element	Cultural Services\Intellectual and Experiential\Recreation and community activities	“The official City position supports continued protection of environmentally sensitive coastal areas that are important to local economic activities. It is imperative that the City make its position known by participating in State Coastal policy review to ensure that local concerns are taken into account by Federal decision-makers.”
The General Plan, Environmental protection Element	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Promote nonpolluting recreation uses of fresh water lakes and reservoirs. A few of San Francisco's lakes serve as a valuable source of recreation. Boating and fishing are permitted at Lake Merced, and other recreational activities are enjoyed at Stow Lake and Spreckels Lake in Golden Gate Park and at Laguna Puerca in Pine Lake Park. San Francisco should encourage continued recreational uses of these lakes where such use does not mar the scenic beauty or water quality.Fresh water reservoirs without scenic value should be covered, wherever feasible, to prevent evaporation and to provide additional area for recreation or other compatible uses.”
The General Plan, Environmental protection Element	Cultural Services\Intellectual and Experiential\Recreation and community activities	“The usefulness of land for recreation, however, should not necessarily determine whether or not land areas ought to be preserved. Features of a scenic, geological, topographical, and ecological nature are also important criteria of their value as open space. These natural values of land should be respected.“
The General Plan, Environmental protection Element	Cultural Services\Intellectual and Experiential\Recreation and community activities	„A local revolving fund, through the issuance of revenue bonds, might be established to undertake local energy conservation programs.”
The General Plan, Environmental protection Element	Cultural Services\Symbolic\Aesthetic and heritage	“San Francisco enjoys an abundance of natural beauty. Surrounded on three sides by water and graced with parks, lakes, and vistas, San Francisco provides a magnificent urban environment with the potential to exist in harmony with its natural surroundings.”

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The General Plan, Environmental protection Element	Cultural Services\Symbolic\Aesthetic and heritage	“Urban Design Element- City Pattern OBJECTIVE :EMPHASIS OF THE CHARACTERISTIC PATTERN WHICH GIVES TO THE CITY AND ITS NEIGHBORHOODS AN IMAGE, A SENSE OF PURPOSE, AND A MEANS OF ORIENTATION. POLICY 1Recognize and protect major views in the city, with particular attention to those of open space and water. POLICY 2Recognize, protect and reinforce the existing street pattern, especially as it is related to topography.”
The General Plan, Environmental protection Element	Cultural Services\Symbolic\Aesthetic and heritage	“Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.”
The General Plan, Environmental protection Element	Cultural Services\Symbolic\Religious and Spiritual	“ [...] bringing about productive harmony between people and their environment. An important purpose, therefore, of an environmental protection element is to give natural environment amenities and values appropriate consideration in urban development along with economic and social considerations.”
The General Plan, Environmental protection Element	Cultural Services\Symbolic\Religious and Spiritual	“Conserve and protect the natural resources of San Francisco. A major thrust of science and technology in the oncoming years must be that of making cities more livable places by offsetting the imbalance between the natural and man-made environments. Man and his technology must become a more interrelated part of nature and not an exploiter of the physical environment.”
The General Plan, Environmental protection Element	Cultural Services\Symbolic\Religious and Spiritual	“SanFrancisco must assure that its remaining natural resources are protected from misuse. “
The General Plan, Environmental protection Element	Cultural Services\Symbolic\Religious and Spiritual	„ The intricate relationships between living things and their natural and man-made surroundings should be recognized as primary in improving the quality of environment. The most important uses of existing resources should be those which provide maximum benefits for public use while preserving and protecting the natural character of the environment. Moreover, the supply and quality of resources should be considered as major determinants of the nature and extent of development that is dependent on them.”
The General Plan, Environmental protection Element	Cultural Services\Symbolic\Religious and Spiritual	„OBJECTIVE 7 ASSURE THAT THE LAND RESOURCES IN SAN FRANCISCO ARE USED IN WAYS THAT BOTH RESPECT AND PRESERVE THE NATURAL VALUES OF THE LAND AND SERVE THE BEST INTERESTS OF ALL THE CITY'S CITIZENS.”
The General Plan, Environmental protection Element	Institutional cooperation	“Legislature should have mandated preparation of two elements which address environmental protection issues, one for natural resource conservation and another for transportation noise. This Environmental Protection Element combines those two state-mandated elements, along with a comprehensive energy management plan. A hazardous waste section which responds to separate State planning requirements for county-level hazardous waste management and siting of facilities is also included in this element.”

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The General Plan, Environmental protection Element	Institutional cooperation	“A number of official regional agencies operate to regulate the use of resources as related to San Francisco: the San Francisco Bay Conservation and Development Commission, the Bay Area Quality Management District, the California Regional Water Quality Control Board (San Francisco Bay Region), and the California Coastal Commission. San Francisco's participation in these regional efforts goes a long way toward achieving the goals of resource management. Accordingly, the Conservation Plan does not propose new policies to replace those already adopted at the regional level.”
The General Plan, Environmental protection Element	Institutional cooperation	“Relation To Other General Plan Elements Conservation, in the broadest sense of the word, refers to the entire process of determining to what extent any of the city's resources - natural as well as man-made — should be protected or used. To limit the scope of the Conservation section of the Environmental Protection Element (as required by State planning law) seems arbitrary. It implies that conservation is not an issue in residence, transportation, urban design, recreation, or any other General Plan element and, furthermore, that conservation of the many worthwhile aspects of the urban environment is somehow of less importance.”
The General Plan, Environmental protection Element	Institutional cooperation	“Maintaining a proper balance between the preservation and the development of San Francisco's resources is an issue recognized in all the elements of the General Plan. The Urban Design Element, for example, indicates areas of the city where increased height and bulk of buildings would be permissible and areas where open space ought to be protected from any building.”
The General Plan, Environmental protection Element	Institutional cooperation	“To a varying extent, each of these plans deals with conservation. Objectives and policies from these plans that relate directly to conservation are listed in Appendix A. These are reaffirmed as an integral part of the Conservation section of the Environmental Protection Element.”
The General Plan, Environmental protection Element	Institutional cooperation	“Cooperate with and otherwise support regulatory programs of existing regional, State, and Federal agencies dealing with the Bay, Ocean, and Shorelines. Managing the resources of the Bay and Ocean and the abutting lands is under the regulation of a number of limited-purpose regional and State agencies. The region-wide scope of the problems calls for region-wide solutions. San Francisco has representation on the multi-county agencies, and, consequently, its particular interests are considered along with those of the other constituent counties. When it is apparent, for example, that regionally operated facilities may be more costly to San Francisco than a local facility, common practice is to allow the local option so long as it meets regional performance standards. This policy of local option is essential to the spirit of regional cooperation. Conformity should not override good sense. With this important proviso, San Francisco should support and cooperate with regional, State, and Federal agencies in setting and achieving goals for the conservation of the resources of the Bay, Ocean, and Shorelines.”

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The General Plan, Environmental protection Element	Institutional cooperation	“Promote the use and development of shoreline areas consistent with the General Plan and the best interest of San Francisco. Other portions of the General Plan set policy on how the city's shoreline areas should ultimately be developed. They are the Recreation and Open Space and Urban Design Elements and the Northeastern Waterfront, Western Shoreline, and South Bayshore Area Plans. For specific policies governing Hunters Point Shipyard, see the Hunters Point Shipyard Redevelopment Plan and its accompanying Design for Development document The Bay Conservation and Development Commission (BCDC) and the California Coastal Commission also set policy on shoreline development. Within the framework set by these regional planning agencies, San Francisco should promote the use and development of its shoreline areas in accordance with those policies in the General Plan that serve the best interests of the citizens of the city.”
The General Plan, Environmental protection Element	Institutional cooperation	“POLICY 3.4 Encourage and assist privately operated programs to conserve the resources of the Bay, Ocean, and Shorelines. Voluntary, private organizations concerned about conservation deserve special recognition. They help keep conservation issues in the public consciousness. More importantly, they perform a watchdog function essential to effective enforcement. The City should seek the participation of voluntary groups in monitoring activities that affect the water and shore areas.”
The General Plan, Environmental protection Element	Institutional cooperation	“The local air supply extends beyond the physical boundaries of San Francisco, covering the entire Bay Region, and effective air resource management must include region wide planning, monitoring, regulations, and enforcement. San Francisco, however, can take certain actions which supplement and strengthen the efforts of existing regional programs. Local initiatives should be keyed to the curtailment of pollution emissions from sources typically found in San Francisco. Ultimately, solutions to the air pollution problem must be interrelated with virtually all facets of urban existence — industry, transportation, employment, housing, open space, recreation — even the products we buy and consume.”
The General Plan, Environmental protection Element	Institutional cooperation	“POLICY 4.1 Support and comply with objectives, policies, and air quality standards of the Bay Area Air Quality Management District. Region wide monitoring of air quality and enforcement of air quality standards constitute the primary means of reducing harmful emissions. The conservation of San Francisco's air resource is dependent upon the continuation and strengthening of regional controls over air polluters. San Francisco should do all that is in its power to support the Bay Area Air Quality Management district.”

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The General Plan, Environmental protection Element	Institutional cooperation	<p>“POLICY 4.5 Exert leadership in the voluntary reduction of pollution emissions during air pollution alerts. As provided in the Bay Area Air Quality Management District Alert Plan, air pollution alerts will be called throughout the Bay Region when meteorological forecasts for any twelve-hour period indicate that air contamination levels will reach or exceed alert standards. During alert periods, Bay Area residents are encouraged to follow a set of voluntary actions to diminish air pollution concentrations. “</p>
The General Plan, Environmental protection Element	Institutional cooperation	<p>“OBJECTIVE 5 ASSURE A PERMANENT AND ADEQUATE SUPPLY OF FRESH WATER TO MEET THE PRESENT AND FUTURE NEEDS OF SAN FRANCISCO.</p> <p>The City and County of San Francisco owns and operates one of the most extensive water and power systems in the world. At present, the supply of fresh water generated by the HetchHetchy/Water Department system is more than adequate. Current projections indicate that the present system will meet San Francisco's needs until the year 2020. Over the years, the consumption of fresh water in the city has risen substantially: over 100 percent between 1940 and 1971. This increase in water consumption is primarily due to commercial expansion and has occurred despite a decline in San Francisco's resident population since 1950. HetchHetchy and the Water Department should continue their excellent planning program to assure that the water supply will adequately meet foreseeable consumption demands. To this end, the City should be prepared to undertake the necessary improvements and add to the HetchHetchy/Water Department system in order to guarantee the permanent supply. Furthermore, San Francisco should continually review its commitments for the sale of water to suburban areas in planning how to meet future demand.”</p>
The General Plan, Environmental protection Element	Institutional cooperation	<p>“POLICY 8.1 Cooperate with and otherwise support the California Department of Fish and Game and its animal protection programs. The California Department of Fish and Game has overall authority to protect animals in San Francisco. The Municipal Code reinforces this control in protecting animals in public areas. The City should foster greater public awareness of these laws.”</p>
The General Plan, Environmental protection Element	Institutional cooperation	<p>“San Francisco, through its regulatory and planning activities, directly influences how, and to what extent, energy is used in the city. Local regulations governing the design, construction and use of buildings affect operational energy needs. Transportation policy decisions directly affect petroleum- based fuel requirements. Daily decisions on these and other issues should occur within a locally approved policy framework, since they will help determine San Francisco's energy future for decades to come.”</p>

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The General Plan, Environmental protection Element	Institutional cooperation	“All City agencies should give greater consideration to the potential use of renewable energy systems. Land use and regulatory codes should integrate renewable energy concerns. Solar access issues should be identified and local approaches developed to facilitate the use of various systems for space and water heating needs. Local government codes have, directly or indirectly, encouraged greater energy use and discouraged investments in renewable energy technologies. Changes in land use policies and regulatory codes can significantly increase local reliance on renewable energy resources. These programs include expediting permit applications, consumer protection, information services, and special programs for low-income residents and small commercial businesses. Local government should be committed to undertaking this re-examination in order that it might better reflect a position of leadership in support of renewable energy sources.”
The General Plan, Environmental protection Element	Institutional cooperation	“Local energy programs should be tied closely to existing Federal and State laws. The complexity of energy supply and distribution systems, in addition to social equity and economic considerations, require coordination of government and utility energy plans. Local energy management efforts should be designed to inform and support local residents and businesses in using available Federal, State and utility energy assistance programs. To carry out this objective, San Francisco should monitor energy legislation at all government levels and maintain an open dialogue with public and private agencies which have energy planning programs underway.”
The General Plan, Environmental protection Element	Institutional cooperation	“The hazardous waste management system is operated by private industry to collect, handle, transport, treat, store and dispose of hazardous waste generated in San Francisco County and extends far beyond the County's own boundaries for off-site disposal. The City and County of San Francisco under the Chief Administrative Officer, Solid Waste Management Program administers the local hazardous waste management process. Authorization of the siting of hazardous waste facilities is a responsibility of the Planning Department and Commission. “
The General Plan, Environmental protection Element	Institutional cooperation	„Avoid encroachments on San Francisco Bay that would be inconsistent with the Bay Plan or the needs of the city's residents.”
The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable abiotic energy	“Lastly, where feasible, diesel buses should be replaced with buses powered by electricity or other clean energy sources. Existing electric trolley bus lines should be retained wherever possible.”
The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable abiotic energy	„Fostering the economic development of energy management services and renewable energy systems.”
The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable abiotic energy	“Measured in terms of economic payback, quantity of supply and prevention of environmental disruption, energy conservation becomes a preferred strategy when compared to the increased use of conventional fuels or the development of new fuel sources It will provide San Francisco residents with the cheapest, most accessible and least disruptive energy supply alternative.”

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The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable abiotic energy	“Pacific Gas and Electric Company supplies electricity and natural gas to San Francisco. Hydro, oil and natural gas comprise the primary energy sources used to generate electricity, with lesser amounts coming from geothermal and nuclear fuels. Most natural gas is shipped.”
The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable abiotic energy	“PG&E will be shifting to an increased deployment of renewable, alternate energy resources such as solar, geothermal, co-generation and wind. This energy policy envisions and encourages a similar energy future for San Francisco. It is consistent with the assessment of the California Energy Commission that renewable energy resources will provide State residents with the greatest long term monetary, social and environmental benefits.”
The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable abiotic energy	“Although these energy alternatives will not displace conventional fuels in the near future, their development will provide San Francisco residents with a more varied resource mix that will be less susceptible to supply and price uncertainties.”
The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable abiotic energy	“Electricity is supplied to municipal facilities through HetchHetchy, the City-owned hydro electric facility. Natural gas is supplied by Pacific Gas and Electric Company. Adequate hydro capacity is available to meet projected municipal electrical demand. In this context, electrification of the municipal transit system provides a twofold benefit. It reduces oil dependency while increasing overall reliance on a renewable energy resource, i.e., water.”
The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable abiotic energy	“State of the art energy technologies, such as solar water heating systems, should be considered for use in municipal demonstration projects.”
The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable abiotic energy	“Building technologies currently on the market make it economically feasible to produce energy efficient housing beyond the State adopted standards. These technology options include solar water heating systems.”
The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable abiotic energy	“Alternate Energy OBJECTIVE 16PROMOTE THE USE OF RENEWABLE ENERGY SOURCES. Renewable energy is a term applied to energy sources which do not rely on finite reserves of fossil or nuclear fuels. These sources are directly or indirectly due to the sun, with the exception of tidal energy, and include such forms as solar, wind, biomass, and hydro. “
The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable abiotic energy	“Solar access strategies will differ according to existing and proposed height and bulk regulations. South wall and rooftop solar access may be achievable in low density residential districts. Rooftop access should be possible in medium to high density residential, commercial and mixed use districts.”

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The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable abiotic energy	“Remove obstacles to energy conservation and renewable energy systems in zoning and building codes. A detailed analysis of zoning and building codes should be performed, particularly in terms of problems encountered by persons who have installed or tried to install systems. The National Association of Building Officials has anticipated many such problems and has developed a Uniform Solar Code to facilitate installation of solar equipment. The California Energy Commission has developed model solar access and wind legislation. These codes should be reviewed for possible adoption in San Francisco.”
The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable biofuels	“It also addresses conservation and management of energy in the residential, commercial and transportation sectors.”
The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable biofuels	“ [...] regulation of energy production and hazardous waste.”
The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable biofuels	“POLICY 3.5 Protect sensitive economic and environmental resources in Northern California offshore coastal areas threatened by oil development. The regional economy of Northern California, heavily dependent on tourism and commercial fishing, is threatened by offshore oil and natural gas development in the Outer Continental Shelf (OCS) ocean area. Of particular significance to San Francisco is proposed development in the area within the Pt. Reyes-Farallon Island Marine Sanctuary, an important local fishery resource.”
The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable biofuels	“Pacific Gas and Electric Company supplies electricity and natural gas to San Francisco. Hydro, oil and natural gas comprise the primary energy sources used to generate electricity, with lesser amounts coming from geothermal and nuclear fuels.”
The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable biofuels	“POLICY 12.5 Include energy emergency preparedness plans in municipal operations. The City and County of San Francisco should be prepared for possible fuel shortages or disruptions in energy supplies due to political or economic events in addition to emergency situations resulting from natural disasters such as earthquakes.”
The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable biofuels	“San Franciscans use considerable less electricity than average PG&E residential customers, although they consume close to the average amount of natural gas. Natural gas is used primarily for space and water heating.”
The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable biofuels	“Natural gas usage represents the largest energy savings potential in the residential sector, through the implementation of cost-effective weatherization measures and more efficient operation of space and water heating systems.”
The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable biofuels	“ [...] natural gas is used for space and water heating, food storage/ preparation and metal fabrication.”

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The General Plan, Environmental protection Element	Provisioning Services\Energy\Renewable biofuels	“The benefits of reduced transportation energy use are clear. It will save money for both San Francisco's residents and business community while conserving critical fuel resources.”
The General Plan, Environmental protection Element	Provisioning Services\Materials\Abiotic materials	“Unrestricted development and use of resources may either exhaust or pollute the supply. Resources, consequently, should be managed in ways that will assure their availability for generations to come. Sensible resource management does not exclude, by any means, the development and utilization of resources. Nevertheless, with the population of the nine-county Bay Region expected to grow to 6.6 million persons by the year 2005, increasingly greater demands will be placed on these resources. Programs are already in force to conserve and in some cases to improve the quality and supply of our resources. Some of the programs may need to be strengthened.“
The General Plan, Environmental protection Element	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	“Fresh water for consumption and fire fighting.”
The General Plan, Environmental protection Element	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	“FRESH WATER OBJECTIVE 5 ASSURE A PERMANENT AND ADEQUATE SUPPLY OF FRESH WATER TO MEET THE PRESENT AND FUTURE NEEDS OF SAN FRANCISCO.”
The General Plan, Environmental protection Element	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	“Maintain an adequate water distribution system within San Francisco.”
The General Plan, Environmental protection Element	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	“POLICY 5.2Exercise controls over development to correspond to the capabilities of the water supply and distribution system. New development places additional demands on the water supply and distribution system. Nonresidential water users, representing approximately 45 percent of the consumption in the city, have been the principal cause of the increase in total city water consumption. Development that might place too great a strain on the system should be discouraged.”
The General Plan, Environmental protection Element	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	“OBJECTIVE 6CONSERVE AND PROTECT THE FRESH WATER RESOURCE.”
The General Plan, Environmental protection Element	Regulating Service\Flow regulation\Air, Water, Mass	“POLICY 7.4 Assure the correction of landslide and shore erosion conditions where it is in the public interest to do so. The existing erosion and slide areas along the Ocean shore are within the Golden Gate National Recreation Area. It should be decided first whether all of these problems should be corrected or whether some should be left to the forces of nature. The erosion of Ocean Beach should be corrected through a program of dune stabilization, where feasible. In cases where dune stabilization is not possible, structural measures may need to be utilized. Any stabilization and restoration of these damaged areas, to increase their recreational value, should be undertaken as part of the Federal administration of this recreation area. Elsewhere in the city, corrective steps should be taken at City expense or through special assessment to solve slide and erosion problems.”

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The General Plan, Environmental protection Element	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“Fish and other marine animals [...] should be protected.”
The General Plan, Environmental protection Element	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“FLORA & FAUNA OBJECTIVE 8 ENSURE THE PROTECTION OF PLANT AND ANIMAL LIFE IN THE CITY. A totally manufactured environment without plants and animals would be sterile. That bit of nature which still remains in San Francisco is a precious asset. The ecological balance of wildlife and plant communities should be protected against further encroachments.”
The General Plan, Environmental protection Element	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“POLICY 8.3 Protect rare and endangered species. A number of native plant and animal species are designated as rare or endangered. Interested individuals and groups, together with knowledgeable public agencies such as the Recreation and Park Department and the California Academy of Sciences, should identify the rare and endangered flora and fauna that merit special protection. Cooperatively they should devise ways to assure the fullest possible protection of these species.”
The General Plan, Environmental protection Element	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“OBJECTIVE 2: CONSERVATION OF RESOURCES WHICH PROVIDE A SENSE OF NATURE, COTINUITY WITH THE PAST, AND FREEDOM FROM OVERCROWDING. POLICY 1Preserve in their natural state the few remaining areas that have not been developed by man.”
The General Plan, Environmental protection Element	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Plants and animals of the city's land area and lakes.”
The General Plan, Environmental protection Element	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“San Francisco is fortunate in that it is not entirely developed and has some rather outstanding natural resources remaining. Those remaining resources should be protected from further encroachment and enhanced in order to achieve the necessary balance between the conservation of natural systems and the normal functioning of the city. This means ending pollution; protecting vegetation and wildlife; controlling shoreline uses; developing guides for the use and development of land, water, and air; and, where desirable, increasing the supply of natural resources.”
The General Plan, Environmental protection Element	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“POLICY 8.2 Protect the habitats of known plant and animal species that require a relatively natural environment. Golden Gate Park, a product of years of planning and design, provides to a certain extent the natural environment needed by wildlife and plant communities. The natural areas of Golden Gate Park should remain as they are, and any move to convert them into areas for more active recreation should be discouraged.”

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The General Plan, Environmental protection Element	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Other parks and undeveloped areas in San Francisco remain relatively undisturbed and provide a variety of environments for flora and fauna: beaches, sand dunes, wooded areas, open fields, grassy hills, and lakes. All these areas should be protected. The Presidio, not subject to local jurisdiction, should, nevertheless, be urged to protect animal and plant habitats within its boundaries.”
The General Plan, Environmental protection Element	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“AIR OBJECTIVE 4 ASSURE THAT THE AMBIENT AIR OF SAN FRANCISCO AND THE BAY REGION IS CLEAN, PROVIDES MAXIMUM VISIBILITY, AND MEETS AIR QUALITY STANDARDS. Air pollution is one of the major problems facing the cities of the San Francisco Bay Region. In San Francisco, the need for conserving the air resource and improving air quality is undeniable.”
The General Plan, Environmental protection Element	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“Encourage greater use of mass transit in the downtown area and restrict the use of motor vehicles where such use would impair air quality.”
The General Plan, Environmental protection Element	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“POLICY 4.4 Promote the development of nonpolluting industry and insist on compliance of existing industry with established industrial emission control regulations. The City and County of San Francisco, in cooperation with the Chamber of Commerce, should actively encourage the development and expansion of industries which do not add to the air pollution problem. Those industries which are a major source of industrial air pollution should be identified and made to comply with all industrial emission control regulations. They should be equipped with effective air Quality Management devices.”
The General Plan, Environmental protection Element	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“The climate of San Francisco is dominated by the sea breezes characteristic of maritime climates. Because of the steady stream of marine air, there are few heat and cold extremes.”
The General Plan, Environmental protection Element	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“Commercial building design should reflect San Francisco's climate. Buildings designed to take advantage of nearly year long westerly winds will be able to maximize natural ventilation opportunities. Heating, ventilation and air conditioning (HVAC) systems should be designed with these climatic conditions in mind. These actions would reduce both operating costs and energy demand.”
The General Plan, Environmental protection Element	Regulating Service\Regulation of the physical environment\Atmospheric regulation	in an air quality "non-attainment" area
The General Plan, Environmental protection Element	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	“POLICY 12.5 Include energy emergency preparedness plans in municipal operations. The City and County of San Francisco should be prepared for possible fuel shortages or disruptions in energy supplies due to political or economic events in addition to emergency situations resulting from natural disasters such as earthquakes.”
The General Plan, Environmental	Regulating Service\Regulation of the physical environment\Pedogenesis in	“ [...] in areas with high groundwater · in areas with permeable strata and soils.”

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protection Element	soil quality regulation	
The General Plan, Environmental protection Element	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	“ in areas subject to subsidence (ground collapses) or liquefaction (ground changes from granular material to a fluid state)”
The General Plan, Environmental protection Element	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	“ [...] so not build in areas with unstable soils.”
The General Plan, Environmental protection Element	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	„The improper disposal of hazardous waste can result in exposure and health risk to sewer and solid waste collection employees and the public. The combined effect over time of many small volumes of illegally disposed of hazardous waste can contaminate soil and groundwater.”
The General Plan, Environmental protection Element	Regulating Service\Regulation of the physical environment\Water quality regulation	“Natural resources that properly concern San Francisco are: Waters of the Bay and Ocean .”
The General Plan, Environmental protection Element	Regulating Service\Regulation of the physical environment\Water quality regulation	“POLICY 3.3 Implement plans to improve sewage treatment and halt pollution of the Bay and Ocean. San Francisco's Master Plan for Waste Water Management is an orderly plan for upgrading the collection, treatment, and disposal of San Francisco's sewage. The City should proceed as rapidly as possible to finance and construct facilities required to end the discharge of untreated and insufficiently treated sewage into the Bay and Ocean. Regulations controlling the discharge of industrial wastes into the sewers should be vigorously enforced as a further means of preventing the pollution of the waters of the Bay and Ocean.”
The General Plan, Environmental protection Element	Regulating Service\Regulation of the physical environment\Water quality regulation	“Ensure water purity. San Francisco's drinking water must meet State and Federal water quality standards. Ensuring water quality means continuing the present water purification process and monitoring storage facilities and transmission lines for threats to the water supply.”
The General Plan, Environmental protection Element	Regulating Service\Regulation of the physical environment\Water quality regulation	“POLICY 5.4Promote nonpolluting recreation uses of fresh water lakes and reservoirs. A few of San Francisco's lakes serve as a valuable source of recreation. Boating and fishing are permitted at Lake Merced, and other recreational activities are enjoyed at Stow Lake and Spreckels Lake in Golden Gate Park and at Laguna Puerca in Pine Lake Park. San Francisco should encourage continued recreational uses of these lakes where such use does not mar the scenic beauty or water quality. Fresh water reservoirs without scenic value should be covered, wherever feasible, to prevent evaporation and to provide additional area for recreation or other compatible uses.”
The General Plan, Environmental protection Element	Regulating Service\regulation of wastes\Dilution and sequestration	„ Given rise to policies and controls dealing with air, water and noise pollution.”

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Document	Code	Segment
The General Plan, Community Facilities Element	Cultural Services\Symbolic\Aesthetic and heritage	"In light of the high community value attached to parks in San Francisco, the preservation and restoration of park areas to park use is a long-range objective."
The General Plan, Community Facilities Element	Cultural Services\Intellectual and Experiential\Recreation and community activities	"Under the Recreation and Open Space Element of the General Plan, police facilities in designated recreation and open space areas are nonconforming uses."
The General Plan, Community Facilities Element	Cultural Services\Symbolic\Aesthetic and heritage	"The location should contain elements which act as a focus for the community. Sites near landmarks [..]."
The General Plan, Community Facilities Element	Regulating Service\regulation of wastes\Dilution and sequestration	"LOCATE WASTEWATER FACILITIES IN A MANNER THAT WILL ENHANCE THE EFFECTIVE AND EFFICIENT TREATMENT OF STORM AND WASTEWATER. POLICY 10.1 Provide facilities for treatment of storm and wastewater prior to discharge into the Bay or ocean. Locate such facilities according to the Wastewater and Solid Waste Facilities Plan."

The General Plan, Community_Safety_Element_2012	Institutional cooperation	"San Francisco's 2004 Climate Action Plan set a 2012 goal for greenhouse gas emissions, with a program for recommended emissions reduction actions. It presents next steps required over the near term to implement the Plan, including developing a process to support City departments and private entities to integrate climate protection into their standard operating procedures, to be led by SF Environment. Recent proposals for a local carbon tax, solar rebate and loan programs, grease recycling initiative, and a landmark green building ordinance are an outgrowth of this effort. The recently created San Francisco Carbon Fund also provides a city-based carbon offset program to fund local green activities."
The General Plan, Community_Safety_Element_2012	Provisioning Services\Energy\Renewable abiotic energy	"Ways to mitigate against pending damage from climate change include installation of infrastructure systems that reuse resources, generate clean energy, and provide alternatives to automobile transportation; and implementation of policies that promote energy efficiency, renewable energy, and recycling."

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The General Plan, Community_Safety_Element_20 12	Provisioning Services\Energy\Renewable abiotic energy	“Building and site development should include natural systems wherever possible. Natural vegetation, landscaped swales and gardens included in site designs can reduce, filter or slow storm-water runoff. “Green streets” that include pervious concrete, planters and landscaped strips adjacent to sidewalks can assist the City’s sewer discharge capabilities. Green roofs incorporated into buildings provide another method of absorption. Similarly, sustainable construction techniques can be used to mitigate against the effects of future disasters. Green building technologies now allow for buildings that can provide their own power and filter their own water from run-off, this helps reduce two problems associated with disasters, the need for power and the need for potable water.”
The General Plan, Community_Safety_Element_20 12	Provisioning Services\Nutrition\Portable water	“If San Francisco’s in-city reservoirs fail, or if the water shortage is prolonged, the City has other local water sources, such as East Bay and Peninsula Reservoirs and Lake Merced. “
The General Plan, Community_Safety_Element_20 12	Regulating Service\Flow regulation\Air,Water, Mass	“POLICY 1.10 Examine the risk of flooding due to climate change-related effects, such as storm surges, changes in precipitation patterns, and sea level rise as well as adaptation actions that will reduce population, built environment, and ecosystem vulnerability due to these threats.”
The General Plan, Community_Safety_Element_20 12	Regulating Service\Flow regulation\Air,Water, Mass	“Areas susceptible to landslides are those where masses of soils are weakly supported because of natural erosion, changes in ground water or surface water patterns, or human activities such as undercutting. Landslides can be triggered by heavy rains, as occurred during the high wind and rainstorms of the winter of 1995-1996 and in early 1997.”
The General Plan, Community_Safety_Element_20 12	Regulating Service\Flow regulation\Air,Water, Mass	“Water transit has the potential to provide vital transportation support in response to a natural or man-made disaster.”
The General Plan, Community_Safety_Element_20 12	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“POLICY 1.8 Direct City actions to reduce its contributions towards climate change, and mitigate future releases of greenhouse gasses.”
The General Plan, Community_Safety_Element_20 12	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“The significant change in global warming, and its impact on disasters, has been clarified in recent years. Science correlates climate change with an increase in the frequency of natural disasters, and in economic losses from these disasters. Results of global warming include increasing runoff from urban storms, springtime floods from swollen rivers and rising sea levels.”
The General Plan, Community_Safety_Element_20 12	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“Recent studies show that more than two-thirds of the measured climate change in the past 50 years has been humaninduced and human actions can also stem this tide. New urban systems to handle storm runoff, flood control structures will be needed.”

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The General Plan, Community_Safety_Element_20 12	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“[...] imaginative solutions, like capturing storm waters for irrigation, increasing urban forestry activities and other green uses.”
The General Plan, Community_Safety_Element_20 12	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“Despite best efforts to reduce greenhouse gas emissions and mitigate against future climate change, current CO2 levels are already causing changes in weather patterns, more extreme weather events, and an increase in sea levels. Even if greenhouse gas emissions were halted today, the long half life of many greenhouse gasses and the change in global ocean temperatures mean that we will be experiencing consequences of increased CO2 in our atmosphere for centuries.”
The General Plan, Community_Safety_Element_20 12	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	„POLICY 1.1 Continue to support and monitor research about the nature of seismic hazards in the Bay Area, including research on earthquake prediction, warning systems and ground movement measuring devices, and about earthquake resistant construction and the improved performance of structures.”
The General Plan, Community_Safety_Element_20 12	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	“POLICY 1.6 Consider site soils conditions when reviewing projects in areas subject to liquefaction or slope instability.”
The General Plan, Community_Safety_Element_20 12	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	“BE PREPARED FOR THE ONSET OF DISASTER BY PROVIDING PUBLIC EDUCATION AND TRAINING ABOUT EARTHQUAKES AND OTHER NATURAL AND MAN-MADE DISASTERS”.
The General Plan, Community_Safety_Element_20 12	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	“[...] hills along the central spine of the San Francisco peninsula are composed of rock and soils that are less likely to magnify ground shaking, although they are sometimes vulnerable to land sliding during an earthquake. The soils most vulnerable during an earthquake are in low-lying and filled land along the Bay, in low-lying valleys and old creek beds, and to some extent, along the ocean. Those soils, as well as those at steep hillsides, are at the most serious risk during earthquakes from ground shaking and ground failure such as earthquake liquefaction and landslides.”
The General Plan, Community_Safety_Element_20 12	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	"It is likely that the intensities of ground shaking will vary considerably throughout the City during any given earthquake, and that the pattern of ground shaking will be fairly consistent, relating the underlying soils. In general, sites with stronger soils will experience shaking of less intensity than those in low-lying areas and along the Bay, with Bay mud or other weaker soils. Some sites, particularly those with poor soils, will experience strong ground shaking in most earthquakes.”

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The General Plan, Community_Safety_Element_20 12	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	„Different soils conditions can result in very different earthquake impacts and can result in damage at other times - for example landslides. Because of the importance of soil conditions, the California Seismic Hazards Mapping Act requires that a geotechnical investigation and geotechnical report be prepared for new or renovated buildings that are constructed in Seismic Hazard Zones.”
The General Plan, Community_Safety_Element_20 12	Regulating Service\regulation of wastes\Dilution and sequestration	“ [...] urban storm water : runoff can be highly polluted, and pollutants that go down street storm drains can have negative impacts on the sewer and storm system, contributing to system overflows. Natural systems can often be an effective supplement, helping to absorb the overflow and filter out pollutants from that runoff.”
The General Plan, Community_Safety_Element_20 12	Regulating Service\regulation of wastes\Dilution and sequestration	Building and site development should include natural systems wherever possible. Natural vegetation, landscaped swales and gardens included in site designs can reduce, filter or slow storm water runoff. “Green streets” that include pervious concrete, planters and landscaped strips adjacent to sidewalks can assist the City’s sewer discharge capabilities. Green roofs incorporated into buildings provide another method of absorption. Similarly, sustainable construction techniques can be used to mitigate against the effects of future disasters. Green building technologies now allow for buildings that can provide their own power and filter their own water from run-off. This helps reduce two problems associated with disasters, the need for power and the need for potable water.

Document	Code	Segment
The General Plan, Air Quality Element	Cultural Services\Symbolic\Aesthetic and heritage	“Increased visibility because of clarity of the air is an additional benefit. “
The General Plan, Air Quality Element	Provisioning Services\Nutrition\Terrestrial plant and animal	“ [...] to protect against damage to agricultural crops and landscape plants. “
The General Plan, Air Quality Element	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“ [...] to protect against damage to agricultural crops and landscape plants.”
The General Plan, Air Quality Element	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“Thus, improvement in air quality benefits our environment, healthy living standards, and the economy.”
The General Plan, Air Quality Element	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“LINK THE POSITIVE EFFECTS OF ENERGY CONSERVATION AND WASTE MANAGEMENT TO EMISSION REDUCTIONS. POLICY 6.1Encourage emission reduction through energy conservation to improve air quality.”

APPENDIX 1b: San Francisco Bay Plan (2007)

Document	Code	Segment
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“They are a resource for scientific research and education [...]”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“[...]providing opportunities for recreation, research and education”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“The Commission should support comprehensive Bay sediment research and monitoring to understand sediment processes necessary to sustain and restore wetlands. Monitoring methods should be updated periodically based on current scientific information.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“The impact of diversions of fresh water inflow into the Bay should be monitored by the State Water Resources Control Board, which should set standards to restore historical levels (1922-1967) of fish and wildlife resources. The Bay Commission should cooperate with the State Board and others to ensure that adequate fresh water inflows to protect the Bay are made available.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“Tidal and fresh water flows influence all parts of the Bay and move salt, sediment, and other substances, such as plankton, throughout it. For example, flows over shallow subtidal areas resuspend and deposit sediment, which continually shapes the Bay, tidal flats and tidal marshes, while flows through deep subtidal areas are critical to salt transport throughout the Bay ecosystem. In addition, many fish, other aquatic organisms and wildlife use different parts of the Bay during their life cycles, and are strongly influenced by variations in physical processes.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“Subtidal areas that are scarce in the Bay or have an abundance and diversity of fish, other aquatic organisms and wildlife (e.g., eelgrass beds, sandy deep water or underwater pinnacles) should be conserved.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“Based on scientific ecological analysis and consultation with the relevant federal and state resource agencies, a minor amount of fill may be authorized to enhance or restore fish, other aquatic organisms or wildlife habitat if the Commission finds that no other method of enhancement or restoration except filling is feasible.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“[...] support research that provides information useful for planning and policy development on the impacts of climate change on the Bay, particularly those related to shoreline flooding..”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“ [...] identify mechanisms to provide information, tools, and financial resources so local governments can integrate regional climate change adaptation planning into local community design processes.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“Participating in recreation activities on the Bay and along its shoreline can inspire an appreciation of the Bay and can motivate people to participate in the responsible management and protection of the Bay.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“Education, interpretation and community service opportunities can be provided in water-oriented recreational facilities and wildlife refuges, wildlife areas and ecological reserves. These activities can increase appreciation and stewardship of the Bay and improve public safety.”

APPENDIX 1b: San Francisco Bay Plan (2007)

San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“[...] educational programs that address navigational safety, security, and wildlife compatibility and disturbance should be provided, consistent with use of the site.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“[...] historical and cultural education and interpretation.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“Interpretive information describing natural, historical and cultural resources should be provided in waterfront parks where feasible.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“In waterfront parks that serve as gateways to wildlife refuges, interpretive materials and programs that inform visitors about the wildlife and habitat values present in the park and wildlife refuges should be provided. Instructional materials should include information about the potential for adverse impacts on wildlife, plant and habitat resources from certain activities.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“Bay resources in waterfront parks and, where appropriate, wildlife refuges should be described with interpretive signs. Where feasible and appropriate, waterfront parks and wildlife refuges should provide diverse environmental education programs, facilities and community service opportunities, such as classrooms and interpretive and volunteer programs.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“Insufficient knowledge on the specific type and severity of effects of human activities on wildlife creates a need for more scientific studies, both in the San Francisco Bay Area and elsewhere in similar habitats with similar human activities. More baseline data are needed for comparison purposes and to help isolate disturbance factors (e.g., disturbances caused by human activities versus other factors such as poor water quality or natural variability). “
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“In some cases, exhibits, museums, or markers would be desirable at vista points to explain the value or importance of the areas being viewed.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Information and knowledge	“A baseline scientific assessment of existing and historical natural conditions and resource values of the pond(s)”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	"[...] parks, marinas, beaches, and fishing piers can provide close-to-home recreation for the Bay Area's increasing population."
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“San Francisco Bay maintained and enhanced as a magnificent body of water that helps sustain the economy of the western United States, provides great opportunities for recreation, moderates the climate, combats air pollution, nourishes fish and wildlife, affords scenic enjoyment, and in countless other ways helps to enrich man's life.”

APPENDIX 1b: San Francisco Bay Plan (2007)

San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“From its studies of San Francisco Bay, the Commission has concluded that:[..] The Bay is a single body of water, and a Bay Plan can be effectively carried out only on a regional basis.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“The most important uses of the Bay are those providing substantial public benefits and treating the Bay as a body of water, not as real estate.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Substantial public benefits are provided by: Developing adequate port terminals, on a regional basis, to keep San Francisco Bay in the forefront of the world's great harbors during a period of rapid change in shipping technology. Developing adequate land for industries that require access to shipping channels for transportation of raw materials or manufactured products. Developing new recreational opportunities-shoreline parks, marinas, fishing piers, beaches, hiking and bicycling paths, and scenic drives.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Bay to maintain adequate levels of oxygen in its waters, and also reduces the strength of the tides necessary to flush wastes from the Bay.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“New shoreline parks, beaches, marinas, fishing piers, scenic drives, and hiking or bicycling pathways should be provided in many areas. The Bay and its shoreline offer particularly important opportunities for recreational development in urban areas where large concentrations of people now live close to the water but are shut off from it. “
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Fish, other aquatic organisms and wildlife of the Bay benefit humans. They provide food, economic gain, and recreation”.
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Proper fresh water inflows, temperature, salt content, water quality, and velocity of the water.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“[...] any species that provides substantial public benefits, should be protected, whether in the Bay or behind dikes.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“The San Francisco Bay Regional Water Quality Control Board's Water Quality Control Plan, San Francisco Bay Basin designates the beneficial uses of the waters of the Bay, such as recreational boating, swimming, fishing, navigation or aquatic habitat. “
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Elevated levels of contaminants adversely affect water-oriented recreation uses and impair Bay fish, other aquatic organisms, and wildlife.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“The public's use and enjoyment of the Bay will continue to be affected as long as the Bay's water quality is impaired.”

APPENDIX 1b: San Francisco Bay Plan (2007)

San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“[...] important open space and recreational opportunities in the Bay Area.”
San Francisco Bay Plan	Cultural Services\Intellectual and experiential\Recreation and community activities	“[...] providing opportunities for recreation, research and education.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Filling or diking that adversely affect known shell deposits, illustrated in Plan Map No.8, Natural Resources of the Bay, should be allowed only for purposes providing more public benefit than the availability of the shells.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Important Bay overlook points, and historic areas and structures that may be located in water-related industrial and port areas, should be preserved and incorporated into the site design, if at all feasible. In addition, shoreline not actually used for shipping facilities should be used for some type of public access or recreation, to the maximum extent feasible.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Because ferry routes can cross shipping lanes, water recreation areas and areas used by water birds and marine mammals, care in the planning and siting of ferry routes and terminals.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Toll plazas, service yards, or similar facilities should not be located on new fill and should be located far enough from the Bay shoreline to provide adequate space for maximum feasible public access along the shoreline.”
San Francisco Bay Plan	Cultural Services\Intellectual and “Experiential\Recreation and community activities	“Transportation projects should be designed to maintain and enhance visual and physical access to the Bay and along the Bay shoreline.”
San Francisco Bay Plan	Cultural Services\Intellectual and “Experiential\Recreation and community activities	“Commercial fishing continues to be a valuable part of the Bay Area economy and culture.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Additionally, because visitors are attracted by commercial fishing activities, the industry is an important part of the Bay Area's multi-billion dollar tourist industry.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“The Bay and its shoreline provide unique recreational opportunities.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Boating allows residents to take advantage of the unique recreational opportunities provided by the Bay. Preserving opportunities for all types of boating on the Bay is important. “
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Non-motorized small boats (e.g., kayaks, kite boards, canoes and dragon boats) [...]”

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San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Live-aboard boats are designed and used for active navigation but are distinguished from other navigable boats in that they are also used as a primary place of residence. Although residential use is neither a water-oriented nor a public trust use, live-aboard boats can be converted easily to a navigable, recreational use and, when properly located within a recreational boat marina, can provide a degree of security to the marina.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“A major supplement to parks, marinas, and other forms of water-oriented recreation are the several areas of water-oriented commercial recreation and public assembly that have been developed around the Bay, such as the Ghirardelli Square-Fisherman's Wharf-Northern Waterfront area in San Francisco, Jack London Square in Oakland, and the downtown waterfronts of Sausalito and Tiburon. Providing access to these popular waterfront destinations from the Bay for boaters expands water-oriented recreation opportunities.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“The goal of the San Francisco Bay Trail Project is to create a continuous, multiple-use trail around San Francisco Bay which can be used for hiking, jogging, bicycling and other non-motorized uses and which connects shoreline parks.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Waterfront parks provide excellent locations for links in the Bay Trail and opportunities to expand shoreline access for Bay Area residents.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Only a few large, public sandy beaches exist along the San Francisco Bay shoreline, such as those at China Camp State Park, Baker Beach, Robert W. Crown Memorial State Beach and Kirby Cove. Because of their scarcity, these beaches provide important habitat for shorebirds, as well as valued sites for recreational activities.”
San Francisco Bay Plan	Cultural Services\Intellectual and experiential\Recreation and community activities	“Swimming in the Bay is a popular activity, especially at Bay beaches.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Bay water quality can affect the health of Bay swimmers.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Many waterfront parks and wildlife refuges designated in the Bay Plan contain historic structures or landscapes, archaeological or cultural resources, vista points, substantial improvements or buildings that have significant potential for appropriate and compatible reuse and other features that provide exceptional opportunities for water-oriented recreation. “
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Proper location, improvement and management of recreational uses are effective tools for reconciling habitat and wildlife conservation with recreation.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“If not properly located, improved or managed, recreation activities can have adverse affects on wildlife. This problem can be addressed by applying the Bay Plan public access findings and policies that address the compatibility of recreational activities with wildlife and their habitats when considering recreation-related development proposals.”

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San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“These areas also have the potential to accommodate compatible recreational activities that protect wildlife, inform the public, foster support for wildlife protection and expand opportunities for wildlife-dependent recreational activities and volunteer opportunities.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“[...] if not properly located, improved and managed, ferry facilities and operations can disrupt recreational use of water-oriented recreational facilities.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Diverse and accessible water-oriented recreational facilities, such as marinas, launch ramps, beaches, and fishing piers, should be provided to meet the needs of a growing and diversifying population, and should be well distributed around the Bay and improved to accommodate a broad range of water-oriented recreational activities for people of all races, cultures, ages and income levels.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Because there is no practical estimate of the acreage needed on the shoreline of the Bay, waterfront parks should be provided wherever possible.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Access points should be located, improved and managed to avoid significant adverse effects on wildlife and their habitats, should not interfere with commercial navigation, or security and exclusion zones or pose a danger to recreational boaters from commercial shipping operations, and should provide for diverse water-accessible overnight accommodations, including camping, where acceptable to park operators.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Sandy beaches should be preserved, enhanced, or restored for recreational use, such as swimming, consistent with wildlife protection.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Water-oriented commercial-recreation. Water-oriented commercial recreational establishments, such as restaurants, specialty shops, private boatels, recreational equipment concessions, and amusements, should be encouraged in urban areas adjacent to the Bay.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“To capitalize on the attractiveness of their bayfront location, parks should emphasize hiking, bicycling, riding trails, picnic facilities, swimming, environmental, historical and cultural education and interpretation, viewpoints, beaches, and fishing facilities. “
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Where shoreline open space includes areas used for hunting waterbirds, public areas for launching non-motorized small boats should be provided so long as they do not result in overuse of the hunting area.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“water-oriented recreational craft, such as kayaks, canoes and sailboards, should be provided in waterfront parks where feasible”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“[...] do not obstruct public access to and enjoyment of the Bay.”

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San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“The Commission may permit the placement of public utilities and services, such as underground sewer lines and power cables, in recreational facilities provided they would be unobtrusive, would not permanently disrupt use of the site for recreation, and would not detract from the visual character of the site.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“[...] not detract from the visual character of the site.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“[...] not diminish recreational opportunities or the park-like character of the site.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“To enhance the appearance of shoreline areas, and to permit maximum public use of the shores and waters of the Bay, flood control projects should be carefully designed and landscaped and, whenever possible, should provide for recreational uses of channels and banks.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Because of the need to increase the recreational opportunities available to Bay Area residents, small amounts of Bay fill may be allowed for waterfront parks and recreational areas that provide substantial public benefits and that cannot be developed without some filling. “
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“[...] fishing, wading, walking, bicycling, jogging, or just sitting beside the water.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Accurate characterization of current and future site, habitat and wildlife conditions, and of likely human activities, would provide information critical to understanding potential effects on wildlife.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“[...] the Bay is a major visitor attraction for the tourist industry.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“New or remodeled bridges across the Bay should be designed to permit maximum viewing of the Bay and its surroundings by both motorist and pedestrians. Guard rails and bridge supports should be designed with views in mind.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“The water surface area of the salt ponds supplements the water surface area of the Bay and thus helps to moderate the Bay Area climate and to prevent smog.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“In the San Francisco Bay, approximately 53,000 acres of managed wetlands are currently maintained as private waterfowl hunting clubs and publicly-owned wildlife management areas and refuges. In the Suisun Marsh, privately-owned managed wetlands account for about 35,300 acres, and about 15,400 acres are publicly owned. Less than 2,000 acres currently exist outside of Suisun Marsh (located in the North Bay), of which approximately 650 acres are privately owned.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Managed wetlands also provide for a variety of recreational opportunities including hunting, fishing, wildlife viewing, and hiking, and contribute to the open space character of the Bay.”

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San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“The continued operation and maintenance of managed wetlands for waterfowl hunting, as game refuges, or for waterfowl food production should be encouraged. Accordingly, property tax policy should assure that rising property taxes do not force conversion of the managed wetlands to urban development.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Opportunities for a diversity of public access and recreational activities.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Development should provide the maximum public access to the Bay, consistent with the project while avoiding significant adverse effects on wildlife.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“The intake of Bay water to a desalination plant can pull (entrain) small aquatic organisms (e.g., larvae, eggs, plankton) into the water intake structure where they can become trapped and die.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Shore areas not proposed to be reserved for a priority use should be used for any purpose (acceptable to the local government having jurisdiction) that uses the Bay as an asset and in no way affects the Bay adversely. This means any use that does not adversely affect enjoyment of the Bay and its shoreline by residents, employees, and visitors within the site area itself or within adjacent areas of the Bay or shoreline.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“[...] plants should be located where they do not interfere with and are not incompatible with residential, recreational, or other public uses of the Bay and shoreline.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Mitigation for direct or indirect adverse effects on the environment, including to land, air, water, minerals, flora, fauna, and objects of historic or aesthetic significance, includes the following actions, taken in sequence: (1) avoiding the impact; (2) minimizing the impact; (3) repairing, rehabilitating, or restoring the impacted environment, and finally; (4) compensating for the impact by replacing or providing substitute resources, thus providing compensatory mitigation.”
San Francisco Bay Plan	Cultural Services\Intellectual and Experiential\Recreation and community activities	“Individual compensatory mitigation projects should be sited and designed within a Baywide ecological context, as close to the impact site as practicable, to: (1) compensate for the adverse impacts; (2) ensure a high likelihood of long-term ecological success; and (3) support the improved health of the Bay ecological system.”
San Francisco Bay Plan	Cultural Services\Symbolic\Aesthetic and heritage	“Implementation of the Plan presented in this report will guarantee to future generations their rightful heritage from the present generation.”
San Francisco Bay Plan	Cultural Services\Symbolic\Aesthetic and heritage	“[...] provides great opportunities for recreation, moderates the climate, combats air pollution, nourishes fish and wildlife, affords scenic enjoyment, and in countless other ways helps to enrich man's life.”
San Francisco Bay Plan	Cultural Services\Symbolic\Aesthetic and heritage	“Indiscriminate filling will diminish the scenic beauty of the Bay.”

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San Francisco Bay Plan	Cultural Services\Symbolic\Aesthetic and heritage	“No comprehensive estimate of the value of fish, other aquatic organisms and wildlife for these purposes is available, but they enhance the intrinsic value and aesthetic appeal of the Bay.”
San Francisco Bay Plan	Cultural Services\Symbolic\Aesthetic and heritage	“Many waterfront parks and wildlife refuges designated in the Bay Plan contain historic structures or landscapes, archaeological or cultural resources, vista points [...]”.
San Francisco Bay Plan	Cultural Services\Symbolic\Aesthetic and heritage	“Historic structures, historic landscapes and archaeological or cultural resources can be preserved and their contribution to the Bay Area’s history can be interpreted for park visitors.”
San Francisco Bay Plan	Cultural Services\Symbolic\Aesthetic and heritage	Historic structures and districts listed on the National Register of Historic Places or California Registered Historic “Landmarks should be preserved consistent with applicable state and federal Historic Preservation law and should be used consistent with the Bay Plan recreation policies.”
San Francisco Bay Plan	Cultural Services\Symbolic\Aesthetic and heritage	“Visual access to the Bay is a critical part of public access.”
San Francisco Bay Plan	Cultural Services\Symbolic\Aesthetic and heritage	“The appearance of the Bay, and people's enjoyment of it as a scenic resource, contribute to the enjoyment of daily life in the Bay Area.”
San Francisco Bay Plan	Cultural Services\Symbolic\Aesthetic and heritage	“To enhance the visual quality of development around the Bay and to take maximum advantage of the attractive setting it provides, the shores of the Bay should be developed in accordance with the Public Access Design Guidelines.”
San Francisco Bay Plan	Cultural Services\Symbolic\Aesthetic and heritage	“All bay front development should be designed to enhance the pleasure of the user or viewer of the Bay. Maximum efforts should be made to provide, enhance, or preserve views of the Bay and shoreline, especially from public areas, from the Bay itself, and from the opposite shore. “
San Francisco Bay Plan	Cultural Services\Symbolic\Aesthetic and heritage	“Additional bridges over the Bay should be avoided, to the extent possible, to preserve the visual impact of the large expanse of the Bay.”
San Francisco Bay Plan	Cultural Services\Symbolic\Aesthetic and heritage	“Access routes to Bay crossings should be designed so as to orient the traveler to the Bay (as in the main approaches to the Golden Gate Bridge). Similar consideration should be given to the design of highway and mass transit routes paralleling the Bay (by providing frequent views of the Bay, if possible, so the traveler knows which way he or she is moving in relation to the Bay). Guardrails, fences, landscaping, and other structures related to such routes should be designed and located so as to maintain and to take advantage of Bay views. New or rebuilt roads in the hills above the Bay and in areas along the shores of the Bay should be constructed as scenic parkways in order to take full advantage of the commanding views of the Bay.”
San Francisco Bay Plan	Cultural Services\Symbolic\Aesthetic and heritage	“Shoreline developments should be build in clusters, leaving open area around them to permit more frequent views of the Bay. Developments along the shores of tributary waterways should be Bay-related and should be designed to preserve and enhance views along the waterway, so as to provide maximum visual contact with the Bay. “

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San Francisco Bay Plan	Cultural Services\Symbolic\Aesthetic and heritage	“Views of the Bay from vista points and from roads should be maintained by appropriate arrangements and heights of all developments and landscaping between the view areas and the water. In this regard, particular attention should be given to all waterfront locations, areas below vista points, and areas along roads that provide good views of the Bay for travelers, particularly areas below roads coming over ridges and providing a "first view" of the Bay (shown in Bay Plan Map No. 8, Natural Resources of the Bay). Vista points should be provided in the general locations indicated in the Plan maps.”
San Francisco Bay Plan	Cultural Services\Symbolic\Aesthetic and heritage	“[...] salt was harvested from these ponds by Native Americans and early Spanish and Mexican settlers.”
San Francisco Bay Plan	Cultural Services\Symbolic\Aesthetic and heritage	“New routes should avoid interfering with scenic views and with wildlife, to the greatest extent possible.”
San Francisco Bay Plan	Institutional cooperation	<p>“The Bay Plan was prepared during three years of study and public deliberation by the members of the San Francisco Bay Conservation and Development Commission. In making its study of the Bay, the Commission had the help of numerous consultants and received extensive and invaluable aid from city, county, state, and federal agencies, and from specialists on university faculties and on the staffs of business organizations. In addition, the Commission was assisted by an Advisory Committee, whose 19 members contributed greatly in the review of the Commission's work.</p> <p>The Commission's study resulted in the publication of 23 volumes of technical reports. Summaries of the studies are printed as a supplement to this Plan, and the detailed reports are available for reference in numerous public libraries and in the offices of the Commission.</p> <p>The San Francisco Bay Plan was completed and adopted by the San Francisco Bay Conservation and Development Commission in 1968 and was transmitted to the California Legislature and the Governor in 1969. In those actions the Commission completed the original charge given to it in the provisions of the Mc Ateer-Petris Act of 1965. That Act created the Commission and mandated its study of the Bay and the preparation and submittal of a final report to the California Legislature in 1969.</p> <p>This document presents the two essential parts of the Bay Plan: the policies to guide future uses of the Bay and shoreline, and the maps that apply these policies to the present Bay and shoreline.”</p>
San Francisco Bay Plan	Institutional cooperation	“Commission as the agency responsible for maintaining and carrying out the provisions of the law and the Bay Plan for the maintenance and protection of San Francisco Bay. The San Francisco Bay Plan was designated as the Commission's Plan for the Bay, until otherwise ordered by the Legislature.”
San Francisco Bay Plan	Institutional cooperation	“Ownership of the Bay is divided. Private owners claim about 22 percent of the Bay (including extensive holdings in the South Bay) as a result of sales by the state government 90 or more years ago. Cities and counties have received free grants of land from the state totaling about 23 percent of the Bay. The state now owns only about 50 percent of the Bay, and the federal government owns about 5 percent. The lands that are closest to shore, most shallow, and thus easiest to fill are held by either private owners or local governments that may wish to fill for various purposes irrespective of the effects of filling on the Bay as a whole.”

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San Francisco Bay Plan	Institutional cooperation	„The San Francisco Bay Conservation and Development Commission consist of 27 members who represent various interests in the Bay, including federal, state, regional, and local governments and the public of the San Francisco Bay region. Seven public representatives, required to be residents of the San Francisco Bay area, are appointed: five by the Governor; one by the Senate Committee on Rules; and one by the Speaker of the Assembly. All are subject to confirmation by the California Senate. The Chairman and Vice-Chairman are selected by the Governor from the five public members subject to his or her appointment. Local governments in the Bay region are represented by one Commissioner from each Board of Supervisors in the nine counties and by four representatives of bayside cities appointed by the Association of Bay Area Governments.”
San Francisco Bay Plan	Institutional cooperation	“In addition to the regular Commission representation described above, two members of the California Legislature, one senator and one member of the assembly, are appointed to meet with the Commission and participate in its activities to the extent such participation is not inconsistent with their duties as legislators.”
San Francisco Bay Plan	Institutional cooperation	„Protection of the Bay and enhancement of its shoreline are inseparable parts of the Bay Plan. Clearly what happens to the shoreline helps determine what happens to the Bay; if, for example, the relatively few shoreline areas suitable for water-oriented industry are used for housing, pressures will develop to provide new industrial land by filling the Bay. Therefore, in the public interest, the Commission is authorized to control both: (1) Bay filling and dredging, and (2) Bay related shoreline development.”
San Francisco Bay Plan	Institutional cooperation	“The Commission also has, under the Mc AteerPetrus Act, limited jurisdiction over salt ponds and managed wetlands.”
San Francisco Bay Plan	Institutional cooperation	<p>“Many regional matters, such as air pollution control, regulation of water quality, planning and construction of waste disposal facilities, airport development, and regional transportation, are directly related to the future of the Bay. Some of these regional matters are now within the jurisdiction of state and regional agencies, but others are not now being dealt with at all on a regional basis. Some or all of these regional matters could be made the responsibility of a limited regional government, which would in addition carry out the Bay Plan, but obviously they could not be made the responsibility of a single-purpose Bay agency. In any event, however, it is essential that many regional policies directly related to the Bay be carried out if the Bay Plan is to be effective. For example:</p> <p>Water quality should be maintained in accordance with the policies on Water Quality.</p> <p>Port planning and development should be carried out in accordance with the policies on Ports.</p> <p>Airport planning and development should be carried out in accordance with the policies on Airports.</p> <p>Views from vista points and from public roads should be protected and scenic roads and trails should be built in accordance with the policies on Appearance, Design, and Scenic Views.”</p>

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San Francisco Bay Plan	Institutional cooperation	„Further, under the federal Endangered Species Act and Marine Mammal Protection Act the Commission may not authorize a project that would result in the "taking" of fish, other aquatic organisms and wildlife, including marine mammals, identified pursuant to the Acts, without the authorization of the United States Fish and Wildlife Service or the National Marine Fisheries Service.”
San Francisco Bay Plan	Institutional cooperation	<p>“Under the federal Magnuson-Stevens Act and the Endangered Species Act, San Francisco Bay is considered critical habitat for certain fish species, such as Chinook salmon and Delta smelt, by the United States Fish and Wildlife Service and the National Marine Fisheries Service because the Bay plays an essential role in their life cycles. The Magnuson-Stevens Act requires that the National Marine Fisheries Service provide conservation recommendations to state agencies, such as the Commission, when a proposed project would have adverse impacts on essential fish habitat.</p> <p>The Bay lands Ecosystem Habitat Goals report provides a regional vision of the types, amounts, and distribution of wetlands and related habitats that are needed to restore and sustain a healthy Bay ecosystem, including the improvement of the well-being of many plant and animal species currently at risk of extinction.”</p>
San Francisco Bay Plan	Institutional cooperation	“Implementation of state and federal water pollution control programs by public agencies, particularly the U.S. Environmental Protection Agency, the State Water Resources Control Board, and the San Francisco Bay Regional Water Quality Control Board, has decreased significantly the pollutant levels in waste discharges from point sources, such as industries and sewage treatment plants, resulting in dramatic improvements to the Bay's water quality.”
San Francisco Bay Plan	Institutional cooperation	“The discharge of pollutants from urban areas can be controlled during site planning, construction, and post-construction. New development can be sited and designed to: (1) prevent pollutants from reaching waterways; (2) reduce impervious surfaces and maximize permeability; (3) protect important natural areas such as wetlands and riparian habitats; (4) minimize land disturbance to reduce erosion; and (5) minimize disturbance of natural drainage features and vegetation to reduce excessive sedimentation.”
San Francisco Bay Plan	Institutional cooperation	“In periodically reviewing existing diversions under its reserved jurisdiction, the State Water Resources Control Board issued Decision 1485 and the Delta Plan in 1978. “
San Francisco Bay Plan	Institutional cooperation	„The Commission, along with other agencies such as the National Oceanic and Atmospheric Administration, the Federal Emergency Management Agency, the United States Army Corps of Engineers, cities, counties, and flood control districts, is responsible for protecting the public and the Bay ecosystem from flood hazards.”
San Francisco Bay Plan	Institutional cooperation	“There are multiple local, state, federal, and regional government agencies with authority over the Bay and shoreline. Local governments have broad authority over shoreline land use, but limited resources to address climate change adaptation. Working collaboratively with local governments, including agencies with responsibility for flood protection is desirable to optimize scarce resources and create the flexibility needed to plan amidst a high degree of uncertainty. “

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San Francisco Bay Plan	Institutional cooperation	<p>“The San Francisco Bay Regional Water Quality Control Board and the U.S. Environmental Protection Agency are responsible for determining appropriate dredged material pollutant testing and discharge standards and for assuring that dredging and disposal of dredged materials are consistent with the maintenance of Bay water quality. The U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers have joint federal responsibility for regulating ocean, Bay, and wetland disposal. The California Department of Fish and Game, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service are responsible for management and protection of Bay organisms, particularly threatened and endangered species.”</p>
San Francisco Bay Plan	Institutional cooperation	<p>“The Long Term Management Strategy (L TMS) program, initiated by the U.S. Army Corps of Engineers in 1991 in partnership with the Commission, the San Francisco Bay Regional Water Quality Control Board, the State Water Resources Control Board, and the U.S. Environmental Protection Agency, with the involvement of dredgers, fishermen, environmentalists and other interested parties, has comprehensively studied Bay dredging issues and prepared a long-range Bay dredging and dredged material disposal management plan and implementation program. The L TMS provides the basis for uniform federal and state dredged material disposal policies and regulations. The L TMS has set goals to reduce in-Bay disposal over the next decade to one million cubic yards or less per year and to maximize use of dredged material as a resource.”</p>
San Francisco Bay Plan	Institutional cooperation	<p>“No single port agency is responsible for coordinated planning and development of Bay port terminals. In the absence of a seaport plan for the Bay Area, there is a risk that new port facilities could be built by whichever individual port can command the necessary financing even though another site might serve regional needs equally well but with less Bay fill. In addition, a major investment by one publicly operated port could be jeopardized by the unnecessarily duplicating actions of another publicly-operated Bay Area port. And, of particular importance to proper use of the Bay, parts of the Bay could be filled, and shoreline areas taken, for unnecessarily competing port uses. To minimize these risks and to coordinate the planning and development of Bay port terminals, the San Francisco Bay Area Seaport Plan has been developed.”</p>
San Francisco Bay Plan	Institutional cooperation	<p>“Transportation projects have the potential to degrade air quality, increase noise, impact mobility, eliminate open space and impede the public's access to the Bay. These impacts have often been disproportionately distributed in the Bay Area, commonly having greater impacts on low-income and minority communities. These disproportionate impacts have resulted in these communities having fewer opportunities for shoreline public access and views to the Bay, fewer shoreline recreational opportunities and fewer natural habitats. Transportation projects located in the Bay or along its shoreline have the potential to result in shoreline erosion from ferry wakes, increased pollution from runoff, and harm to marine mammals and fish from pile-driving for bridges and piers and to subtidal habitats from increased turbidity.”</p>

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San Francisco Bay Plan	Institutional cooperation	„Because of the continuing vulnerability of the Bay to filling for transportation projects, the Commission should continue to take an active role in Bay Area regional transportation and related land use planning affecting the Bay, particularly to encourage alternative methods of transportation and land use planning efforts that support transit and that do not require fill. The Metropolitan Transportation Commission, the California Department of Transportation, the California Transportation Commission, the Federal Highway Administration, county congestion management agencies and other public and private transportation authorities should avoid planning or funding roads that would require fill in the Bay and certain waterways.”
San Francisco Bay Plan	Institutional cooperation	“Additional berths and launching ramps will be needed in the future. Some locations are unsuitable for marinas or launching facilities because of high rates of sedimentation, potential conflicts with commercial shipping or ferries, impacts to valuable habitat, or insufficient upland for support facilities. An adequate number of conveniently located restrooms and vessel sewage pump-out facilities at recreational boat marinas will assist significantly in reducing wastewater discharges from vessels.”
San Francisco Bay Plan	Institutional cooperation	“Some of these habitats are also found in waterfront parks. Park and refuge managers are responsible for preserving wildlife and their habitats, educating the public about the ecological importance and function of these resources, and providing opportunities for wildlife compatible recreation. Proper location, improvement and management of recreational uses are effective tools for reconciling habitat and wildlife conservation with recreation.”
San Francisco Bay Plan	Institutional cooperation	“[...] provide opportunities for collaboration among local, state and federal agencies, landowners, other private interests, and the public.”
San Francisco Bay Plan	Institutional cooperation	“The Commission's decisions on permit matters are governed by the provisions of the Mc AteerPetrus Act and the policies of the Bay Plan. The Commission should approve a permit application if it specifically determines that a proposed project meets the following conditions, each of which is necessary for effectively carrying out the Bay Plan.”
San Francisco Bay Plan	Institutional cooperation	“The Bay lands Ecosystem Habitat Goals report provides a regional vision of the types, amounts, and distribution of wetlands and related habitats that are needed to restore and sustain a healthy Bay ecosystem, and thus provides a tool in assessing the suitability of a proposed mitigation project.”
San Francisco Bay Plan	Institutional cooperation	“Mitigation banking involves restoring or creating natural resources to produce mitigation "credits" which can be used to offset unavoidable adverse impacts to existing resources. A mitigation bank is a site where resources are restored, created, or enhanced expressly for the purpose of providing compensatory mitigation in advance of impacts associated with authorized projects. Mitigation banks may be established by individuals who anticipate needing to mitigate for future impacts, or by third parties who develop banks as a commercial venture to sell credits to permittees needing to provide compensatory mitigation. Among other benefits, mitigation banks provide the unique opportunity to address the cumulative effects of small fill projects that are too small to be mitigated individually. Provided mechanisms are in place to assure success, mitigation banking can provide a timely, convenient, cost effective and ecologically successful mitigation option.”
San Francisco Bay Plan	Institutional cooperation	“Determination of the suitability of proposed mitigation locations should be guided in part by the information provided in the Bay lands Ecosystem Habitat Goals report.”

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San Francisco Bay Plan	Institutional cooperation	<p>“Virtually all the publicly and privately-held unfilled tidelands and submerged lands within the jurisdiction of the Commission are subject to the public trust. The public trust is a paramount public property right held in trust by the state for the benefit of the public. Title to this public trust ownership is vested in the State lands Commission or legislative grantees. The purpose of the public trust is to assure that the lands to which it pertains are kept for trust uses, such as commerce, navigation, fisheries, wildlife habitat, recreation, and open space. The Mc Ateer-Petris Act and the Bay Plan are an exercise of authority by the legislature over public trust lands and establish policies for meeting public trust needs.</p> <p>As a result, the public trust ownership provides additional support for Commission decisions affecting such lands.”</p>
San Francisco Bay Plan	Institutional cooperation	<p>„When the Commission takes any action affecting lands subject to the public trust, it should assure that the action is consistent with the public trust needs for the area and, in case of lands subject to legislative grants, should also assure that the terms of the grant are satisfied and the project is in furtherance of statewide purposes.”</p>
San Francisco Bay Plan	Institutional cooperation	<p>“San Francisco Bay has an outstanding navigational safety record because many state, federal and international agencies, organizations and businesses involved with maritime shipping actively participate in programs to improve safe navigation and to prevent marine accidents that could result in spills of hazardous materials, such as oil. The Harbor Safety Committee of the San Francisco Bay Region, composed of representatives from the maritime community, port authorities, pilots, tug operators, the United States Coast Guard, the Office of Spill Prevention and Response, the petroleum and shipping industries, and others with expertise in shipping and navigation, meets regularly to develop additional strategies to further safe navigation and oil spill prevention.</p> <p>The U.S. Coast Guard, which is empowered by federal law to meet its strategic goals of navigational safety and the protection of natural resources, uses its expertise and authority to regulate bridges and aids to navigation.”</p>
San Francisco Bay Plan	Institutional cooperation	<p>“Marine facilities, which are used for exploring, drilling, producing, storing, handling, transferring, processing, refining or transporting oil and are located in or near marine waters, as defined in the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act, are required to have oil spill contingency plans pursuant to that Act.”</p>
San Francisco Bay Plan	Institutional cooperation	<p>“The Plan map notes and suggestions, which accompany each map, are advisory and are not Commission policies. Plan Map Policies. The "Bay Plan Policies" listed opposite each corresponding Bay Plan map are enforceable policies and have the same authority as the policies in the text of the Bay Plan.”</p>
San Francisco Bay Plan	Institutional cooperation	<p>“Commission Jurisdiction. The Plan maps are not intended to delineate the Commission's jurisdiction. The Commission's legal jurisdiction is described in the Mc Ateer-Petris Act and the Commission's regulations, and has been affected by certain court decisions. The Commission's staff should be consulted concerning questions of precise jurisdiction. Areas of the Bay subject to tidal action (and thus subject to the jurisdiction of the Commission for control of filling and dredging) are illustrated on the maps in light blue as are certain tributaries in which filling and dredging are also controlled because of their ecological importance.”</p>

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San Francisco Bay Plan	Institutional cooperation	<p>„Special area plans, which apply Bay Plan policies in greater detail to specific shoreline areas, are identified on the Plan maps. The purpose of special area plans is to more precisely guide public agencies and private parties as to what fill, dredging, or change of use of a shoreline area would be consistent with the Mc Ateer-Petris Act and the Bay Plan policies. The special area plans adopted by the Commission are:</p> <p>San Francisco Waterfront Special Area Plan (adopted April 1975)-applies to the San Francisco shoreline from the east side of the Hyde Street Pier to the south side of India Basin.</p> <p>Benicia Waterfront Special Area Plan (adopted April 1977)-applies to the Benicia shoreline from West Second Street to the Benicia-Martinez Bridge.</p> <p>South Richmond Shoreline Special Area Plan (adopted May 1977)-applies to the Richmond shoreline from the west side of Shipyard Three to the southeastern City boundary.</p> <p>Richardson Bay Special Area Plan (adopted December 1984)-applies to Richardson Bay from a line drawn between Cavallo Point in Marin County near the Golden Gate Bridge and Point Tiburon in Tiburon.</p> <p>Suisun Marsh Protection Plan (adopted December 1976)-applies to the Suisun Marsh in Solano County.”</p>
San Francisco Bay Plan	Provisioning Services\Energy\Renewable abiotic energy	“The Act further specifies that certain water-oriented land uses should be permitted on the shoreline, including ports, water-related industries, airports, wildlife refuges, water-oriented recreation and public assembly, desalinization plants, and power plants requiring large amounts of water for cooling purposes.”
San Francisco Bay Plan	Provisioning Services\Materials\Abiotic materials	“Much of the Bay bottom is shallow averaging 20 feet in depth and the bottom is covered with accumulated silt, sand, and clay. An estimated eight million cubic yards of sediment is carried into the Bay annually from tributaries, most of it settling to the Bay bottom. In addition, over 100 million cubic yards of sediment is recirculated in Bay waters each year, some of which lodges in harbors and navigable channels from which it must be dredged at considerable costs.”
San Francisco Bay Plan	Provisioning Services\Materials\Abiotic materials	“[...] publicly owned and privately managed for salt production (about 8,000 acres).”
San Francisco Bay Plan	Provisioning Services\Materials\Abiotic materials	“Salt production is an economically important and productive use of the waters of the Bay and salt is an important product. Multiple brand names representing a myriad of different salt products are produced in the Bay Area for food, pharmaceutical, agricultural and water softening uses.”
San Francisco Bay Plan	Provisioning Services\Materials\Abiotic materials	“Salt ponds no longer needed for salt production offer a significant opportunity for the restoration of large areas of the former Bay to tidal action. Increased tidal influence associated with the removal or breaching of salt pond levees can: (1) support the establishment of new subtidal, tidal flat and tidal marsh habitat; (2) benefit Bay water quality; (3) improve the health of the Bay's aquatic food web by reconnecting existing subtidal areas to tidal marsh habitat, where much of the Bay's nutrient-rich plant life is located; and (4) increase resting, foraging and breeding opportunities for numerous fish, other aquatic organisms and wildlife species dependent upon subtidal, tidal flat and tidal marsh habitats (e.g., the Alameda song sparrow and salt marsh harvest mouse). In some cases, if salt ponds are opened to the Bay, new levees may have to be built on the landward side of the ponds to provide the flood control protection now being provided by the salt pond levees.”
San Francisco Bay Plan	Provisioning Services\Materials\Abiotic materials	“Salt ponds no longer needed for salt production offer an opportunity to increase public access to the Bay and shoreline”

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San Francisco Bay Plan	Provisioning Services\Materials\Abiotic materials	“The use and maintenance of salt ponds for salt production should be encouraged. Accordingly, property tax policy should assure that rising property taxes do not force conversion of the ponds and other wetlands to urban development. In addition, maintaining the integrity of the salt production system should be encouraged (Le, public agencies should not take for other projects any pond or portion of a pond that is a vital part of the production system).”
San Francisco Bay Plan	Provisioning Services\Materials\Biotic materials	“Oyster shells are dredged from the Bay floor primarily for use as lime in the production of cement. A small portion of the shells are used as soil conditioner, as cattle feed, and as poultry grit by local poultry and egg producers. The shell deposits are an important mineral resource because the other principal source of lime, limestone, is more distantly located in Santa Clara, Santa Cruz, and San Benito Counties to the south. Cement is expensive to transport over great distances, so a nearby source of lime is important to the Bay Area economy.”
San Francisco Bay Plan	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	“The state has issued health advisories recommending limits on human consumption of fish from the Bay and has had to close beaches because of water pollution.”
San Francisco Bay Plan	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	“Underground fresh water supplies are an important supplement to surface water now brought into the Bay Area by aqueduct from mountain reservoirs. “
San Francisco Bay Plan	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	“The commercial fishing industry provides fresh fish for area residents and restaurants and generates primary and secondary economic benefits to the state.”
San Francisco Bay Plan	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	“If and when not needed for salt production, salt ponds may have continued commercial value for mariculture operations. Managed wetlands are low-lying seasonal wetlands which could be appropriate sites for construction of mariculture ponds.”
San Francisco Bay Plan	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	“In addition, brine shrimp are commercially harvested from salt ponds for aquaculture research and tropical fish food.”
San Francisco Bay Plan	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	“Desalination is the process of removing salt, other minerals and contaminants from saline water to produce fresh drinking water.”
San Francisco Bay Plan	Provisioning Services\Nutrition\Terrestrial plant and animal	“Fish, other aquatic organisms and wildlife of the Bay benefit humans. They provide food [..]”
San Francisco Bay Plan	Regulating Service\Flow regulation\Air, Water, Mass	“Developing adequate land for industries that require access to shipping channels for transportation of raw materials or manufactured products. Developing new recreational opportunities-shoreline parks, marinas, fishing piers, beaches, hiking and bicycling paths, and scenic drives.”
San Francisco Bay Plan	Regulating Service\Flow regulation\Air, Water, Mass	“The Bay provides an open area for aircraft to take off and land without having to fly over densely populated areas, and this is an excellent use of the water.”

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San Francisco Bay Plan	Regulating Service\Flow regulation\Air, Water, Mass	“The harmful effects of pollutants reaching the Bay can be reduced by maximizing the Bay's capacity to assimilate, disperse, and flush pollutants by maintaining and increasing: (1) the volume and circulation of water flowing in and out with the tides and in fresh water inflow [..].”
San Francisco Bay Plan	Regulating Service\Flow regulation\Air, Water, Mass	“Vegetation can help stabilize the Bay shoreline and tributary slopes and banks and can be used effectively to prevent or reduce excessive erosion and sediment deposition in the Bay.”
San Francisco Bay Plan	Regulating Service\Flow regulation\Air, Water, Mass	“The dissolved oxygen that is absorbed at the Bay surface or from the mudflats must be transmitted to the deeper waters by mixing of the water. The necessary mixing is accomplished by tidal interchange, by fresh water inflow from tributaries, and by circulation resulting from wind action upon the surface of the Bay. The strength of tidal flow and water circulation are greatly affected by the shape of the Bay bottom and the shoreline; fills, dikes, and piers can speed or retard water circulation, depending upon both the water circulation pattern in the affected area and the shape of the fill, dike, or pier.”
San Francisco Bay Plan	Regulating Service\Flow regulation\Air, Water, Mass	“Wetlands can alter and moderate flood flows, recharge groundwater, maintain stream flows, reduce and prevent shoreline erosion by minimizing wave energy, and improve water quality by filtering surface runoff from surrounding lands. In addition, they trap sediments, thereby reducing the amount deposited in channels.”
San Francisco Bay Plan	Regulating Service\Flow regulation\Air, Water, Mass	“These habitats possess a particular importance in replacing habitat values lost with the elimination of the majority of the Bay's historic tidal marsh habitat, which may include: (1) providing high tide refuge and foraging habitat for species such as shorebirds and the salt marsh harvest mouse; (2) acting as a buffer between remaining tidal marshes, tidal flats and upland uses; (3) creating corridors for wildlife movement between upland habitats and the Bay; (4) retaining storm-water runoff and flood water [..]”
San Francisco Bay Plan	Regulating Service\Flow regulation\Air, Water, Mass	“Physical dynamics of the water column, such as fronts (the boundary between two dissimilar masses of water), eddies (a current of water running contrary to the main current), and retention zones (areas where tidal flows slow or stop due to either fresh water incursions or prominent bathymetric features) [..]”
San Francisco Bay Plan	Regulating Service\Flow regulation\Air, Water, Mass	“[..] restoring tidal marshes sequesters carbon, provides flood protection and provides habitat, and may protect lives, property and ecosystems.”
San Francisco Bay Plan	Regulating Service\Flow regulation\Air, Water, Mass	“The Bay ecosystem contains diverse and unique plants and animals and provides many benefits to humans. For example, tidal wetlands improve water quality, sequester carbon and can provide flood protection.”
San Francisco Bay Plan	Regulating Service\Flow regulation\Air, Water, Mass	“Well-designed shoreline protection projects, such as levees, wetlands, or riprap, can prevent shoreline erosion and damage from flooding.”
San Francisco Bay Plan	Regulating Service\Flow regulation\Air, Water, Mass	“[..] could also result in significant adverse impacts to Bay water circulation and quality and to Bay habitats and organisms that depend on the Bay.”

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San Francisco Bay Plan	Regulating Service\Flow regulation\Air, Water, Mass	“The efficient and prompt movement of cargo to and from Bay Area airports and seaports is critical to the health of the state and regional economy. The Bay is a potentially important resource for moving cargo within the region by barge or ferry.”
San Francisco Bay Plan	Regulating Service\Flow regulation\Air, Water, Mass	“[...] should not interfere with commercial navigation”
San Francisco Bay Plan	Regulating Service\Flow regulation\Air, Water, Mass	“Further, the salt ponds contribute to the open space character of the Bay and the levees surrounding the ponds, although not designed or maintained for flood control, help to protect adjacent low-lying areas from tidal flooding.”
San Francisco Bay Plan	Regulating Service\Flow regulation\Air, Water, Mass	“Managed wetlands can protect upland areas by retaining flood waters and also provide an opportunity for needed space for adjacent wetlands to migrate landward as sea levels rise.”
San Francisco Bay Plan	Regulating Service\Flow regulation\Air, Water, Mass	“Providing for safe navigation greatly enhances the region's water-related industries.”
San Francisco Bay Plan	Regulating Service\Flow regulation\Air, Water, Mass	“Because of the changing marine conditions in San Francisco Bay, safe navigation is highly dependent upon accurate reports on the winds, tides and currents.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment	“An adequate supply of sediment is necessary to ensure resilience of the Bay ecosystem as sea level rise accelerates.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment	“If the owner of any managed wetland withdraws any of the wetlands from their present use, the public should make every effort to buy these lands and restore them to tidal or subtidal habitat, or retain, enhance and manage these areas as diked wetland habitat for the benefit of multiple species. This type of purchase should have a high priority for any public funds available.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“Filling destroys the habitat of fish and wildlife. Future filling can disrupt the ecological balance in the Bay, which has already been damaged by past fills, and can endanger the very existence of some species of birds and fish.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“All parts of San Francisco Bay are important for the perpetuation of fish, other aquatic organisms and wildlife because any reduction of habitat reduces their numbers in some measure.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“The wildlife refuges, shown on the Bay Plan Maps, include national wildlife refuges, state wildlife areas and ecological reserves, as well as other shoreline sites around the Bay whose primary purpose is: (1) the protection of threatened or endangered native plants, wildlife, and aquatic organisms [...]”.
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“[...] improvement of the well-being of many plant and animal species currently at risk of extinction.”

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San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“Specific habitats that are needed to conserve, increase or prevent the extinction of any native species, species threatened or endangered, species that the California Department of Fish and Game has determined are candidates for listing as endangered or threatened under the California Endangered Species Act.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“Elevated levels of contaminants adversely affect water-oriented recreation uses and impair Bay fish, other aquatic organisms, and wildlife.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“Wetlands also are important habitat for the Bay's aquatic and upland plant and animal populations, serve as a primary link in the ecosystem's food chain, ensure the continued diversity of plant and animal communities, are an essential feeding and resting place for migratory birds on the Pacific Flyway [..].”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“Diking and filling have fragmented the remaining tidal marshes, degrading the quality of habitat and resulting in a loss of species and an altered community structure.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“Plant and animal species not present in San Francisco Bay prior to European contact in the late 18th century, known as non-native species, which thrive and reproduce outside of their natural range have made vast ecological alterations to the Bay and have contributed to the serious reduction of native regulations of certain plants and animals.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“The Commission should continue to support and encourage the expansion of scientific information on the arrival and spread of invasive plants and animals, and when feasible, support the establishment of a regional effort for Bay-wide eradication of specific invasive species, such as non-native cordgrasses.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“Some parts of the Bay are particularly important to certain species of fish, other aquatic organisms and wildlife due to their high native biodiversity, productivity or scarcity (e.g., deep water over sand shoals, the mixing zone, oyster reefs, shallow and calm areas, eelgrass beds, areas where seaweed is found, and where tidal eddies, retention zones and fronts concentrate prey.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“Any proposed filling or dredging project in a subtidal area should be thoroughly evaluated to determine the local and Bay-wide effects of the project on: (a) the possible introduction or spread of invasive species.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“Tidal high marsh and adjacent ecotones are essential to many tidal marsh species including endangered species.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“Wildlife refuges, as defined in the Bay Plan, have habitats that are populated by a wide variety of Bay fish, other aquatic organisms and wildlife, including some threatened and endangered species.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“Studies indicate that public access may have immediate effects on wildlife (including flushing, increased stress, interrupted foraging, or nest abandonment) and may result in adverse long- term population and species effects.”
San	Regulating Service\Regulation of the	“Measures to control non-native species.”

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Francisco Bay Plan	biotic environment\Gen pool protection, pest and disease control	
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	“The anticipated habitat type that would result from managed wetland conversion or restoration, and the predicted effects on the diversity, abundance and distribution of fish, other aquatic organisms and wildlife [...]”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“San Francisco Bay maintained and enhanced as a magnificent body of water that helps sustain the economy of the western United States, provides great opportunities for recreation, moderates the climate, combats air pollution, nourishes fish and wildlife, affords scenic enjoyment, and in countless other ways helps to enrich man's life.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“The Bay, including open water, mudflats, and marshlands, is a complex biological system, in which microorganisms, plants, fish, waterfowl, and shorebirds live in a delicate balance created by nature, and in which seemingly minor changes, such as a new fill or dredging project, may have far-reaching and sometimes highly destructive effects.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Loss or degradation of subtidal areas, tidal flats, tidal marshes and interconnected upland habitats, such as diked bay lands, have been key factors in the population decline of many species of fish, other aquatic organisms and wildlife that depend on the Bay ecosystem for their existence.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“At present, San Francisco Bay sustains nearly 500 species of fish, invertebrates, birds, mammals, insects and amphibians. It is an essential resting place, feeding area, and wintering ground for millions of birds on the Pacific Flyway. Nearly half of the state's waterfowl and shorebirds and two-thirds of the state's salmon pass through the Bay during their migrations.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“[...] sufficient areas for resting, foraging and breeding.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“ The preservation and enhancement of unique habitat types or highly significant wildlife habitat; or (3) the propagation and feeding of aquatic life and wildlife.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“ [...] Distribution of wetlands and related habitats that are needed to restore and sustain a healthy Bay ecosystem.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“To offset impacts from increased impervious areas and land disturbances, vegetated swales, permeable pavement materials, preservation of existing trees and vegetation' planting native vegetation and other appropriate measures should be evaluated and implemented where appropriate.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Dissolved oxygen is needed to support marine life and to help break down pollutants in the water. The amount of oxygen in the Bay is largely determined by the surface area of the Bay because primary sources of oxygen are: (1) churning waves that trap oxygen from the air; (2) the water surface, which absorbs oxygen from the air; and (3) the exposed mudflats, which both produce and absorb oxygen while the tide is out and transfer it to the water when the tide comes in.”

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San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Plants and animals require a variety of habitats to survive. For example, topsmelt (a fish species) utilize the shallow, protected sloughs of tidal marshes of the Bay, as well as open water during different times in their life cycle and daily feeding routine. The topsmelt is also food for many species of birds that inhabit the tidal marshes and upland areas surrounding the Bay.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Tidal marshes, which include brackish and salt marshes, are vegetated wetlands subject to tidal action that occur throughout much of the Bay extending from approximately Mean Sea level to the maximum height of the tides. Established tidal marshes provide an essential and complex habitat for many species of fish, other aquatic organisms and wildlife.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Tidal marshes are an interconnected and essential part of the Bay's food web. Decomposed plant and animal material and seeds from tidal marshes wash onto surrounding tidal flats and into subtidal areas, providing food for numerous animals, such as the Northern pintail. In addition, tidal marshes provide habitat for insects, crabs and small fish, which in turn, are food for larger animals, such as the salt marsh song sparrow, harbor seal and great blue heron. Diking and filling have fragmented the remaining tidal marshes, degrading the quality of habitat and resulting in a loss of species and an altered community structure.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Mudflats comprise the largest area of tidal flat areas and support an extensive community of invertebrate aquatic organisms, e.g., diatoms, worms and shellfish, fish that feed during higher tides, and plants such as algae and occasionally eelgrass. Shorebirds feed on tidal flats.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Buffers are areas established adjacent to a habitat to reduce the adverse impacts of surrounding land use and activities. Buffers also minimize additional loss of habitat from shoreline erosion resulting from accelerated sea level rise and allow tidal habitats to move landward. Buffer areas may be important for achieving the regional goals for the types, amounts, and distribution of habitats in the Bay lands Ecosystem Habitat Goals report or future updates to these targets.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Tidal marshes and tidal flats should be conserved to the fullest possible extent. Filling, diking, and dredging projects that would substantially harm tidal marshes or tidal flats should be allowed only for purposes that provide substantial public benefits and only if there is no feasible alternative.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“As recommended in the Bay lands Ecosystem Habitat Goals report, around 65,000 acres of areas diked from the Bay should be restored to tidal action to maintain a healthy Bay ecosystem on a regional scale.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“The public should make every effort to acquire these lands for the purpose of habitat restoration and wetland migration. “
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Fresh water flow into the Bay during the winter and spring months are of particular importance in maintaining the health of the Suisun Marsh, the largest remaining marsh around the Bay and a waterfowl habitat of nationwide importance.”

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San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“The subtidal areas of the Bay encompass the land and water below mean low tide and are intricately tied to tidal flats and tidal marshes and are also linked to diked former parts of the Bay such as salt ponds, managed wetlands, agricultural bay lands, and adjacent upland habitats. These areas include both shallow and deep segments of the Bay and are important for fish, other aquatic organisms and wildlife, such as bottom-dwelling benthic organisms, seabirds, waterfowl and some mammals, such as harbor seals, that move back and forth between deep and shallow water.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Major gaps in scientific knowledge exist about the subtidal areas of the Bay due to the dynamic nature of the system and the complexity of linkages between subtidal areas and the fish, other aquatic organisms and wildlife which depend upon them to rest, forage and breed. Fill material, such as rock, oyster shells and sediments dredged from the Bay, can enhance or beneficially contribute to the restoration of subtidal habitat by: (1) creating varied subtidal areas beneficial to aquatic species, such as Pacific herring; (2) restoring native oyster reefs; (3) enhancing subtidal plant communities, such as eelgrass beds; and (4) recreating the bathymetry of disturbed areas, such as dredged channels.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“The Commission should continue to support and encourage expansion of scientific information on the Bay's subtidal areas, including: (a) inventory and description of the Bay's subtidal areas; (b) the relationship between the Bay's physical regime and biological populations; (c) sediment dynamics, including sand transport, and wind and wave effects on sediment movement; (d) areas of the Bay used for spawning, birthing, nesting, resting, feeding, migration, among others, by fish, other aquatic organisms and wildlife; and (e) where and how restoration should occur.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Agricultural lands along the Bay shoreline function as buffers that can reduce the adverse impacts of nearby land uses and activities on the Bay and tidal marshes and can also provide habitat for terrestrial species.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Some undeveloped low-lying areas that are vulnerable to shoreline flooding contain important habitat or provide opportunities for habitat enhancement.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Eelgrass beds are considered to be a valuable shallow water habitat, providing feeding, escape, or breeding habitat for many species of invertebrates, fishes, and some waterfowl. Eelgrass grows in relatively few locations in the Bay and requires special conditions to flourish. Cultivating eelgrass is difficult and efforts to grow eelgrass in San Francisco Bay have not succeeded.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Under its existing law and policies the Commission has approved minor amounts of Bay fill to create, restore or enhance habitat in the Bay.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Dredged material would not be placed in areas with particularly high or rare existing natural resource values, such as eelgrass beds and tidal marsh and mudflats, unless the material would be needed to protect or enhance the habitat. The habitat project would not, by itself or cumulatively with other projects, significantly decrease the overall amount of any particular habitat within the Suisun, North, South, or Central
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“[...] enhancement and restoration of Bay habitat, which narratively establish the necessary biological, hydrological, physical and locational characteristics of candidate sites [...]”

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San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“ [...] protection of Bay fish and wildlife resources and their habitats.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Ferry terminals should be sited at locations that are near navigable channels, would not rapidly fill with sediment and would not significantly impact tidal marshes, tidal flats or other valuable wildlife habitat.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Only a few large, public sandy beaches exist along the San Francisco Bay shoreline, such as those at China Camp State Park, Baker Beach, Robert W. Crown Memorial State Beach and Kirby Cove. Because of their scarcity, these beaches provide important habitat for shorebirds [...].”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Wildlife refuges, as defined in the Bay Plan, have habitats that are populated by a wide variety of Bay fish, other aquatic organisms and wildlife, including some threatened and endangered species.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Wildlife refuges, wildlife areas and ecological reserves have as their primary mission to provide a safe haven for native vegetation, fish, other aquatic organisms and wildlife.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Waterfront parks can serve as important gateways to wildlife refuges, wildlife areas and ecological reserves by providing staging and education opportunities and serving as buffers between these lands and developed areas.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Access points should be located, improved and managed to avoid significant adverse affects on wildlife and their habitats.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Properly sited and/or designed public access can avoid habitat fragmentation and limit predator access routes to wildlife areas.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Providing diverse and satisfying public access opportunities can reduce the creation of informal access routes to decrease interaction between humans and wildlife, habitat fragmentation, and vegetation trampling and erosion. Formal public access also provides for more predictable human actions, which may increase the ability of wildlife to adjust to human use
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Public access should be sited, designed and managed to prevent significant adverse effects on wildlife [...].”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“To the extent necessary to understand the potential effects of public access on wildlife, information on the species and habitats of a proposed project site should be provided, and the likely human use of the access area analyzed. In determining the potential for significant adverse effects (such as impacts on endangered species, impacts on breeding and foraging areas, or fragmentation of wildlife corridors), site specific information provided by the project applicant, the best available scientific evidence, and expert advice should be used.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Public access improvements provided as a condition of any approval should be consistent with the project and the physical environment, including protection of Bay natural resources, such as aquatic life, wildlife and plant communities, and provide for the public's safety and convenience.”

APPENDIX 1b: San Francisco Bay Plan (2007)

San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“The Commission should continue to support and encourage expansion of scientific information on the effects of public access on wildlife and the potential of siting, design and management to avoid or minimize impacts. Furthermore, the Commission should, in cooperation with other appropriate agencies and organizations, determine the location of sensitive habitats in San Francisco Bay and use this information in the siting, design and management of public access along the shoreline of San Francisco Bay.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Unnatural” debris should be removed from sloughs, marshes, and mudflats that are retained as part of the ecological system. Sloughs, marshes, and mudflats should be restored to their former natural state if they have been despoiled by human activities.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Since the 1960s the public has acquired roughly 90 percent of the over 41 ,000 acres of property used for production for the purpose of maintaining and restoring habitat, which will make the Bay larger and healthier.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“For foraging waterbirds, the depth of a salt pond affects access to prey. In addition, the level of salinity in salt ponds affects the use of such areas by plants and animals.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Species found in low-salinity salt ponds are similar to those found in the Bay and include plants, such as sea lettuce (a macroalgae); invertebrates, such as crabs; fish, such as bay pipefish; and waterbirds, such as American White pelicans, California least terns and numerous wintering waterfowl.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Medium-salinity ponds are dominated by green algae, fed upon by brine shrimp and brine flies that are food for waterbirds, such as Northern Shovelers and avocets. In high-salinity salt ponds, no fish are able to survive, but abundant brine shrimp and brine flies support numerous waterbirds, including grebes, gulls, sandpipers and phalaropes. “
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“If the owner of any salt ponds withdraws any of the ponds from their present uses, the public should make every effort to buy these lands and restore, enhance or convert these areas to subtidal or wetland habitat. This type of purchase should have a high priority for any public funds available, because opening ponds to the Bay represents a substantial opportunity to enlarge the Bay and restoring, enhancing or converting ponds can benefit fish, other aquatic organisms and wildlife, and can increase public access to the Bay.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Water surface area retained can include a variety of subtidal and wetland habitat types including diked ponds managed for wildlife or restoration of ponds to tidal action.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Managed wetlands are areas of historical tidal marshes that have been diked off from the Bay and are managed for wildlife, primarily waterfowl. Managing water intake, circulation and draining is the primary means to promote diverse managed wetland vegetation and wildlife habitats.”

APPENDIX 1b: San Francisco Bay Plan (2007)

San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Managed wetlands offer a significant opportunity for restoration of tidal action to former areas of the Bay. Increased tidal influence associated with the removal or breaching of levees can: (1) support the establishment of new subtidal, tidal flat and tidal marsh habitat; (2) benefit Bay water quality; (3) improve the health of the Bay’s aquatic food web by re-connecting existing subtidal areas to tidal marsh habitat, where much of the Bay’s nutrient-rich plant life is located; and (4) increase resting, foraging and breeding opportunities for numerous fish, other aquatic organisms and wildlife species dependent upon subtidal, tidal flat and tidal marsh habitats. However, restoration of managed wetlands may also result in changes in ecosystem function, including the displacement of wildlife species due to loss of habitat. “
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Maximize potential habitat values, development of any of the managed wetlands should provide for retaining the maximum amounts of water surface area, consistent with the project.”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Desalination projects should be located, designed and operated in a manner that: (a) avoids or minimizes to the greatest practicable extent adverse impacts on fish, other aquatic organisms and wildlife and their habitats [..]”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“The potential for success of restoration and creation projects can be increased with the inclusion of transition zones (areas between two bordering habitats where plants and animals from both habitats are found) and buffers (areas established adjacent to a habitat to reduce the adverse impacts of surrounding land use and activities).”
San Francisco Bay Plan	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	“Appropriately sited and designed mitigation projects increase the likelihood of successful long-term habitat function of a site and its integration with adjacent habitats.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“Filling reduces the air-conditioning effects of the Bay and increases the danger of air pollution in the Bay Area.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“The Bay plays a significant role in determining the climate of the Bay Area. The waters of the Bay maintain a relatively constant temperature, and this helps to moderate extremes of heat and cold in surrounding areas. The Bay surface provides a cool pathway for summertime ocean winds, enabling them to help cool areas at the "ends" of the Bay (the Santa Clara Valley and the Carquinez Strait areas).”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“While single-occupant vehicles will still be needed and used for many types of travel, the goal should be the improvement and expansion of systems of transportation that can carry large volumes of people and goods without damaging the environment of the Bay Area, including increased air and water pollution and shoreline space devoted to roadways and parking.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“Solar salt production relies on natural conditions present in the Bay Area including adequate area for solar evaporation of salt water, a dry climate and prevailing summer winds to aid evaporation.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“Recognizing the potential for salt ponds to contribute to the moderation of the Bay Area climate, the alleviation of air pollution and the open space character of the Bay, and to maximize potential habitat values, development of any of the salt ponds should provide for retaining the maximum amount of water surface area consistent with the project.”

APPENDIX 1b: San Francisco Bay Plan (2007)

San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Atmospheric regulation	“Recognizing the potential for managed wetlands to contribute to the moderation of the Bay Area climate, the alleviation of air pollution.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	“Sea level is rising at an accelerated rate due to global climate change. Land elevation change caused by tectonic (geologic, including seismic) activity, consolidation or compaction of soft soils such as Bay muds, and extraction of subsurface groundwater or natural gas extraction, is variable around the Bay. Consequently, some parts of the Bay will experience a greater relative rise in sea level than other areas. Relative rise in sea level is the sum of: (1) a rise in global sea level and (2) land elevation change (lifting or subsidence) around the Bay. Where subsidence occurs, more extensive shoreline protection and wetland restoration projects may be needed to minimize flooding of low-lying areas by the extreme high water levels.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	“A variety of habitat types within the Bay sustain a multitude of plant, fish, and wildlife species. Many factors determine the habitat functions and values of a given area of the Bay, including water depth and clarity, type of substrate (rock, coarse sand, or fine-grained sand), type of vegetation, and salinity.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	“Deep dredging of Bay mud, or excavation for tunnels or bridge piers, could strip the "cover" from the top of a fresh water reservoir under the Bay, allowing the salt water to contaminate the fresh water, or allowing the fresh water (if artesian) to escape in large quantities and thus cause land to sink.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	“Identify long-term trends in Bay sedimentation that relate to dredging needs and potential impacts to Bay resources, such as wetland and mudflats.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	“Resource restoration provides, generally, an improved probability of greater ecological success than resource creation, since the proper substrate may still be present in an area that once supported a desired habitat type, seed sources may be on-site or nearby, and appropriate hydrological conditions may still exist or may be more easily restored.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“Conserving fish, other aquatic organisms and wildlife depends, among other things, upon availability of: (1) sufficient oxygen in the Bay waters [...].”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“ [...] the rate of oxygen interchange at the surface of the Bay.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“About 40 percent of the original surface area of the Bay has been diked off or filled in since 1850. Because this has involved some of the most effective oxygenation areas, the ability of the Bay to take up oxygen has been sharply reduced.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“[...] filtering sediments and pollutants from storm-water flowing to the Bay.”

APPENDIX 1b: San Francisco Bay Plan (2007)

San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“Fresh water flowing into the Bay, most of which is from the Delta, dilutes the salt water of the ocean flowing into the Bay through the Golden Gate. The Bay waters thus provide a gradual change from the salt water of the ocean to the fresh water flows of the Sacramento and San Joaquin Rivers. This delicate relationship between fresh and salt water helps to determine the ability of the Bay to support a variety of aquatic life and wildlife in and around the Bay.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“Diversions of fresh water should not reduce the inflow into the Bay to the point of damaging the oxygen content of the Bay, the flushing of the Bay, or the ability of the Bay to support existing wildlife. High priority should be given to the preservation of Suisun Marsh through adequate protective measures including maintenance of fresh water inflows.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“The Bay ecosystem contains diverse and unique plants and animals and provides many benefits to humans. For example, tidal wetlands improve water quality, sequester carbon and can provide flood protection.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“Climate change will further alter the ecosystem by inundating or eroding wetlands and ecotones, changing sediment dynamics, altering species composition, raising the acidity of Bay waters, changing freshwater inflow or salinity, altering the food web, and impairing water quality, all of which may impair the system’s ability to rebound and function. “
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“ [...] encourage the remediation of shoreline areas with existing environmental degradation and contamination in order to reduce risks to the Bay’s water quality in the event of flooding.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“Capacity at the disposal site near Alcatraz Island is limited because a large mound of dredged material has formed which, unless disposal is properly managed, may adversely affect water circulation and Bay aquatic life, pose a hazard to maritime navigation, and completely fill the site.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“The selective deposition of dredged materials in the Bay to extensively modify Bay habitats might enhance the habitat value for some Bay species. However, such projects could also result in significant adverse impacts to Bay water circulation and quality and to Bay habitats and organisms that depend on the Bay.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“While single-occupant vehicles will still be needed and used for many types of travel, the goal should be the improvement and expansion of systems of transportation that can carry large volumes of people and goods without damaging the environment of the Bay Area, including increased air and water pollution and shoreline space devoted to roadways and parking.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“The Bay water quality can affect the health of Bay swimmers.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“No new marina or expansion of any existing marina should be approved unless water quality and circulation will be adequately protected and, if possible.”

APPENDIX 1b: San Francisco Bay Plan (2007)

San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“Water quality protection measures that include management of highly saline discharges into the Bay; monitoring and management of mercury methylation and sediments with contaminants; managing the release of copper and nickel to the Bay; and the minimization of sustained low dissolved oxygen levels in managed ponds.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“Water quality protection measures that may include monitoring for constituents of concern, such as methylmercury.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“The discharge of concentrated brine from a desalination plant into the Bay can severely impact fish and other aquatic organisms in the vicinity of the discharge unless the brine is diluted to approximately the same salinity range as the Bay. The Regional Water Quality Control Board sets standards for brine discharged into the Bay, and a National Pollutant Discharge Elimination System permit is required from the Regional Board for any desalination plant discharge.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“Any pollution problems resulting from the discharge of large amounts of heated brine into Bay waters, and water vapor into the atmosphere, can be precluded.”
San Francisco Bay Plan	Regulating Service\Regulation of the physical environment\Water quality regulation	“[...] ensures that the discharge of brine into the Bay is properly diluted and rapidly disperses into the Bay waters to minimize impacts; and (c) is consistent with the discharge requirements of the Regional Water Quality Control Board.”
San Francisco Bay Plan	Regulating Service\regulation of wastes\Bioremediation	“Recognizing the potential for managed wetlands to contribute to the moderation of the Bay Area climate, the alleviation of air pollution.”
San Francisco Bay Plan	Regulating Service\regulation of wastes\Dilution and sequestration	“San Francisco Bay maintained and enhanced as a magnificent body of water that helps sustain the economy of the western United States, provides great opportunities for recreation, moderates the climate, combats air pollution, nourishes fish and wildlife, affords scenic enjoyment, and in countless other ways helps to enrich man's life.”
San Francisco Bay Plan	Regulating Service\regulation of wastes\Dilution and sequestration	“Filling almost always increases the danger of water pollution by reducing the ability of the Bay to assimilate the increasing quantities of liquid wastes being poured into it.”
San Francisco Bay Plan	Regulating Service\regulation of wastes\Dilution and sequestration	“[...] the extent and distribution of tidal marshes.”
San Francisco Bay Plan	Regulating Service\regulation of wastes\Dilution and sequestration	“Tidal marshes and vegetated areas on the shoreline help prevent the degradation of water quality from non point source pollution by: filtering out contaminants; intercepting runoff; transforming and storing sediment, nutrients, and certain heavy metals; keeping channels intact by slowing runoff; dampening wave action; and reducing channel scour and bank erosion. Vegetated treatment systems, such as constructed wetlands and other vegetated landscapes, can remove sediment and other pollutants from runoff and wastewater and can prevent pollutants from entering the Bay and its tributaries. Wetlands that are degraded by excessive pollutants no longer provide important water quality benefits, often become significant sources of pollution, and reduce oxygen in the water, making the Bay unsuitable for fish and other aquatic life.”

APPENDIX 1b: San Francisco Bay Plan (2007)

San Francisco Bay Plan	Regulating Service\regulation of wastes\Dilution and sequestration	“Whenever practicable, native vegetation buffer areas should be provided as part of a project to control pollutants from entering the Bay, and vegetation should be substituted for rock riprap, concrete, or other hard surface shoreline and bank erosion control methods where appropriate and practicable.”
San Francisco Bay Plan	Regulating Service\regulation of wastes\Dilution and sequestration	“The Bay ecosystem contains diverse and unique plants and animals and provides many benefits to humans. For example, tidal wetlands improve water quality, sequester carbon and can provide flood protection.”
San Francisco Bay Plan	Tools and methods	“ <u>Mitigation banking</u> involves restoring or creating natural resources to produce mitigation "credits" which can be used to offset unavoidable adverse impacts to existing resources. A mitigation bank is a site where resources are restored, created, or enhanced expressly for the purpose of providing compensatory mitigation in advance of impacts associated with authorized projects. Mitigation banks may be established by individuals who anticipate needing to mitigate for future impacts, or by third parties who develop banks as a commercial venture to sell credits to permittees needing to provide compensatory mitigation. Among other benefits, mitigation banks provide the unique opportunity to address the cumulative effects of small fill projects that are too small to be mitigated individually. Provided mechanisms are in place to assure success, mitigation banking can provide a timely, convenient, cost effective and ecologically successful mitigation option.”
San Francisco Bay Plan	Tools and methods	“ <u>Fee-based mitigation</u> involves the submittal of a fee by the permittee in-lieu of requiring the permittee to undertake the creation, restoration, or enhancement of a specific mitigation site, or purchasing credits from a mitigation bank. The fee is generally submitted to a third party for implementation of an ongoing or future restoration-creation project. Provided mechanisms are in place to assure success, fee-based mitigation can also provide a timely, convenient, cost effective and ecologically successful mitigation option.”

APPENDIX 2a: Flächennutzungsplan/Erläuterungsbericht (1997)

Document	Code	Segment
erläuterungsbericht-aus-1997-ansichtsexemplar	Cultural Services	„Kleingärten haben in Hamburg neben ihrer sozialpolitischen und kulturhistorischen Bedeutung wichtige städtebauliche und kulturhistorische Bedeutung. Sie tragen zur Versorgung der Bevölkerung mit Freizeit- und Erholungsflächen bei.“
erläuterungsbericht-aus-1997-ansichtsexemplar	Cultural Services\Intellectual and Experiential\Information and knowledge	„[...] die Erforschung, Entwicklung oder Nutzung der Wind- und Wasserenergie dienen, privilegiert (§ 35 Absatz 1 Nummer 7 des Baugesetzbuchs).“
erläuterungsbericht-aus-1997-ansichtsexemplar	Cultural Services\Intellectual and Experiential\Information and knowledge	„[...] zudem ist die großflächige ungestörte, zwischen den Mündungstrichtern von Elbe und Weser belegene Naturlandschaft für die Wissenschaft von besonderer Bedeutung.“
erläuterungsbericht-aus-1997-ansichtsexemplar	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Achsenzwischenräume in Hamburg, die Landschaftsachsen dienen dem Erhalt und der Sicherung der ökologischen Wirkungszusammenhänge der Landschaften Hamburgs mit denjenigen des Umlandes sowie der Funktionssicherung von Land- und Forstwirtschaft, des Stadtklimas, des Landschaftsbildes und der siedlungsnahen Erholung.“
erläuterungsbericht-aus-1997-ansichtsexemplar	Cultural Services\Intellectual and Experiential\Recreation and community activities	„[...] Hamburgs Character als grüne Metropole am Wasser soll erhalten werden. Hierzu trägt die Neudarstellung der Grünflächen und Grünverbindungen mit überörtlicher Bedeutung für den Naturhaushalt, für die Erholung und für die Vernetzung des Grünsystems im Flächennutzungsplan bei. Die Entwicklung gründer Ufer entlang bedeutender Gewässer nimmt hierbei einen besonderen Stellenwert ein.“
erläuterungsbericht-aus-1997-ansichtsexemplar	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Hiermit soll bereits im Flächennutzungsplan auf die besondere Situation dieser sehr locker bebauten Gebiete, die in Verbindung mit ausgedehnten öffentlichen Grünflächen und dem Nordufer der Elbe ein für Hamburg typisches, in der Struktur einmaliges, großes zusammenhängendes Erholungsgebiet darstellen, hingewiesen werden.“
erläuterungsbericht-aus-1997-ansichtsexemplar	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Freiflächen haben vielfältige Aufgaben für die Stadtbewohner. Sie sollen die Bedürfnisse nach Bewegung und Spiel, Entspannung und Ruhe, Schönheit und Naturerlebnis gleichermaßen befriedigen.“
erläuterungsbericht-aus-1997-ansichtsexemplar	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Diese Grünflächen mit ihrer Verbindung zu den Erholungsflächen an Alster und Elbe tragen wesentlich zur Attraktivität und Identität Hamburgs bei.“

APPENDIX 2a: Flächennutzungsplan/Erläuterungsbericht (1997)

erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Sie enthalten u. a. Parkanlagen, Spiel- und Sportfläche, Kleingärten und Friedhofsflächen. Damit übernehmen sie über ihre Verbindungsfunktion hinaus für angrenzende Stadtgebiete vielfältige Erholungsfunktionen.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Zusammen mit den Wasserflächen (rd. 5.000 ha) gibt es Hamburg etwa 36.000 ha Freiflächen, die Bedeutung für die Freizeit und Erholung in der Stadt haben. Dies sind etwa 50% des gesamten Staatsgebietes.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Intellectual and Experiential\Recreation and community activities	„In diesen Bereichen mit einer Vielzahl konkurrierender Flächenansprüche wird es besonders wichtig sei, vorhandene Erholungsflächen und kleine Freiräume zu sichern und-wo möglich- zu ergänzen.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Der Versorgung mit Freizeit- und Erholungsflächen sowie der Sicherung ökologischer Entlastungsräume kommt eine gleichrangige Bedeutung in der Konkurrenz mit anderen Nutzungsansprüchen zu.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Die Versorgung der Bevölkerung mit Flächen für Freizeit und Erholung ist wesentlicher Bestandteil der Lebensqualität Hamburgs. Der für die Entwicklung der Stadt notwendige Verbrauch von Freiflächen darf die grundlegenden Funktionen der Erholung und des Naturhaushaltes nicht gefährden.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Die bestehenden Freiflächen in der Stadt sollen soweit erhalten bleiben. Bei der Planung von Stadterweiterungen sind zusammenhängende Landschaftsräume zu erhalten und als Erholungsangebot für die Bevölkerung weiterzuentwickeln.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Waldflächen kommen in Hamburg in erster Linie Schutz- und Erholungsfunktion zu, die Nutzfunktion tritt dahinter zurück. Er ist das Ziel, die bestehenden Waldflächen zu erhalten und besonders an den Stadträndern zu vermehren.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Wasserflächen dienen in Hamburg dem Schiffsverkehr, wasserwirtschaftlichen Zwecken und allen Arten des Wassersports und der Erholung. Die guten Wassersportmöglichkeiten tragen in besonderem Maße zum Wohn- und Freizeitwert der Stadt bei. Sie sollen in ihrem Umfang im wesentlichen erhalten bleiben.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Intellectual and Experiential\Recreation and community activities	„[...] Frei- und Naturbäder sowie spezielle Anlagen für den Hochleistungssport und eine Vielzahl von Sportmöglichkeiten in Freiflächen wie Parks Wälder [...]“
erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Gewässer stellen insgesamt eine Angebotspalette dar.“

APPENDIX 2a: Flächennutzungsplan/Erläuterungsbericht (1997)

erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Symbolic\Aesthetic and heritage	„Der Arten- und Biotopschutz ist ein wesentlicher Teil der natürlichen Lebensgrundlagen.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Symbolic\Aesthetic and heritage	„Die Oberflächenentsiegelung ist zu fördern, denn sie wirkt sich positiv auf die Grundwasserneubildung, das Stadtklima und die Vielfalt möglicher Lebensräume aus. Sie ist insbesondere in Bereichen mit hohem Versiegelungsgrad zu betreiben, z. B. Durch die Schaffung von Grünanlagen. In Gebieten mit natürlichen hohen Grundwasserständen sind evtl. Auswirkungen von Entsiegelungsmaßnahmen auf Bauwerke zu berücksichtigen.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Symbolic\Aesthetic and heritage	„Freiflächen bestimmen wesentlich die Lebensqualität in großstädtischen Ballungsräumen. Sie tragen im städtischen Nutzungsgefüge zum ökologischen Ausgleich bei und sind Voraussetzung für die Regeneration von Luft, Wasser und Boden. Sie stellen klimatische Abkühlungs- und Absorptionsflächen dar, verbessern die Luftqualität, fördern die Durchlüftung der bebauten Stadtbereiche und sorgen für Ausgleich im Wasserhaushalt. Flora und Fauna dienen als Lebensräume.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Symbolic\Aesthetic and heritage	„[...] räumliche Nutzungen unterliegt einem zeitlichen Wandel. Standen früher u. a. Wirtschaftlichkeits- und versorgungsgesichtspunkten im Vordergrund, so erahnen heute auch ökologische, landschaftsgestalterische sowie soziokulturelle Funktionen eine höhere Wertschätzung. Sie werden insbesondere von landwirtschaftlich genutzten Flächen und von Wäldern erbracht.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Symbolic\Aesthetic and heritage	“[...] Naturhaushalt und Landschaftsbild dienen der Beseitigung der entstandenen Beeinträchtigungen bzw. der landschaftsgerechten Neugestaltung des Landschaftsbildes“
erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Symbolic\Aesthetic and heritage	„Es soll [...] die naturräumliche Gliederung und Gestaltung der Stadt erhalten und die Orientierung und Identifikation der Bewohnerinnen und Bewohner mit der Stadt gefördert werden.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Symbolic\Aesthetic and heritage	„Die Flächen für die Landwirtschaft und für den Wald wurden im Rahmen der Überarbeitung des Flächennutzungsplans räumlich genauer bestimmt und unter Betrachtung ihrer Funktionen auch für das Landschaftsbild [...].“
erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Symbolic\Aesthetic and heritage	„[...] in besonderem Maße die Funktion der Landwirtschaft also landschaftsprägendes Element eine wesentliche Rolle.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Symbolic\Aesthetic and heritage	„Wasserflächen: Die Gewässer, vor allem die Elbe, die Alster und die Kanäle und Flußläufe, sind typische Gestaltungselemente des Hamburger Stadtbildes.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Cultural Services\Symbolic\Aesthetic and heritage	„Unter Naturdenkmälern versteht man Einzelschöpfungen der Natur wie z. B. Seltene Bäume, Bracks, Tümpel oder Moore.“

APPENDIX 2a: Flächennutzungsplan/Erläuterungsbericht (1997)

erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Die Zusammenarbeit der an der Region beteiligten Länder, Kreise und Kommunen wurde nie formalisiert und auf der Elbe von Staatsverträgen geregelt. Hierdurch, auf die ständig wechselnde Problemstellung in der Region auch organisatorisch/ administrativ flexibel zu reagieren.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Der Flächennutzungsplan hat als vorbereitender Bauleitplan und in seiner Funktion als Raumprdnungsplan grundsätzlich einen Gesamtausgleich zwischen den unterschiedlichen Interessen, Belangen und Fachplanungen, die sich auf das Hamburger Stadtgebiet richtien, anzustreben. Hierzu gehören auch die Belange des Umweltschutzes sowie Naturschutzes und der Landschaftpflege. [...] im Rahemen der Änderungen des Flächennutzngsplans sind die in den einzelnen Verfahrensschritten Behörden, Träger öffentlicher Belange und die Bürger zu beteiligen.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Es ist eine flächendeckende Biotopkartierung sowie Artenkartierung vorgenommen worden. Diese sind zusammen mit der naturschutzfachlichen Bewertung sowie den Kartenmäßigen Darstellungen und textlichen Erläuterungen des Artenschutzprogrammes in ae planerischen Abwägungen einzubeziehen.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Hamburg und sein Umland bilden einen einheitlichen Natur-und Landschaftsraum, dessen Weiterentwicklung länderübergreifende Maßnahmen bedarf. Die zukünftige Belastung des Naturhaushaltes und die Inanspruchnahme von Natur und Landschaft für Siedlungszwecke soll sich entsprechend den hierfür gemeinsam mit den Nachbarländern vereinbarten Grundsätzen vollziehen ebenso wie die Entwicklung von Naherholungsgebieten.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Die Politik des Senats ist auf den Erhalt und die Sanierung der natürlichen Ressourcen ausgerichtet [...].“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Die Unterlassung vermeidbarer Beeinträchtigungen erfolgt im Flächennutzungsplan durch die enge Orientierung an der voraussichtlichen Bedarfe und die Abstimmung mit dem Landschaftsprogramm einschließlich Artenschutzprogramm.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Belastungen der Umwelt wirken über Ländergrenzen hinweg. Der Erhal und die Förderung eines einheitlichen und gesunden Natur- und Landschaftsraums ist nur zu erreichen, wenn Maßnahmen und Konzepte mit dem Hamburger Umland gemeinsam entwickelt und abgestimmt werden.“

APPENDIX 2a: Flächennutzungsplan/Erläuterungsbericht (1997)

erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„ Rechtsgrundlage: Hamburg ist Land der Bundesrepublik Deutschland und Einheitsgemeinde. Daer nimmt Hamburg die durch das Baugesetzbuch den Gemeinden übertragende städtebauliche Planugs, darunter die vorbereitende Bauleitplanung, in eingender Verantwortung wahr und ist zugleich für die bundesrechtlich geregelten Programme und Pläne der Raumordnung im Land Hamburg entsprechend dem Raumordnungsgesetz (ROG) [...] zuständig.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	[...] Fachplanungen gelten als informelle Planungen die vielfach auf besonderen Gesetzen wie z. B. Wasserhaushaltsgesetz , Abfallwirtschaftsgesetz.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„ Um seiner Funktion als städtebaulicher Ziel- und Leitplan gerecht werden zu können , stellt der Flächennutzungsplan nach § 5 Abs. 1 des Baugesetzbuchs die beabsichtigte Art der Bodennutzung lediglich in den Grundzügen dar. Er läßt für die Aufstellung und die Durchführung der aus ihm zu entwickelnden Bebauungspläne genügend planerischen Spielraum. Verbindliche Festsetzungen für die Bebauung werden erst durch die Bebauungspläne getroffen, die nach § 8 Abs. 2 des Baugesetzbuches aus dem Flächennutzungsplan zu entwickle sind. Dabei müssen die Darstellungen des Flächennutzungsplans differenziert aus den dargestellten Bauflächen die Baugebte entwickelt werden, wie z. B. Reine Wohngebiete und allgemeine Wohngebiete aus den Wohnbauflächen. [...] Im übrigen stellt der Flächennutzungsplan aber einen elastischen Rahmen dar, der den notwendigen Spielraum für die Anpassung and die Entwicklungen gewährleistet.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Die Zusammenarbeit der an der Region beteiligten Länder, Kreise und Kommunen wurde nie formalisiert und auf der Ebene von Staatsverträgen geregelt. Hierdurch war es möglich die ständig wechselnden Problestellungen der Region auch oranisatorisch/administrativ flexibel zu reagieren.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Die Inhalte des Flächennutzungsplans und des Landschaftsprogramms sind gemeinsame Grundlage für die teilräumliche Stadtentwicklungsplanung und planungsrechtlicher Rahmen für die Entwicklung von Babauungs-, Landschafts- und Grünordnungsplänen.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„ Die Unterlassung vermeidbarer Beeinträchtigungen erfolgt im Flächennutzungsplan durch die enge Orientierung an den vorrassichtlichen Bedarfen und die Abstimmung mit dem Landschaftsprogramm einschließlich Artenschutzprogramm.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„ Die Darstellungen und sonstige Aussagen des Landschaftsprogramms müssen den Flächennutzungsplan beachten. Dementsprechend müssen die darstellungen von Flächennutzngsplan und Landschaftsprogramm widerspruchsfrei sein. Dies bedeutet, daß im Landschaftsprogramm ensprechend seine Regelungszweck darzustellende Erfordernisse und Maßnahmen zur Verwirklichung der Ziele des Naturschutzes und der Landschaftspflege nicht dazu führen dürfen, daß einzelnde nach dem Flächennutzungsplan vorgesehene Arten der Bodennutzung faktisch nicht mehr zu realisieren wären. Soweit Entwicklungsziele des Landschaftsprogramms zur Natur und zur Landschaft einzelnde Arten der Bodennutzung in qualitativer Hinsicht betreffen, ist dies planungsrechtlich unbedenklich.“

APPENDIX 2a: Flächennutzungsplan/Erläuterungsbericht (1997)

erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Detaillierte planerische und naturschutzfachliche Aussagen sind im Artenschutzprogramm enthalten.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Umweltverträglichkeit der Planung: Der Flächennutzungsplan hat als vorbereitender Bauleitplan und in seiner Funktion als Raumordnungsplan grundsätzlich einen Gesamtausgleich zwischen den unterschiedlichen Interessen, Belangen und Fachplanungen, sie sich auf das Hamburgische Stadtgebiet richten, anzustreben. Hierzu gehören auch die Belange des Umweltschutzes sowie Naturschutzes und der Landschaftspflege. Das Bauleitplanverfahren enthält bereits planungsbezogene Elemente einer Umweltverträglichkeitsprüfung: Im Rahmen der Änderungen des Flächennutzungsplans sind in den einzelnen Verfahrensschritten Behörden, Träger öffentlicher Belange und die Bürger zu beteiligen; ferner müssen bei der Abwägung die Belange des Umweltschutzes, des Naturschutzes und der Landschaftspflege mit berücksichtigt werden.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Das Gebiet des Hamburger Hafens entsprechend der Grenzziehung durch das Hafenentwicklungsgesetz unterliegt nicht der Planung nach dem Baugesetzbuch. Es ist Gegenstand einer Sonderplanung im Sinne des § 5 Abs. 4 Baugesetzbuch. Der Flächennutzungsplan übernimmt deshalb die Darstellung des Hafengebietes nach den Grenzen des Hafenentwicklungsgesetzes.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Die bestehende Anzahl von Kleingärten in Hamburg soll möglichst erhalten werden. Es wird angestrebt, Kleingärten, die zugunsten anderer Nutzungen aufgegeben werden müssen, möglichst zu ersetzen. Das Bundeskleingartengesetz enthält hinsichtlich der Bereitstellung von Ersatzland Regelungen.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Das Gebiet des Hamburger Hafens ins Gegenstand einer Sonderplanung nach dem Hafenentwicklungsgesetz.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Das Hamburgische Naturschutzgesetz (HmbNatSchG) [...] schreibt die Aufstellung eines Landschaftsprogramms einschließlich eines Artenschutzprogramms vor.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Die Erläuterungen zu den Freiflächen im Flächennutzungsplan beziehen sich schwerpunktmäßig auf die für die Bodennutzung relevanten Inhalte. Für eine vertiefende Betrachtung sind das Landschaftsprogramm einschließlich Artenschutzprogramm hinzuzuziehen.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Rechtsgrundlage des Flächennutzungsplans als vorbereitender Bauleitplan ist das Baugesetzbuch (BauGB) [...]. Das Hamburger Gesetz über die Feststellung von Bauleitplänen und ihrer Sicherung [...] legt Zuständigkeit für die Durchführung der einzelndend Verfahrensschritte fest.“

APPENDIX 2a: Flächennutzungsplan/Erläuterungsbericht (1997)

erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Gesetzliche Grundlage der Darstellung Nationalpark Wattenmeer ist das Gesetz über den Nationalpark Hamburgisches Wattenmeer vom 9. April 1990.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Die Maßnahmen Hamburgs zur Abfallbehandlung sind integrierter Bestandteil eines Abfallwirtschaftskonzeptes, das gemeinsam mit den Nachbarländern erarbeitet worden ist und das eine enge Kooperation zwischen den Entsorgungspflichtigen und den Betreibern von Behandlungs-, Aufbereitungs- und Ablagerungsanlagen vorsieht. [...] Bei dieser Aufgabe beabsichtigen die Länder Bremen, Hamburg, Mecklenburg-Vorpommern, Niedersachsen und Schleswig-Holstein- über die Kooperation in der Metropolregion hinaus-eine enge länderübergreifende Zusammenarbeit.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Gesetzliche Grundlage der Darstellung „Naturschutzgebiet“ ist § 16 i. V.m. § HmbNatSchG.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Gesetzliche Grundlage der Darstellung von Landschaftsschutzgebieten ist § 17 i. V. M. § 15 HmbNatSchG.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Institutional cooperation	„Die Koordinierung aller raumbedeutsamen Darstellungen im Hafengebiet erfolgt auf der Ebene des Flächennutzungsplans im Rahmen seiner Aufgabe als Raumordnungsplan für die Stadt nach § 5 des Raumordnungsgesetzes.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	„Die Festsetzung von Wasserschutzgebieten erfolgt auf Grund von § 19 Abs. 1 und 2 Wasserhaushaltsgesetz i. V. M. § 27 Hamburgisches Wassergesetz.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	„Für die Trinkwasserversorgung genutzte Grundwasser stammt zu 1/3 aus dem oberflächennahen, nicht ausreichend natürlich geschützten Vorkommen. Deshalb kommt den Maßnahmen zum Schutz des Grundwassers vor den Auswirkungen von Boden- und Grundwasserverunreinigungen weiterhin eine hohe Priorität zu, wie z. B. Ausweisen von Wasserschutzgebieten, Überwachen der Grundbeschaffenheit, Berücksichtigung der Grundwasserschutzbelange bei der Bauleit- und Landschaftsplanung sowie Sanierung von Altlasten (Boden- und Grundwasser).“
erläuterungsbericht- aus-1997- ansichtsexemplar	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	„Trinkwasserversorgung erfolgt dabei ausschließlich aus Grundwasservorkommen. Für die nicht ausreichend geschützten und teilweise bereits beeinträchtigten Grundwasservorkommen sind die notwendigen Maßnahmen des Ressourcenschutzes stellt auch zukünftig die rationelle Wasserverwendung eine zentrale Aufgabe zur langfristigen Sicherung der Trinkwasserversorgung dar.“

APPENDIX 2a: Flächennutzungsplan/Erläuterungsbericht (1997)

erläuterungsbericht- aus-1997- ansichtsexemplar	Provisioning Services\Nutrition\Terrestrial plant and animal	„Die Grundwassernutzung für öffentliche Trinkwasserversorgung erfolgt etwa zu einem Drittel aus oberflächennahen Grundwasservorkommen. Dies bedeutet, daß die Maßnahmen des Grundwasserschutzes, insbesondere das Ausweisen weiterer Wasserschutzgebiete, wie bisher von großer Bedeutung für die langfristige Sicherung der Trinkwasserversorgung sind.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Provisioning Services\Nutrition\Terrestrial plant and animal	„Hierdurch sollen das bestehende ökologische Gleichgewicht in diesen Räumen gesichert und die landwirtschaftliche Nutzungen erhalten bleiben.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Provisioning Services\Nutrition\Terrestrial plant and animal	„[...] für Landwirtschaft und Gartenbau sind als verbrauchernahe Produktionsfläche von Bedeutung für die Versorgung der Bevölkerung mit Frischprodukten.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service	„Flächen für die Landwirtschaft bilden die Existenzgrundlage für etwa 1.6000 landwirtschaftliche und gartenbauliche Betriebe. Um das agrarpolitische Ziel der Erhaltung und Entwicklung einer möglichst großen Zahl leistungsfähiger agrarwirtschaftlicher Betriebe gerecht zu werden und um die vielfältigen Aufgaben der Landwirtschaft für den Ballungsraum zu gewährleisten, sollen diese Flächen gesichert und nur in unbedingt notwendigen Maße anderen Nutzungen zugeführt werden.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service	„Das Freiraumverbundsystem ist zu sichern und weiterzuentwickeln, um notwendige Kaltluftentstehungs und Regenerationsräume für das Stadtklima und die Lufthygiene, Bereiche für Freizeit- und Erholung und Lebensräume für Tiere und Pflanzen zu schaffen und zu erhalten sowie Ressourcen Boden, Wasser und Luft zu schützen.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Flow regulation\Air, Water, Mass	„Anpassungsmaßnahmen im Hafen betreffen jedoch nicht nur den Landbereich. Auch verkehrsinfrastrukturelle Einrichtungen müssen hinzukommen, wie –leistungsfähige Wasserwege für die Schifffahrt, -ausreichende Liegeplätze, -leistungsfähige Verkehrswege im Binnenland sowohl zu Land als auch zu Wasser.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the biotic environment	„Für ganz Hamburg gilt, daß bei den gasförmigen Luftverunreinigungen keine Überschreitungen von Grenzwerten der TA Luft oder der 22. BImSchV (Verordnung über Immissionswerte) zu verzeichnen sind [...].“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	„Im Rahmen der Überarbeitung des Flächennutzungsplans wird zur weiteren Differenzierung der Darstellungen für Freiflächen die neue Nutzungskategorie „Naturbestimmte Flächen“ eingeführt. Sie ermöglicht, ausgewählte Freiräume, die vorrangig dem Zweck der Naturbestimmtheit vorbehalten bleiben sollen, gesondert von den Grünflächen darzustellen.“

APPENDIX 2a: Flächennutzungsplan/Erläuterungsbericht (1997)

erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	„Der Flächennutzungsplan stellt hierfür „Grünflächen“ dar. Bei der Überarbeitung wurden diese Darstellungen zu einem Teil in „Flächen für die Landwirtschaft“ und Naturbestimmte Flächen“ geändert. Hierdurch sollen das bestehende ökologische Gleichgewicht in diesen Räumen gesichert und die landwirtschaftlichen Nutzungen erhalten bleiben.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	„Durch die Verknüpfung der Grün- und Freiflächen innerhalb und außerhalb der Stadt zu einem vernetzten Grünsystem sollen insbesondere [...] Biotopverbundsysteme für eine artenreiche Flora und Fauna gesichert.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Schutzzweck ist, das Wattenmeer einschließlich der Insel Neuwerk sowie der Düneninseln Scharhörn und Nigehörn in seiner Ganzheit und seiner natürlichen Dynamik um seiner selbst willen und als Lebensstätte der auf diesen einmaligen Lebensraum Watt angewiesenden Arten und der zwischen den Arten bestehenden Lebendsgemeinschaften zu erhalten und vor Beeinträchtigungen zu schützen.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Achsenzwischenräume in Hamburg, die Landschaftsachsen, dienen dem Erhalt und der Sicherung der ökologischen Wirkungszusammenhänge der Landschaften Hamburgs mit denjenigen des Umlandes sowie der Funktionssicherung von Land- und Forstwirtschaft, des Stadtklimas, des Landschaftsbildes und der siedlungsahe Erholung.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Die Oberflächenentsiegelung ist zu fördern, denn sie wirkt sich positiv auf die Grundwasserneubildung, das Stadtklima und die Vielfalt möglicher Lebensräume aus. Sie ist insbesondere in Bereichen mit hohem Versiegelungsgrad zu betreiben, z. B. Durch die Schaffung von Grünanlagen. In Gebieten mit natürlichen hohen Grundwasserständen sind evtl. Auswirkungen von Entsiegelungsmaßnahmen auf Bauwerke zu berücksichtigen.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Flächen für die Landwirtschaft bilden die Existenzgrundlage für etwa 1.600 landwirtschaftliche und gartenbauliche Betriebe. Um dem agrarpolitischen Ziel der Erhaltung und Entwicklung einer möglichst großen Zahl leistungsfähiger agrarwirtschaftlicher Betriebe gerecht zu werden und um die vielfältigen Aufgaben der Landwirtschaft für den Ballungsraum zu gewährleisten, sollen diese Flächen gesichert und nur im unbedingt notwendigen Maße anderen Nutzungen zugeführt werden.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Sicherung und Entwicklung großräumiger Grün- und Klimaschneisen: Die für den Luftaustausch und das Klima besonders wichtigen Freiräume in der Marsch werden gesichert. Eine früher in diesen Räumen geplante bauliche Nutzung wird im Rahmen der Überarbeitung des Flächennutzungsplans zurückgenommen wie z.B. im Süderelbbaum und in der Vier- und Marschlanden (Billwerder).“

APPENDIX 2a: Flächennutzungsplan/Erläuterungsbericht (1997)

erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Hamburgs Charakter als grüne Metropole am Wasser soll erhalten bleiben. Hierzu trägt die Neudarstellung von Grünflächen und Grünverbindungen mit überörtlicher Bedeutung für den Naturhaushalt, für die Erholung und für die Vernetzung des Grünsystems im Flächennutzungsplan bei. Die Entwicklung grüner Ufer entlang bedeutender Gewässer nimmt hierbei einen besonderen Stellenwert ein.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Im Bereich der äußeren Stadt stehen zukünftig die Sicherung der ökologischen Ausgleichsfunktionen der locker bebauten Siedlungsgebiete sowie Erhalt, Pflege und Wiederherstellung landschaftstypischer Strukturen im Vordergrund.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Darüber hinaus erhält der Flächennutzungsplan aber auch Räume, die besonders geeignet sind für die Durchführung von Ersatzmaßnahmen für Eingriffe im naturräumlichen Zusammenhang. Hier können auch Ersatzmaßnahmen für verschiedene Eingriffe konzentriert werden, um eine größere Wirkung für den Naturhaushalt im Vergleich zu mehreren vereinzelten und räumlich isolierten Maßnahmen zu erreichen.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Es sind die allgemeinen Anforderungen an gesunde Wohn- und Arbeitsverhältnisse sowie Belange des Umweltschutzes, des Naturschutzes und der Landschaftspflege, insbesondere des Naturhaushaltes, des Wassers, der Luft und des Bodens sowie das Klima zu berücksichtigen. Mit Grund und Boden soll sparsam und schonend umgegangen werden [...]“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Ein weiterer Schwerpunkt bei der Verbesserung der ökologischen Situation von Hafen und Tideelbe ist der gewässerökologische Strukturplan. Der Strukturplan zeigt Möglichkeiten gewässerökologischer Gestaltungsmaßnahmen auf, mit denen die aquatischen Lebensgemeinschaften in Hafengewässern und Tideelbe verbessert werden können, z. B. Durch Ufernaturierungen, wie sie bereits am Sandtorhafen und am Grasbrookhafen existieren.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Eine im wesentlichen unbeeinflusste Entwicklung bestimmter Flächen kann dazu beitragen, Defizite im ökologischen Gleichgewicht zu verringern.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Naturbestimmte Flächen können größere Waldanteile enthalten, wenn diese einer natürlichen, dem Menschen nur nachrangig dienenden Entwicklung überlassen bleiben sollen. Die Waldflächen dienen dann nicht vorrangig der Erholungsnutzung (z. B. in Naturschutzgebieten).“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the physical environment\Atmospheric regulation	„Achsenzwischenräume in Hamburg, die Landschaftsachsen, dienen dem Erhalt und der Sicherung der ökologischen Wirkungszusammenhänge der Landschaften Hamburgs mit denjenigen des Umlandes sowie der Funktionssicherung von Land- und Forstwirtschaft, des Stadtklimas, des Landschaftsbildes und der siedlungsnahen Erholung.“

APPENDIX 2a: Flächennutzungsplan/Erläuterungsbericht (1997)

erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the physical environment\Atmospheric regulation	„Grünflächen [...] leisten einen Beitrag zur Verbesserung des Stadtklimas und der Lufthygiene.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the physical environment\Atmospheric regulation	„Frischlufschneisen als unbebaute und von Barrieren freie Schneisen sind für die Belüftung stark verdichtet oder überbauter Innenstadtbereiche von großer Relevanz. Durch die Frischlufschneisen werden kühle, schadstoffarme und feuchte Flurwinde [...] zur Aufbesserung der stadtklimatischen und lufthygienischen Situation herangeführt. Im Rahmen der Überarbeitung des Flächennutzungsplan werden bisher geplante Verbauungen von Frischlufschneisen im Süderelberaum und in der Vier- und Marschlandenteile wieder rückgängig gemacht. Bisher dargestellte gewerbliche Bauflächen [...] werden in „Flächen für die Landwirtschaft“ geändert. Hierfür sind Gründe der Trinkwasserförderung, der Grundwasserfunktion und des Biotopschutzes ausschlaggebend.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the physical environment\Atmospheric regulation	„Begrünte Freiflächen und Wasserflächen tragen zur Verbesserung des Bioklimas durch Erhöhung der Luftfeuchtigkeit oder Verringerung der Temperaturen bei. Der Flächennutzungsplan berücksichtigt die Funktion auch kleiner Freiflächen für das Mikroklima durch eine differenzierte Darstellung.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the physical environment\Atmospheric regulation	„Das Klima und lufthygienische Bedingungen verbessert, die naturräumliche Gliederung und Gestaltung der Stadt erhalten [...].“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the physical environment\Atmospheric regulation	„Die für den Luftaustausch und das Klima besonders wichtige Freiräume in der Marsch werden gesichert. Eine früher in diesen Räumen geplante bauliche Nutzung wird im Rahmen der Überarbeitung des Flächennutzungsplans zurückgenommen [...].“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the physical environment\Atmospheric regulation	„[...] ökologische Orientierung (flächen- und ressourcenschonend, gebündelt und tourenotimiert, emissionsarm).“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the physical environment\Atmospheric regulation	„Die für den Luftaustausch und das Klima besonders wichtigen Freiräume in der Marsch werden gesichert. Eine früher in diesen Räumen geplante bauliche Nutzung wird im Rahmen der Überarbeitung des Flächennutzungsplans zurückgenommen [...].“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	„Auf dem Gebiet der Luftreinhaltung ist in den letzten 10 Jahren eine drastische Reduzierung der Belastungen, insbesondere durch Schwefeldioxid erreicht worden.“

APPENDIX 2a: Flächennutzungsplan/Erläuterungsbericht (1997)

erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	„In Ballungsraum Hamburg ist der Boden seit Jahrzehnten Überprägungen und Belastungen ausgesetzt. Es handelt sich dabei im wesentlichen um Bodenversiegelung durch Überbauung und Abdeckung. Altablagerungen und Altstandorte und großflächige Schadstoffeinträge aus Luft und Wasse. Ein großer Anteil Hamburgs ist oberflächlich verichtet oder abgedeckt, d.h. versiegelt. Die höchste Versiegelungsrate finden sich in der Innenstadt, im Hafen und in Industriegebieten (Versiegelungsgrad 90-100%). [...] Naturgemäß stellen die Hamburger Berge, Klövensteen, Duvenstedter Brück, das Alte Land und die Vier- und Marschlande die größte unversiegelten Flächen dar (Versiegelungsgrad 0-10%).
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	„Der Schadstoffeintrag in den Boden und das Grundwasser ist zu minimieren. Dies kann durch Sanierung bestehender Bodenverunreinigungen erfolgen, wird aber auch durch verkehrs- und klimapolitische Maßnahmen der Luftreihaltung sowie Maßnahmen zugunsten einer möglichst umweltverträglichen Landwirtschaft erreicht, einen Neueintrag in Zukunft begrenzen und vermeiden helfen.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the physical environment\Water quality regulation	„Die Wasserqualität der größeren Gewässer (Elbe, Tarpenbek, Wandse, Bille, Moorwettern, Seevekeamp und größere Kanäle in der Vier- und Marschlands ist überwiegend als „kritisch belastet“ einzustufen.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the physical environment\Water quality regulation	„In den nächsten Jahren stehen der Boden- und Gewässerschutz im Vordergrund. Für das Hafengebiet wurde ein Konzept erarbeitet, mit dem insbesondere das Vorgehen bei der Altlastbearbeitung durch eine nach wasserwirtschaftlichen Gesichtspunkten räumlich differenzierte Grundwasserschutzplanung effektiver gestaltet werden kann.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the physical environment\Water quality regulation	„Eine im wesentlichen unbeeinflusste Entwicklung bestimmter Flächen kann dazu beitragen, Defizite im ökologischen Gleichgewicht zu verringern.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the physical environment\Water quality regulation	„Die Grundwassernutzung für die öffentliche Trinkwasserversorgung erfolgt zu etwa einem Drittel aus oberflächennahen Grundwasservorkommen. Dies bedeutet, dass die Maßnahmen des Grundwasserschutzes insbesondere das Ausweisen weiterer Wasserschutzgebiete, wie bisher von großer Bedeutung für die langfristige Sicherung der Trinkwasserversorgung sind.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the physical environment\Water quality regulation	„In Wasserschutzgebieten werden bestimmte Flächennutzungen und Handlungen verboten, beschränkt oder nur unter Auflagen zugelassen. Die Verbote, Nutzungsbeschränkungen und Auflagen sind in der jeweiligen Schutzgebietsverordnung sowie in weiteren rechtlichen Regelungen, z. B. in der Verordnung über Anlagen zur Lagerung wassergefährdender Stoffe (Anlageverordnung- VawS), festgelegt.“

APPENDIX 2a: Flächennutzungsplan/Erläuterungsbericht (1997)

erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the physical environment\Water quality regulation	„Bei den Wasserflächen stellt der Flächennutzungsplan Bundeswasserstraßen, sonstige Gewässer erster Ordnung und einige Gewässer zweiter Ordnung dar. Sonstige Wasserflächen werden bei einer Größe von mehr als 3 ha dargestellt.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Regulating Service\Regulation of the physical environment\Water quality regulation	„ Zur Vermeidung weiterer Schadstoffansammlungen in den Sedimenten im Hamburger Hafen leistet Hamburg gemeinsam mit dem Bund finanzielle Unterstützung bei der Umsetzung von Maßnahmen zur Verbesserung der Gewässergüte in den neuen Bundesländern und der Tschechischen Republik.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Tools and methods	„Die Trinkwasserversorgung erfolgt dabei ausschließlich aus Grundwasservorkommen. Für die nicht ausreichend geschützten und teilweise bereits beeinträchtigten Grundwasservorkommen sind die notwendigen Maßnahmen zur Vorsorge und Sanierung zu treffen. Die Vorsorge erforderlichen Wasserschutzgebiete sind entweder festgesetzt oder geplant. Parallel zu den Maßnahmen des Ressourcenschutzes stellt auch zukünftig die rationelle Wasserverwendung eine zentrale Aufgabe zur langfristigen Sicherung der Trinkwasserversorgung dar.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Tools and methods	„ Aufgrund der Änderungen des Flächennutzungsplans sind Eingriffe in Natur und Landschaft zu erwarten. Sie entstehen insbesondere durch die Überbauung von bisher bestehenden Grün- und Freiflächen, die durch den Flächennutzungsplan vorbereitet und mit der aus ihm entwickelten verbindlichen Bauleitplanung konkret festgesetzt wird. Nach den Vorschriften des § 8a Absatz 1 des Bundesnaturschutzgesetzes ist daher bereits auf der Ebene der Bauleitplanung über die nach Eingriffsregelung erforderliche Vermeidung von Beeinträchtigungen sowie über die Ausgleichs- und Ersatzmaßnahmen zu entscheiden.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Tools and methods	„Das Hamburgische Naturschutzgesetz (HmbNatSchG) vom 2. Juli 1981 [...] schreibt die Aufstellung eines Landschaftsprogramms vor.“
erläuterungsbericht- aus-1997- ansichtsexemplar	Tools and methods	„ Flächendeckende Biotopkartierung sowie Artenkartierungen vorgenommen worden. Diese sind zusammen mit den naturschutzfachlichen Bewertungen sowie den kartenmäßigen Darstellungen und textlichen Erläuterungen des Artenschutzprogramms in alle planerischen Abwägungen einzubeziehen. Folgende Ziele [...] sind [für die bauleitplanerische Abwägung von besonderer Bedeutung: -Flächendeckender Anspruch des Arten- und Biotopschutzes -Erhaltung, Sicherung und Pflege von Lebensräumen und Arten -Erhaltung und Wiederherstellung von Verbindungen und Vernetzungselementen (Biotopverbundsystem).“
erläuterungsbericht- aus-1997- ansichtsexemplar	Tools and methods	„ Ersatzmaßnahmen sind vorzusehen, wenn Eingriffe nicht ausgeglichen werden können, die Belange von Naturschutz und Landschaftspflege aber dennoch gegenüber den baulichen Belangen zurückstehen müssen. Es handelt sich hierbei um Maßnahmen, die durch den Eingriff zerstörte Werte und Funktionen des Naturhaushaltes oder Landschaftsbildes betreffenden Raum in möglichst ähnlicher Art und Weise wiederherstellen. Auch wenn also ein räumlicher und funktionaler Zusammenhang mit dem Eingriff erforderlich ist. Liegen die Ersatzmaßnahmen oft nicht in unmittelbarer Nähe des Eingriffs. Daher enthält die vom Flächennutzungsplan vorgegebene Struktur von Bau- und Freiflächen auch den Rahmen für eine sachgerechte örtliche Festlegung von Ausgleichs- und Ersatzmaßnahmen für die verbindliche Bauleitplanung.“

APPENDIX 2b: Integrierter Bewirtschaftungsplan Elbeästuar –Teil A / B (2010)

Document	Code	Segment	Comment	Page
A-Teil_26-05-2011 hamburg TIDE	Cultural Services	„Invasive Arten haben auch wirtschaftliche und soziale Auswirkungen, zum Beispiel auf die menschliche Gesundheit, auf Fischerei, Landwirtschaft und die Nahrungsmittelproduktion.“		38
A-Teil_26-05-2011 hamburg TIDE	Cultural Services\Intellectual and Experiential\Information and knowledge	„[...] Förderung der Kenntnisse und des Bewusstseins über das Funktionieren des Ästuars heute und in der Zukunft“		43
A-Teil_26-05-2011 hamburg TIDE	Cultural Services\Intellectual and Experiential\Information and knowledge	<p>„[...] Die Aufstellung des europäischen Netzes Natura 2000 und die Summe der Anstöße aus den verschiedenen EUMitgliedstaaten fördern die Entwicklung neuer fachlicher Standards des Gebietsmanagements. Hochdynamische Wissensfelder (z.B. Klimawandel, invasive Arten) erfordern eine ständige Anpassung an den aktuellen Stand der Wissenschaft. Um den fachlichen Anforderungen des integrierten Managements eines der wichtigsten Ästuarökosysteme Europas zu genügen, sind Bildung, Fortbildung und Kommunikation zentrale Aufgabenfelder.</p> <p>– Öffentlichkeitsarbeit: Umweltbildung, Vermittlung der offenen Zukunftsfragen des Ästuars aus Natura 2000-Sicht, Vermittlung des Beitrags der Unterelbe zur Artenvielfalt, Informationsveranstaltungen über die Fortschritte des IBP usw.</p> <p>– Fortbildung der Personen, die für die Bewirtschaftung der Natura 2000-Gebiete zuständig sind (z.B. durch Treffen zum Erfahrungsaustausch mit Managementteams aus anderen Ästuaren)</p> <p>– Koordinierung der Aktivitäten von Naturschutzverbänden, lokalen Initiativen, Einzelpersonen, Stiftungen usw.</p> <p>Die Botschaft, dass im Elbeästuar Natura 2000 und Wirtschaft kooperieren, ist dazu geeignet, die Attraktivität der Region zu steigern. Für die u. a. touristische Inwertsetzung ist die Stärkung der Gebietsidentität wichtig..“</p>		53
A-Teil_26-05-2011 hamburg TIDE	Cultural Services\Intellectual and Experiential\Information and knowledge	„Die notwendigen Strukturen zur Information, zum Erfahrungsaustausch und zur Mitbestimmung bei der Umsetzung des IBP werden gepflegt und gefestigt. Die Kernbotschaft der Studie zur „Ökonomie von Ökosystemen und der Biodiversität“ (TEEB) „Die Investition in die Natur zahlt sich aus“ wird vermittelt.“		55
A-Teil_26-05-2011 hamburg TIDE	Cultural Services\Intellectual and Experiential\Information and knowledge	“Informationspunkte zum Thema Elbeflora [...]“		66

APPENDIX 2b: Integrierter Bewirtschaftungsplan Elbeästuar –Teil A / B (2010)

A-Teil_26-05-2011 hamburg TIDE	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Im Elbeästuar begegnen sich vielfältige Nutzungen wie Schifffahrt und Industrie, Fischerei und Landwirtschaft, Tourismus, Erholung oder Wassersport.“		15
A-Teil_26-05-2011 hamburg TIDE	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Das Elbästuar und die Elbmarschen besitzen als Naherholungsgebiet für die Menschen aus dem Hamburger Ballungsraum eine hohe Bedeutung. Die Unterelbe ist ein beliebtes Wassersportrevier.“		35
A-Teil_26-05-2011 hamburg TIDE	Cultural Services\Intellectual and Experiential\Recreation and community activities	„In den Schutzgebieten selbst stellen die Schifffahrt, die Land- und Wasserwirtschaft sowie die verschiedenen Freizeitaktivitäten die wichtigsten Nutzungen dar. „		35
A-Teil_26-05-2011 hamburg TIDE	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Sicherung und Entwicklung der touristisch nutzbaren Potenziale des Natur- und Kulturrums. – Sicherung und Entwicklung insbesondere der wassergebundenen Erholungsfunktion.“		43
A-Teil_26-05-2011 hamburg TIDE	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Stärkung des Ökosystems Ästuar und dadurch Schaffung von Spielräumen für nachhaltige Nutzungen..“		43
A-Teil_26-05-2011 hamburg TIDE	Cultural Services\Intellectual and Experiential\Recreation and community activities	„[...] naturverträgliche Nutzung des Ästuars für Freizeitaktivitäten, insbesondere für den Wassersport, biologische Durchgängigkeit im Längs- und Querprof.“		44
A-Teil_26-05-2011 hamburg TIDE	Cultural Services\Symbolic\Aesthetic and heritage	„Sicherstellung der denkmalgeschützten Objekte sowie der Zeugnisse der Landschafts- und Besiedlungsgeschichte.“		43
A-Teil_26-05-2011 hamburg TIDE	Cultural Services\Symbolic\Aesthetic and heritage	„Ästuar als Landschaft mit hohem Identifikationswert für die Menschen, die hier leben und arbeiten, Ästuar als Landschaft mit hohem Potenzial für Genuss und ästhetisches Empfinden.“		44

APPENDIX 2b: Integrierter Bewirtschaftungsplan Elbeästuar –Teil A / B (2010)

A- Teil_26- 05-2011 hamburg TIDE	Institutional cooperation	„Rechtsgrundlagen für Natura 2000 sind – die Europäische Vogelschutzrichtlinie (VSchRL) zum Schutz der wild lebenden europäischen Vogelarten und – die Fauna-Flora-Habitat-Richtlinie (FFH-RL) zum Erhalt der aus europäischer Sicht besonders schutzwürdigen Lebensräume sowie Tier- und Pflanzenarten. Die beiden europäischen Richtlinien wurden durch entsprechende Vorschriften des Bundesnaturschutzgesetzes (BNatSchG) sowie des Hamburgischen Naturschutzgesetzes umgesetzt.“	Regulatory basis of Natura 2000 and IBP	17
A- Teil_26- 05-2011 hamburg TIDE	Institutional cooperation	„Zum Elbeästuar gehören Gebiete, die in der Zuständigkeit der Länder Hamburg, Niedersachsen und Schleswig-Holstein liegen. Aus ökologischer Sicht stellt das Elbeästuar einen zusammenhängenden Raum dar. Die drei Länder haben deshalb beschlossen, einen gemeinsamen integrierten Bewirtschaftungsplan aufzustellen, um die Vorteile eines abgestimmten Managements des Ästuars zu nutzen. Die darin die vorgeschlagenen Maßnahmen tragen den Anforderungen von Wirtschaft, Gesellschaft und Kultur sowie den regionalen und örtlichen Besonderheiten Rechnung (Artikel 2 Absatz 3 FFH-RL).“		17
A- Teil_26- 05-2011 hamburg TIDE	Institutional cooperation	„Für Maßnahmenprogramme, die auf der Grundlage anderer Gesetze (z.B. WRRL) umgesetzt werden, entfaltet der IBP keine Bindungskraft. Aufgrund seines querschnittorientierten Ansatzes unterstützt allerdings der IBP die Erreichung der Anforderungen weiterer Richtlinien und Abkommen. Besonders hervorzuheben sind u. a. die Wasser-Rahmenrichtlinie (WRRL), die Meeresstrategie-Rahmenrichtlinie (MSRL), die Ramsar-Konvention zum Schutz von Feuchtgebieten von internationaler Bedeutung sowie das OSPAR-Übereinkommen zum Schutz der besonders empfindlichen Meeresgebiete.“		18
A- Teil_26- 05-2011 hamburg TIDE	Institutional cooperation	„Die Erarbeitung des IBP ist in verschiedenen Schritten erfolgt. Nachdem die Projektstruktur länderübergreifend vereinbart wurde, sind in Niedersachsen, Hamburg und Schleswig-Holstein Planungsgruppen eingerichtet worden, in denen folgende Interessensgruppen vertreten sind: – zuständige Regierungsvertretungen – Kreise und Gemeinden – Wasserwirtschaft – Wasser- und Bodenverbände – Küsten- und Hochwasserschutz, Deichverbände – Schifffahrt und Hafenwirtschaft – Straßenbauverwaltungen – Wirtschaftsverbände – Naturschutz (Verwaltungen, Verbände, Stiftungen) – Landwirtschaft (Verwaltungen und Verbände) – Jägerschaft – Berufsfischerei (Landesvereinigung) – Wassersport (Verbände) – Tourismus (Verbände) – Archäologie- und Denkmalschutzverwaltungen.“		21
A- Teil_26- 05-2011 hamburg TIDE	Institutional cooperation	„Koordination der verschiedenen Nutzungsbelange aus landesplanerischer und regionalplanerischer Sicht im Sinne einer nachhaltigen Raumentwicklung.“		42

APPENDIX 2b: Integrierter Bewirtschaftungsplan Elbeästuar –Teil A / B (2010)

A- Teil_26- 05-2011 hamburg TIDE	Institutional cooperation	„Langfristige und ökonomisch tragfähige Sicherung von Menschen, Sach- und Kulturgütern vor Sturmflutereignissen.“		42
A- Teil_26- 05-2011 hamburg TIDE	Institutional cooperation	„Förderung des gegenseitigen Verständnisses für die Bedürfnisse der einzelnen Sektoren durch Information und Austausch, Mitbestimmung.“		43
A- Teil_26- 05-2011 hamburg TIDE	Institutional cooperation	„Steigerung der Effizienz einzelner Maßnahmen und Initiativen durch einen abgestimmten übergeordneten Rahmen – Förderung der Nutzungs- und Planungssicherheit.“		43
A- Teil_26- 05-2011 hamburg TIDE	Institutional cooperation	„Die Zusammenarbeit mit der WSV und mit HPA ist eine wesentliche Voraussetzung, um bei der konkreten Umsetzung win-win-Effekte zu erzielen.“		46
A- Teil_26- 05-2011 hamburg TIDE	Institutional cooperation	„Die hydromorphologischen Vorgänge, die direkt oder indirekt den Erhaltungszustand der Natura 2000-Schutzgüter beeinflussen, sind sehr komplex. Viele Fragen werden sich nur interdisziplinär beantworten lassen. Derzeit laufen mehrere Projekte, von denen wichtige Informationen und Anstöße für das Management der Natura 2000-Gebiete ausgehen werden (z.B. KLIMZUG-NORD www.klimzug-nord.de , INTERREG IV-Projekt TIDE – Tidal River Development www.tide-project.eu). Zur Klärung von dringenden Managementfragen ist die Zusammenarbeit mit den verschiedenen, im Unterelberaum tätigen Forschungseinrichtungen entscheidend. Besonders wichtig ist die Integration von Natura 2000-relevanten Aspekten bereits bei der Konzeption von Forschungsprojekten. Indem der IBP auf Wissenslücken hinweist, liefert er konkrete Argumente zur Begründung des Forschungsbedarfs. Von einer engeren Abstimmung profitieren sowohl die Antragsstellenden, die auf den Anwendungsbezugs ihres Projektes hinweisen können, als auch das Natura 2000-Management, das bei der Definition der Forschungsziele berücksichtigt wird. Zu den zentralen Zukunftsfragen gehört die klimabedingte Entwicklung des Ästuars und seiner angrenzenden Gebiete. Aus Natura 2000-Sicht ist eine Prognose der Zukunftsaussichten der endemischen und prioritären Art Schierlings-Wasserfenchel vordringlich.“		53
A- Teil_26- 05-2011 hamburg TIDE	Institutional cooperation	„Die kommenden 10 Jahre werden dafür genutzt, in Zusammenarbeit mit Partnerinstitutionen das Verständnis und das Bewusstsein für die klimatische und hydromorphologische Entwicklung des Ästuars zu verbessern bzw. zu fördern.“		55

APPENDIX 2b: Integrierter Bewirtschaftungsplan Elbeästuar –Teil A / B (2010)

A-Teil_26-05-2011 hamburg TIDE	Institutional cooperation	„Auch durch einen erfolgreichen Klimaschutz ist eine kurzfristige Minderung der zu erwartenden Klimaänderungen nicht mehr möglich. Es besteht daher ein dringender Bedarf für Gesellschaft, Wirtschaft und Politik an neuen, verbesserten Wegen zur Anpassung an den Klimawandel. Dieser Prozess wird voraussichtlich auch Anpassungen der Ziele und Prioritäten von Natura 2000 erfordern. Die Belange von Natura 2000 sollen im Anpassungsprozess für die Metropolregion Hamburg angemessen vertreten werden [...]“		55
A-Teil_26-05-2011 hamburg TIDE	Institutional cooperation	„Aufgrund der Größe des Elbeästuars ist neben den übergeordneten Zielen für das gesamte Gebiet auch eine abgestimmte Strategie für die Umsetzung von Maßnahmen notwendig. Dadurch wird gewährleistet, dass Maßnahmen, die auf lokaler Ebene umgesetzt werden, möglichst effizient zur Realisierung der Ziele für das gesamte Ästuar beitragen. Die Strategie stellt ein übergeordnetes Gerüst dar, lässt aber Flexibilität in der Umsetzung zu. Die Verbindlichkeit der Ziele wird dadurch nicht in Frage gestellt. Die übergeordnete Maßnahmenstrategie setzt sich aus zwei Säulen zusammen: – Maßnahmenschwerpunkte für Arten und Lebensraumtypen, für die ein vorrangiger und funktionsraumsübergreifender Handlungsbedarf besteht und – eine Sammlung von Maßnahmen von allgemeinem Charakter z.B. zu Forschungs- und Bildungsschwerpunkten und Schwerpunkten der Zusammenarbeit mit den Akteuren“		56
A-Teil_26-05-2011 hamburg TIDE	Institutional cooperation	„Zur Erhöhung der Maßnahmeneffektivität ist eine Analyse von Synergien und Konflikten unter den Natura 2000-Zielen notwendig. Die erzielte Wirkung lässt sich – trotz knapper Fläche – durch eine Abstimmung der verschiedenen Natura 2000-Funktionen steigern.“		56
A-Teil_26-05-2011 hamburg TIDE	Institutional cooperation	„Der Zeitraum 2010-2020 wird die erste Bewährungsprobe für den IBP sein. Sein Erfolg hängt vom Ausbau einer funktionierenden Kommunikation sowohl unter den verschiedenen Sektoren als auch von den Führungsetagen bis zu den Beteiligten vor Ort ab. Dabei ist es entscheidend, dass nicht nur gemeinsam geplant wird, sondern auch gemeinsam umgesetzt wird.“		58
A-Teil_26-05-2011 hamburg TIDE	Institutional cooperation	„Die Umsetzung des IBP wird von einer ständigen Arbeitsgruppe „Unterelbe“ aus Vertreterinnen und Vertretern der Länder Hamburg, Niedersachsen und Schleswig-Holstein, der Wasser undSchifffahrtsverwaltung des Bundes und der Hamburg Port Authority begleitet (Anhang A: Maßnahme A 1.1).“		73
A-Teil_26-05-2011 hamburg TIDE	Institutional cooperation	„Die Ziele des IBP sollen in die entsprechenden Ebenen der Raumordnung und Landesplanung z.B. durch die Ausweisung von Vorranggebieten Eingang finden. Von besonderer Bedeutung ist die Berücksichtigung bzw. Entwicklung von Verbundachsen, die als „grüne Infrastrukturen“ die Natura 2000-Gebiete mit einander verbinden und die Kohärenz des Netzes stärken.“	Planerische Festsetzungen	73

APPENDIX 2b: Integrierter Bewirtschaftungsplan Elbeästuar –Teil A / B (2010)

A- Teil_26- 05-2011 hamburg TIDE	Institutional cooperation	„Gebietssicherung Zur Sicherung bestimmter Gebiete stehen hoheitliche Instrumente wie z. B. die Ausweisung als Naturschutzgebiet oder als Landschaftsschutzgebiet zur Verfügung. Die im IBP formulierten Ziele können in die Gebietsverordnungen aufgenommen werden. In bestimmten Fällen stellt der Grunderwerb ein wichtiges Instrument zur Umsetzung naturschutzrechtlicher Verpflichtungen dar. Das betrifft vor allem solche Maßnahmen, bei denen Konflikte zwischen Natura 2000-Zielen und anderen Nutzungen über Verträge nicht lösbar sind oder wo der Ankauf wirtschaftlicher ist als der Einsatz anderer Naturschutzinstrumente.“		73
A- Teil_26- 05-2011 hamburg TIDE	Institutional cooperation	„Synergien mit der Umsetzung der WRRL . Die Maßnahmen, die zur Erreichung des guten chemischen Zustands und des guten ökologischen Potenzials nach WRRL vorgesehen sind, werden sich auf den Erhaltungszustand der aquatischen Lebensraumtypen und Arten positiv auswirken (z.B. Senkung der Nähr- und Schadstoffbelastung, Wiederherstellung der biologischen Durchgängigkeit der Nebenflüsse usw.).“		73
A- Teil_26- 05-2011 hamburg TIDE	Institutional cooperation	„Durch Verwaltungskooperationen lassen sich Synergien erzielen. Für Maßnahmen im Bereich der Bundeswasserstraßen und ihrer Ufer ist die Fortführung der Zusammenarbeit mit der WSV und für die Delegations- strecke mit HPA unabdingbar. Kooperationen sind ebenfalls mit dem Hochwasserflächenmanagement denkbar.“		73
A- Teil_26- 05-2011 hamburg TIDE	Institutional cooperation	„Zusammenarbeit mit dem ehrenamtlichen Naturschutz und mit Stiftungen Die bisher erfolgreiche Zusammenarbeit zwischen staatlichem und ehrenamtlichem Naturschutz über verschiedene Kooperationsvereinbarungen wird fortgesetzt. Die Zusammenarbeit mit öffentlich-rechtlichen oder privaten Stiftungen hat sich ebenfalls bewährt. – Vertragsnaturschutz, freiwillige Kooperationen Der Vertragsnaturschutz leistet einen bedeutsamen Beitrag zur Umsetzung der europarechtlichen Naturschutzverpflichtungen, insbesondere durch die Förderung derjenigen Arten und Lebensraumtypen, die auf besondere Formen der landwirtschaftlichen Bewirtschaftung angewiesen sind. – Patenschaften Mit dem Prinzip der Patenschaften können insbesondere Initiativen von Einzelpersonen beziehungsweise einzelnen Verbänden einbezogen werden. Vielfältige Maßnahmen sind hier denkbar, und es hat in den vergangenen Jahren bereits erfolgreiche Beispiele für solche Aktivitäten gegeben (z.B. Anbringung von Nisthilfen für Störche).“		74
A- Teil_26- 05-2011 hamburg TIDE	Provisioning Services\Nutrition\fresh water, plant and animal; marine plant and animal	„Die landwirtschaftlichen Betriebe gewährleisten den Erhalt von typischen Kulturlandschaften und produzieren wie die Fischereibetriebe Lebensmittel von höchster Qualität. Die Jagd wird so ausgeübt, dass sie den Erhaltungszielen der Natura 2000-Gebiete nicht entgegensteht.“		12
A- Teil_26- 05-2011 hamburg TIDE	Provisioning Services\Nutrition\Terrestrial plant and animal	„Im Laufe der nachfolgenden Jahrhunderte entstand eine neue Landschaft mit einer Vielzahl landwirtschaftlicher Tätigkeiten, u. a. Viehzucht, Acker- und Obstbau, traditionelle Binsenwirtschaft und Bandweidenkulturen. Die Bedeutung der Elbmarschen für Zugvögel ist eng an die Herausbildung dieser Kulturlandschaft gekoppelt.“		33

APPENDIX 2b: Integrierter Bewirtschaftungsplan Elbeästuar –Teil A / B (2010)

A-Teil_26-05-2011 hamburg TIDE	Provisioning Services\Nutrition\Terrestrial plant and animal	„Das Obstbau- und Sonderkulturengebiet der Elbmarschen versorgt nicht nur Hamburg und sein Umland, sondern produziert für den Export weit über die Grenzen der Region hinaus. Insbesondere die seit der Sturmflut von 1962 vorgenommenen Eindeichungen haben den Charakter des Elbästuars vielerorts grundlegend verändert.“		35
A-Teil_26-05-2011 hamburg TIDE	Provisioning Services\Nutrition\Terrestrial plant and animal	„Landwirtschaft: Langfristige Sicherung und Förderung einer leistungsfähigen Landwirtschaft in den verschiedenen Bewirtschaftungsformen auf geeigneten Produktionsflächen. – Fischerei: Sicherung und Entwicklung der fischereiwirtschaftlich nutzbaren Fischbestände.“		43
A-Teil_26-05-2011 hamburg TIDE	Provisioning Services\Nutrition\Terrestrial plant and animal	„[...]Qualitätsziel 1: Gesundes Ästuar, Beispiele [...] gesunde Produkte aus Landwirtschaft und Fischerei“		44
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Flow regulation\Air, Water, Mass	„Der gezeitengeprägte Strom hat genügend Raum, um sich an veränderte hydromorphologische Bedingungen, wie sie sich etwa durch den Klimawandel ergeben, dynamisch anzupassen. Die Veränderungen der Elbe werden eine dauerhafte Herausforderung bleiben, um die Sicherheit der Menschen hinter den Deichen zu jeder Zeit zu gewährleisten.“		12
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Flow regulation\Air, Water, Mass	Als Übergangsökosysteme stehen Ästuar im Wechselspiel der Einflüsse aus dem Küstenraum und aus ihrem Einzugsgebiet. Neben der Entwicklung der Temperaturen und der Niederschläge im Planungsraum selbst sind für das Elbeästuar die Folgen des beschleunigten Meeresspiegelanstiegs einerseits und die Veränderungen des Abflussverhaltens der Elbe von Relevanz.		36
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Flow regulation\Air, Water, Mass	„Darüber hinaus sind als Folgen des Meeresspiegelanstiegs allgemein höhere Wasserstände und höher auflaufende Sturmfluten zu erwarten. Das Abflussverhalten der Elbe wird durch stärkere Oberwasserabflüsse im Winterhalbjahr und niedrigere Abflussspenden im Sommerhalbjahr geprägt sein.“		36
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Flow regulation\Air, Water, Mass	„Der IBP dient der Erreichung folgender gemeinsamen Ziele: – Erhaltung der Unterelbe und ihrer Nebenflüsse als gezeitengeprägte Lebensader der Region.“		43
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Flow regulation\Air, Water, Mass	„Natura 2000-Erhaltungsziele in einem günstigen Erhaltungszustand, widerstandsfähige Lebensgemeinschaften, die in der Lage sind, sich veränderten Standortbedingungen schadlos anzupassen, optimiertes Sedimentmanagement durch naturnahe Ästuardynamik“		44
A-	Regulating Service\Flow	„Nutzung der Kräfte der Tideelbe für das Sedimentmanagement [...]“		44

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Teil_26-05-2011 hamburg TIDE	regulation\Air,Water, Mass			
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Flow regulation\Air,Water, Mass	„Eine Rückkehr zu einer naturnäheren Dynamik des Ästuars ist grundsätzlich erwünscht. Dynamik wirkt sich positiv aus, wenn sie dafür sorgt, dass natürliche Verluste von Arten und Lebensräumen durch spontane Entstehung an anderer Stelle von der Natur ausgeglichen werden. Dynamische, sich selbst heilende Ökosysteme sind anpassungsfähiger und dem Klimawandel besser gewachsen.“		56
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Flow regulation\Air,Water, Mass	„Verbesserung der Durchdringung von Land und Wasser (z.B. durch Priele)“		64
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	„Die Unterelbe, auch Elbe-ästuar genannt, ist die Heimat zahlreicher Pflanzen und Tiere, von denen einige weltweit nur hier vorkommen.“		15
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	„Hauptziel der Fauna-Flora-Habitat-Richtlinie (FFH-RL) ist die Erhaltung der biologischen Vielfalt in Europa. Zahlreiche Arten und Lebensraumtypen sind heute europaweit bedroht. Für die schutzbedürftigsten Arten und Lebensraumtypen wurden besondere Schutzgebiete ausgewählt, die gemeinsam das europäische ökologische Netz Natura 2000 bilden. Bestandteile dieses Netzes sind die gemäß FFH-RL bzw. Vogelschutzrichtlinie (VSchRL) ausgewiesenen FFH-Gebiete und Vogelschutzgebiete. In diesen Gebieten sind die notwendigen Maßnahmen zu ergreifen, um den sog. günstigen Erhaltungszustand der Arten und Lebensraumtypen von gemeinschaftlichem Interesse zu erhalten und – wenn nötig – wiederherzustellen. Diese Maßnahmen werden in Bewirtschaftungsplänen verankert. Die Erhaltung der biologischen Vielfalt kann in manchen Fällen die Fortführung oder auch die Förderung bestimmter Tätigkeiten des Menschen erfordern. „		15
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	„Im Zuge des Klimawandels werden neue Arten aus angrenzenden Regionen einwandern. Bei denjenigen, die sich dauerhaft etablieren, wird es sich nicht mehr um „gebietsfremde“, sondern um die neuen standortgerechten, einheimischen Arten handeln. Die Einwanderung von neuen Arten ist die Voraussetzung zum Ausgleich für auswandernde Arten und zur Erhaltung der Biodiversität. Eine wichtige Aufgabe wird es sein, unter den Neankömmlingen diejenigen zu identifizieren, die aufgrund ihres starken Ausbreitungsvermögens die einheimischen Arten und den Anpassungsvorgang an neue Klimabedingungen gefährden.“		38
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	„Die Entwicklung von angemessenen Strategien zum Umgang mit invasiven Arten stellt einen Schwerpunkt der europäischen Naturschutzpolitik dar.“		38

APPENDIX 2b: Integrierter Bewirtschaftungsplan Elbeästuar –Teil A / B (2010)

A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	„Die feuchten Hochstaudenfluren der Elbufer stromaufwärts von Hamburg zeichnen sich durch eine besonders hohe Artenvielfalt aus. Darüber hinaus besitzen sie als Habitat des Schierlings-Wasserfenchels eine besondere Bedeutung.“		40
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	„Erfüllung der internationalen und nationalen naturschutzrechtlichen Verpflichtungen zum Erhalt der biologischen Vielfalt durch die Herstellung „günstiger Erhaltungszustände“ von Arten und Lebensräumen und die Vermeidung von Verschlechterungen.“		42
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	„Erhalt der biologischen Vielfalt und Nutzung der jagdbaren Arten [...]“		43
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	„[...]biologische Vielfalt, Vielfalt der nachhaltigen Nutzungen, Vielseitigkeit des Natur- und Landschaftserlebnisses“.		44
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	„Für die Ufer steht die Erhöhung des Anteils der naturnahen Ufer im Mittelpunkt. Für den SchierlingsWasserfenchel sollen neue Trittsteinbiotope geschaffen werden. Die Bedeutung des Lebensraumtyps 6430 „Uferstaudenfluren“ für die Artenvielfalt an der Unterelbe soll besser vermittelt werden. In Zusammenarbeit mit der WSV bestehen realistische Aussichten, in den kommenden 10 Jahren substanzielle Fortschritte zu erzielen.“		54
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	„Die räumlichen Schwerpunkte für Maßnahmen werden so gewählt, dass natürliche Ausbreitungsmechanismen (z.B. Verdriftung von Samen des Schierlings-Wasserfenchels durch die Strömung) und Wechselbeziehungen zwischen Teilgebieten (z.B. zwischen Vogelrastplätzen) genutzt werden (Stichwort „mit der Natur arbeiten“).“		57
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	„Entwicklung eines Standortnetzwerkes, das das Überleben der Metapopulation langfristig sichert.“	Management Ziel	60
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	„Bekämpfung von invasivenArten [...]“		64

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A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	Erhaltung und Förderung der lebensraumtypischen Vielfalt an der Tideelbe, Vermittlung der Bedeutung des Lebensraumtyps für die Artenvielfalt	Management Ziel	66
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	„Artenreiche Uferstaudensäume entlang der wieder an die Tide angebundenen Alten Süderelbe (langfristiges Ziel), Nutzung von temporären Standorten.“	Zu Funktionsrau 2 (Hamburg Stadt)	66
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Für die Metropolregion Hamburg ist speziell für den Fischotter ein Verbundsystem mit dem Namen „blaues Netz“ entwickelt worden.“	Metropolregion Hamburg	35
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Im verbleibenden „Rumpfstuar“ der Elbe sind die Möglichkeiten der Rückkehr zu einer naturnahen Dynamik und zur Wiederherstellung des günstigen Erhaltungszustands des Ästuar-Ökosystems realistischerweise als eingeschränkt zu bewerten. Diese Feststellung gilt für alle Ästuar-Ökosysteme Deutschlands in der atlantischen biogeografischen Region und für nahezu alle Ästuar-Ökosysteme Europas.“		39
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Vermeidung einer Verschlechterung des Erhaltungszustands der Arten und Lebensraumtypen – Einleitung der notwendigen Schritte zur Verbesserung des Erhaltungszustands der Arten und Lebensraumtypen, die sich in einem ungünstigen Erhaltungszustand befinden – Vorbereitung des Ästuars und seiner Lebensgemeinschaften auf die Folgen des Klimawandels“		39
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Auf die Situation der Ästuar-Ökosysteme wurde bereits hingewiesen. Der Lebensraumtyp „Ästuar-Ökosysteme“ stellt den ökologischen Großraum dar, in dem die übrigen Lebensraumtypen und die Habitate der zu erhaltenden Arten eingebettet sind. Von seinem Erhaltungszustand hängt direkt oder indirekt der Erhaltungszustand aller übrigen Erhaltungsziele ab.“		40
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Die Rückkehr zu mehr Dynamik muss behutsam vorbereitet werden. In einer ersten Phase sind Schutzmaßnahmen zur Erhaltung und Stärkung der aktuellen Vorkommen von Arten und Lebensraumtypen mit ungünstigem Erhaltungszustand notwendig.“		57
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the physical environment\Water quality regulation	„Erfüllung der internationalen und nationalen wasserrechtlichen Verpflichtungen zum Erreichen eines „guten ökologischen Potenzials“ des Gewässerkörpers.“		42
A-	Regulating	“[...] Erhalt guter Wasserqualität (auch als Badewasser)“		44

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Teil_26-05-2011 hamburg TIDE	Service\Regulation of the physical environment\Water quality regulation			
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\Regulation of the physical environment\Water quality regulation	„Der Habitatverbund der Natura 2000-Gebiete und ihre Austauschbeziehungen mit dem Umland werden gestärkt. Für das Elbeästuar stellt das Wasser das wichtigste Verbindungsmedium dar.“		57
A-Teil_26-05-2011 hamburg TIDE	Regulating Service\regulation of wastes\Dilution and sequestration	„Lange Zeit waren die biochemischen Prozesse des Ästuars in der Lage, das meiste aus dem Oberlauf eingeschwemmte Nitrat abzubauen. In den letzten 25 Jahren ist das Elbeästuar von einer Nitratsenke zu einer Nitratquelle geworden. Der Verlust der natürlichen Reinigungsfunktion des Ästuars ist für die Küstengewässer, die im Unterschied zum Ästuar empfindlich auf hohe Nährstofffrachten reagieren, besonders problematisch. Dort wird die Erreichung der Ziele der WRRL zusätzlich erschwert.“		26
A-Teil_26-05-2011 hamburg TIDE	Tools and methods	„Ein gesundes Elbeästuar ist ein Naturkapital, das sich aus den vielfältigen Funktionen zusammensetzt, die der Mensch teils bewusst, teils unbewusst als Leistungen wahrnimmt und nutzt. Bislang wurden die Natur und ihre Leistungen in volkswirtschaftlichen Bilanzierungen nicht ausreichend berücksichtigt. Die Studie zur „Ökonomie von Ökosystemen und der Biodiversität“ („The Economics of Ecosystems and Biodiversity – TEEB“) wurde von Deutschland und der Europäischen Kommission als Antwort auf einen Vorschlag der G8+5-Umweltminister (Potsdam 2007), die volkswirtschaftlichen Kosten durch den Verlust der biologischen Vielfalt weltweit zu ermitteln, initiiert. Eine Kernbotschaft dieser Studie lautet: Die Investition in Natur zahlt sich.“	TEEB valuation of Biodiversity and Ecosystems	53
A-Teil_26-05-2011 hamburg TIDE	Tools and methods	„Die Bemühungen für die Erhaltung bzw. Wiederherstellung des günstigen Erhaltungszustands des Ästuars können eine kosteneffiziente Antwort auf den Klimawandel sein, unterstützen die lokale Wirtschaft, schaffen Arbeitsplätze und bewahren langfristig den Nutzen und die Leistungen des Ökosystems. Die Kommunikation dieser Botschaft gehört zu den Zielen des IBP. Für das Elbeästuar soll diese Thematik im Rahmen des Projektes TIDE – Tidal River Development bearbeitet werden“.	TIDE project supports aims and objectives of IBP	54
A-Teil_26-05-2011 hamburg TIDE	Tools and methods	„Ausgleichs- und Ersatzmaßnahmen, Ökokonten Sowie sie mit den Zielen des IBP kompatibel sind, können bestimmte Maßnahmen als Kompensation im Rahmen der Eingriffsregelung stattfinden. Ersatzmaßnahmen kommen auch als Finanzierungsinstrumente in Frage.“	Impact Assessments and ecobanking can take on valuation schemes	74

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A-Teil_26-05-2011 hamburg TIDE	Tools and methods	„Hinsichtlich der allgemeinen methodischen Anforderungen der FFH-Verträglichkeitsprüfung bestehen zwischen Vorhaben in Ästuaren und in anderen Landschaften keine wesentlichen Unterschiede. Die Verträglichkeit eines Vorhabens wird grundsätzlich durch Prüfung des Einzelfalls ermittelt. Zur Feststellung der Verträglichkeit eines Vorhabens ist eine Analyse seines spezifischen bau-, anlage- und betriebsbedingten Wirkungsgefüges im konkreten räumlichen Kontext und unter Berücksichtigung seiner spezifischen Kumulationseffekten mit zusammenwirkenden Plänen und Projekten erforderlich.“		75
A-Teil_26-05-2011 hamburg TIDE	Tools and methods	"Umgang mit Unsicherheiten Ästuar sind dynamische Ökosysteme, deren Verhalten sich trotz verbesserter Untersuchungsmethoden und Prognoseverfahren nicht vollständig vorhersagen lässt. Die Frage des Umgangs mit Unsicherheiten wird sich bei der Beurteilung der Verträglichkeit von Vorhaben weiterhin stellen. Die in FFH-Verträglichkeitsuntersuchungen bzw. –prüfungen dargelegten Beurteilungen müssen dem aktuellen Stand von Wissenschaft und Technik entsprechen. Dies bedeutet aber nicht, dass Forschungsaufträge zu vergeben sind, um Erkenntnislücken und methodische Unsicherheiten der Wissenschaft zu beheben ⁷ . Soweit spezielle Fragen ein hohes Maß an Expertise verlangen, hat sich bewährt, von Fachleuten Sondergutachten anfertigen zu lassen.“		76
A-Teil_26-05-2011 hamburg TIDE	Tools and methods	„Bislang liegen keine praktischen Erfahrungen mit dem Thema „vorausschauende Kohärenzsicherung“ vor. In ihrem Auslegungsleitfaden zu Artikel 6 Absatz 4 der 'Habitat-Richtlinie' 92/43/EWG formuliert die EU-Kommission Reserven bezüglich der Praktikabilität des Ansatzes: „Die Möglichkeit des „Habitat Banking“ als Ausgleichsmaßnahme im Sinne von Artikel 6 Absatz 4 ist aufgrund der strengen Kriterien, die an die Notwendigkeit eines Ausgleichs zur Gewährleistung der Kohärenz des Netzes gestellt werden von sehr begrenztem Wert.“	Habitat Banking	79
A-Teil_26-05-2011 hamburg TIDE	Tools and methods	„Gemäß Artikel 11 der FFH-RL sind die Mitgliedstaaten Europas zur Überwachung (= Monitoring) des Erhaltungszustandes der FFH-relevanten Arten und Lebensraumtypen verpflichtet. Die Ergebnisse dieses Monitorings bilden die Grundlage für die gemäß Artikel 17 der FFH-Richtlinie alle 6 Jahre erforderlichen Berichte an die EUKommission. Das regelmäßige Monitoring der Mitgliedstaaten muss Aussagen über den Erhaltungszustand auf Ebene der biogeografischen Regionen erlauben. Die EU-Kommission führt die Ergebnisse aus den Mitgliedstaaten der einzelnen biogeografischen Regionen zusammen und erstellt daraus einen Gemeinschaftsbericht. Aus diesem Bericht gehen die Fortschritte der europäischen Naturschutzpolitik hervor. Die Auswertung der Ergebnisse dient auch dem Erkennen von Defiziten und der Definition von zukünftigen Aktions- und Förderschwerpunkten.“	Monitoring of bio geographical regions to assess EU wide efforts in nature protection	81
	Tools and methods	„Für das FFH-Monitoring in Deutschland sind die Bundesländer zuständig. Auf der Grundlage der EU-weiten Vorgaben wurde von den Ländern unter Federführung des BfN ein Gesamtdesign entwickelt, das für kompatible Ergebnisse aus den einzelnen Bundesländern sorgt. Seit 2004 wurden sukzessiv Bewertungsmatrizes für die einzelnen Arten und Lebensraumtypen ausgearbeitet (www.bfn.de/0316_bewertungsschemata.html). Im März 2008 haben die Länder den Eckpunkten eines Systems zur Zusammenführung der Ergebnisse aus den Bundesländern zugestimmt. Das FFH-Monitoring ist auch ein Instrument des Erkenntnisgewinns. Aus den Ergebnissen lässt sich die Entwicklung von Schlüsselparametern (z.B. bestimmte Störungen, Vorkommen und Häufigkeit von diagnostischen Arten) verfolgen, Handlungsbedarfe bestimmen und Maßnahmen optimieren.“	FFH Monitoring	81

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Document	Code	Segment	Comment	Page
B-Funktionsraum_2-Schirm-2011	Cultural Services\Intellectual and Experiential\Recreation and community activities	„Das Erleben der maritimen Landschaft vom Land oder zu Wasser ist zu einem festen Bestandteil der Städtereisen nach Hamburg geworden. Neben der gewerblichen Schifffahrt hat auch der Wassersport seinen Platz.“		8
B-Funktionsraum_2-Schirm-2011	Institutional cooperation	„Ein besonderer Schwerpunkt liegt in der fachübergreifenden Zusammenarbeit mit den Verwaltungen der Schifffahrt und Häfen.“		13
B-Funktionsraum_2-Schirm-2011	Institutional cooperation	<p>„Weitere Maßnahmenswerpunkte können nur in Zusammenarbeit mit allen betroffenen Interessengruppen (z. B. HPA, Industrie und Gewerbe) realisiert werden:</p> <ul style="list-style-type: none"> • Entwicklung und Umsetzung eines Verbunds aus Trittsteinhabitaten für die prioritäre Art Schierlings-Wasserfenchel • Entwicklung von Rahmenbedingungen, die eine temporäre Besiedlung von Flächen u. a. durch den Schierlings-Wasserfenchel ermöglichen, ohne eine spätere Nutzung einzuschränken oder zu verhindern • Vermittlung der Bedeutung einer naturnahen Tide- und Sedimentdynamik für Natura 2000, für die Hafenwirtschaft und für weitere Nutzungen, Vermittlung der Notwendigkeit einer Anpassungsstrategie der Unterelbe an die Folgen des Klimawandels [..]“ 		13
B-Funktionsraum_2-Schirm-2011	Provisioning Services\Nutrition\Terrestrial plant and animal	„Das unmittelbare Umfeld des Funktionsraums 2 wird insbesondere vom Obst- und Gemüseanbau geprägt.“		8
B-Funktionsraum_2-Schirm-2011	Regulating Service\Flow regulation\Air, Water, Mass	„Wiederherstellung einer naturnäheren Sedimentations- und Tidedynamik.“		8
B-Funktionsraum_2-Schirm-2011	Regulating Service\Flow regulation\Air, Water, Mass	„Die Vertiefung der Fahrrinne bis zum Hamburger Hafen ist eine der Ursachen für Sauerstofftal und Tidehubzunahme.“		11
B-Funktionsraum_2-Schirm-2011	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease control	„Der Funktionsraum 2 bietet dem Schierlings-Wasserfenchel, dessen Samen durch die Tide verdriftet werden, einen Verbund aus zahlreichen Trittsteinbiotopen. Dadurch unterstützt der Funktionsraum 2 die Gesamtpopulation dieser vom Aussterben bedrohten Art auch in den übrigen Süß-wassertidelebensräumen an der Unterelbe. „		7
B-Funktionsraum_2-Schirm-2011	Regulating Service\Regulation of the biotic environment\Gen pool protection, pest and disease	„Vorbeugende Maßnahmen gegen die Einschleppung von invasiven Neobiota durch die Schifffahrt [..].“		13

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	control			
B-Funktionsraum_2-Schirm-2011	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Für einige der Fisch- und Neunaugenarten, die Erhaltungsziele der Natura 2000-Gebiete sind, stellen die Gewässerabschnitte des Funktionsraums 2 eine Wanderstrecke dar. Die gleiche Verbindungsfunktion besteht für charakteristische Arten der Lebensraumtypen 3270 „Flüsse mit Schlammhängen“ (Funktionsraum 1) und 1130 „Ästuarien“ (Funktionsraum 3). In der limnischen Tideelbe weisen die aquatischen Lebensgemeinschaften beider Lebensraumtypen sehr große Übereinstimmungen auf. So steigt die mengenmäßig wichtigste Fischart des Ästuars, der Stint, bis in den Funktionsraum 1 hinauf.“		5
B-Funktionsraum_2-Schirm-2011	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Der Funktionsraum 2 ist daher ein wesentlicher Bestandteil des Habitatnetzwerks des Schierlings-Wasserfenchels. Um den Austausch zwischen den Beständen östlich und westlich von Hamburg zu sichern, ist es entscheidend, so viele Trittsteine wie möglich im Funktionsraum 2 zu entwickeln.“		7
B-Funktionsraum_2-Schirm-2011	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Entwicklung eines Verbunds aus Trittsteinhabitaten für den Schierlings-Wasserfenchel.“		8
B-Funktionsraum_2-Schirm-2011	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Erhaltung und Entwicklung von geeigneten Ruhehabitaten für aufsteigende Fische und Neunaugen entlang ihrer Wanderstrecke.“		8
B-Funktionsraum_2-Schirm-2011	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Erhaltung der für den Vogelschutz relevanten Funktionen der Hamburger Naturschutzgebiete, insbesondere der Westerweiden für rastende Gänse und des Holzhafens für rastende Enten.“		8
B-Funktionsraum_2-Schirm-2011	Regulating Service\Regulation of the biotic environment\Life cycle maintenance and habitat protection	„Die sich aus den Managementzielen ergebenden wichtigen Handlungserfordernisse aus Natura 2000-Sicht sind die Sicherung der biologischen Durchgängigkeit, die Schaffung von Trittsteinhabitaten für den Schierlings-Wasserfenchel, die Aufrechterhaltung des Rastplatzangebots für Zugvögel als Bestandteil des überregionalen Rastplatzverbundes und die Entwicklung einer natürlicheren Tidedynamik.“		11
B-Funktionsraum_2-Schirm-2011	Regulating Service\Regulation of the physical environment\Pedogenesis in soil quality regulation	„Optimierung des Sedimentmanagements mit den Zielen, Sedimentationskreisläufe aufzulösen, Sedimentationsraten zu senken und die Schadstoffbelastung der Sedimente zu reduzieren, ohne dabei die biologische Durchgängigkeit zu gefährden.“		13