

Chapter 2

Alternatives, including the Preferred Alternative



Overview of Alternatives

The following five alternatives have been developed for the Giacomini Wetland Restoration Project FEIS/EIR:

- **No Action Alternative** – Management of Project Area as Specified Under Current Management Plan and Existing Agreements, Including Mitigation as Required by Existing Mitigation Agreement and Maintenance of Existing Public Access Facilities
- **Alternative A** – Limited Restoration of the Giacomini Ranch East Pasture Only with Expanded Public Access, Including Culverted Earthen Fill Trail on Eastern Perimeter;
- **Alternative B** – Moderate Restoration of the Giacomini Ranch East Pasture and Limited Restoration of the West Pasture with Expanded Public Access, Including Boardwalk Trail on Eastern Perimeter;
- **Alternative C** – Full Restoration of the Giacomini Ranch East and West Pastures and Restoration of Olema Marsh, with Moderate Public Access;
- **Alternative D (Environmentally and Agency- Preferred Alternative)** – Extensive Restoration of the Giacomini Ranch East Pasture, Full Restoration of the West Pasture, and Restoration of Olema Marsh with Limited Public Access

Project Planning and Alternatives Development Process

NEPA and CEQA require project proponents to identify a range of reasonable project or action alternatives within an EIS/EIR. Reasonable action alternatives must be economically and technically feasible and demonstrate common sense. With the exception of the No Action alternative, alternatives must meet, to a large degree, stated purpose and objectives for taking action and should not conflict with federal, Park Service, state, and local laws, regulations, and policies or constraints identified during scoping. A No Action – or No Project – alternative must be analyzed under NEPA and CEQA: this alternative evaluates future conditions under existing management plans or agreements and allows the public to evaluate the implications of what would happen if no project were implemented.

Since purchasing the property in 2000, the Park Service and CSLC have conducted a comprehensive NEPA/CEQA planning process that has involved extensive interaction with the public and agencies, as well as completion of numerous resource studies. Information from scoping and baseline studies was used to develop preliminary alternatives and refine them for eventual inclusion in this document. The project planning process started in 2001, with initiation of baseline studies designed to assess existing conditions and resource values of the Giacomini Ranch. These studies included topography, hydrology, wildlife (birds, fish, invertebrates, etc.), plants, vegetation communities such as wetlands and riparian habitat, water quality, sediment contaminants, and cultural resources such as archaeological sites and historic structures. This information is crucial to not only understanding existing conditions, but potential constraints on design of restoration and other components of the project.

For example, in developing wetland restoration projects, one of the important initial considerations involves topography within the Project Area and adjacent properties. The Park Service contracted with the U.S. Geological Survey to produce a topographic map of the Project Area. Results of the topographic survey provided project proponents with several important pieces of information. First, elevations within the Giacomini Ranch are higher than most diked wetland areas such as in San Francisco Bay or the Sacramento Delta, which are often extremely low topographically due to subsidence or decreases in surface elevations from compaction of soils and/or breakdown of undecomposed organic material (peat). Elevations range from +2 to +12 feet NAVD88 in the Giacomini Ranch. These topographic conditions within the Project Area would place some significant logistical constraints on using historic conditions as a framework

*Reasonable action
alternatives must be
economically and
technically feasible and
demonstrate common
sense*



for restoration or alternative design, because the amount of excavation required to return the Giacomini Ranch to subtidal-low intertidal conditions that were present in the 1860s would be prohibitive.

Secondly, unlike restoration of deeply subsided diked wetlands, removal of levees in the Project Area would not necessarily create open water conditions, but rather would favor almost immediate establishment of mid- to high marsh and even upland communities. Olema Marsh is also higher in elevation than was assumed at first, although, in this case, higher elevations have been maintained by a substantial build-up in peat due to the fact that permanent flooding precludes breakdown of organic material (KHE 2006a). This topographic difference between the Project Area and other diked wetlands has significant implications for design and phasing of restoration. The lack of subsidence greatly increases the feasibility of developing alternatives where levees can be immediately removed rather than having to be partially breached or removed over a period of several decades, thereby greatly increasing the pace restoration in the Project Area relative to deeply subsided areas.

One of the largest issues raised during scoping concerned the scale and appropriateness of public access in the restoration project

The Park Service and CSLC conducted formal public scoping during the fall and winter of 2002-2003. A more detailed list of issues can be found in Chapter 5, but some of the primary issues raised during scoping by agencies and the public consisted of concerns about increases in flooding of adjacent properties and roads; increased saltwater intrusion into local municipal groundwater wells; impacts to the rural character of the local community; increased traffic, noise, and visitation within the local community; potential for incorporating Olema Marsh into the restoration project; and impacts to special status wildlife and plant species. One of the largest issues raised during scoping concerned the scale and appropriateness of public access in the restoration project. As a result, following scoping, the Park Service and CSLC elected to develop a specific public access-related project goal that focused on creating public access components within the Project that would allow the public to experience and enjoy the restoration process without compromising the Project purpose and restoration-related objectives. Another change that resulted from public scoping was inclusion of Olema Marsh, which was once integrated with the Giacomini Ranch into a large tidal marsh system, into the restoration project.

Scoping also formed the basis for identifying the primary constraints on restoration and public access that were discussed in Chapter 1, which are issues that needed to be factored into alternatives design. These primary constraints include not aggravating flood risk to adjacent private residences and public roads above current or existing conditions; not increasing salinity intrusion into municipal groundwater wells above currently existing levels; and minimizing or offsetting impacts to habitat for tidewater goby and California red-legged frog (*Rana aurora draytonii*) and other special status species with the understanding that the exact location of habitats such as fresh or brackish marsh may shift following implementation of restoration. Another constraint on restoration design is that current Seashore policy advocates not using chemicals to treat or remove invasive or non-native plant species during or after construction.

As noted above, reasonable alternatives are those that fall within or do not exceed boundaries of stated constraints, are economically and technically feasible, and display common sense. Although “display common sense” is not defined by the CEQ or Park Service NEPA regulations, it is generally accepted to mean alternatives that meet stated purpose or objectives and do not violate any regulations, laws, MOUs, or other legal agreements. For the proposed project, criteria that were considered and used to screen alternatives and restoration and public access elements during design were:

- Mitigation requirements stipulated in the agreement between CalTrans and the California Coastal Commission;
- Park Service’s stated objectives at the time of the agreement;
- Mission and policies of the Park Service, including protection and restoration of watershed processes, wetlands, and floodplains; incorporation of public access into areas with sensitive natural resources; and incorporation of public access that is accessible to both able and disabled people.



- Purpose, Objectives, Planning Criteria, and Constraints of the proposed project;
- Federal, state, and local laws, regulations, and policies;
- Feasible from a technical perspective;
- Feasible from an economic perspective;
- Sustainable over the long-term such that alternatives incorporate actions that would not require extensive future maintenance or remediation.

In 2003, a hydrologic consulting firm, Kamman Hydrology & Engineering (KHE; San Rafael, California) was hired to assist with alternatives development and to perform hydrodynamic modeling of preliminary and refined alternatives. Park Service and CSLC staff and the hydrologic consultants worked through a series of meetings and workshops to develop and evaluate various potential restoration and public access components. The topographic information and results of other baseline studies and scoping were used by the planning team to guide development of alternatives that would meet the purpose and objectives of the proposed project, as well as the other screening criteria such as mitigation requirements; laws, regulations, and policies; and project constraints.

When the Park Service and CSLC had developed a range of preliminary alternatives that met these criteria, they began a series of meetings in February 2004 with regulatory and local and state agencies, adjacent landowners, special interest groups, and technical wetland restoration experts to get feedback on the range and appropriateness of these preliminary alternatives. The culmination of this series of internal, agency, technical expert, and adjacent landowner meetings was a workshop for the public, held in June 2004.

In response to the considerable number of comments received on the public access portion of the proposed project, the Park Service and CSLC conducted a more detailed evaluation of public access. First, potential hydrologic, biological, and cultural resource impacts associated with multiple potential public access alignments and infrastructure locations were evaluated by KHE and LSA Associates (KHE et al. 2004). From analyses of resource impacts, the consultants narrowed the number of potential public access alignments and infrastructure locations that should be considered in the future to those 1) that would appear not to constrain or impinge upon the project purpose and objectives and 2) that would appear to have the lowest potential environmental impacts. Based on these recommendations, the Park Service and CSLC elected to carry forward only those public access alignments and locations rated as having low to moderate impacts on hydrologic, biological, and cultural resources for a second phase of study. The second study, prepared by LandPeople Landscape Architects (Benicia, Calif.), specifically focused on technical feasibility, land use impacts, and costs of selected public access alignments evaluated under Phase I (LandPeople 2005).

Following the workshops in 2004 and completion of the public access and further technical studies on Olema Marsh in 2005, the Park Service and CSLC worked with its consultants throughout the spring and summer of 2005 to refine preliminary restoration and public access components. In August 2005, the Park Service and CSLC held a Value Analysis process to ensure that it had developed a reasonable range of alternatives that met the screening criteria identified above and were cost-effective and to select a preliminary preferred alternative (Alternative C) for analysis in the DEIS/EIR. The Value Analysis team, which consisted of representatives from the Park Service, CSLC, and other partner agencies, maintained the existing range of alternatives, but suggested some modifications to increase potential benefits and cost-effectiveness. The Park Service presented the finalized alternatives and the Value Analysis team's recommendations to the Development Advisory Board in November 2005, which approved the Park Service's request to move forward with design.

The preferred alternative discussed in the DEIS/EIR is usually the one selected for implementation, unless new information, including information from public comments, becomes available that would suggest that implementation of another alternative would be preferable. As noted earlier, the Park Service and CSLC had initially selected Alternative C as the preferred alternative, although the environmentally preferred alternative was Alternative D. While the Value Analysis team felt initially that Alternative C offered the best combination of restoration and public access benefits, the planning team subsequently reevaluated this decision based on the comment received during release of the DEIS/EIR. Many public comments expressed support for maximizing the opportunity for restoration and minimizing public access elements that might detract from restoration such as the non-vehicular bridge. In addition, in making the decision to switch to Alternative D, the planning team recognized that, based on the amount and types of comments that it received from



individuals and agencies, public access components on the southern perimeter of the Project Area were perhaps “not ripe for decision” by NEPA standards. Proposed public access components that once received considerable support from the local community -- who would be both most affected by the facilities and most likely to use them -- received considerable opposition during the public comment period for the DEIS/EIR.

After reconsideration, the planning team has elected to follow the suggestions of many of the commenters to work cooperatively with the County of Marin in the future on options for connecting the Park Service trails on the northern bank of Lagunitas Creek with existing and potentially new facilities on the southern bank of Lagunitas Creek. This approach is now included in Alternative D and was already included to some degree in the DEIS/EIR in Alternatives A-C in the programmatic component that could potentially extend the southern perimeter trail to Inverness Park. Under Alternative D, the Park Service would commit to working with the County of Marin in the future on expansion of public access facilities on the southern perimeter of the Project Area, including potential creation of a trail on Levee Road and the Green Bridge, extension of a trail to Inverness Park, and/or construction of a non-vehicular bridge across Lagunitas Creek at the location of the old summer dam through a separate environmental compliance process.

The preferred alternative is usually the one selected for implementation, unless new information, including information from public comments, suggests that implementation of another alternative would be preferable

Alternatives

As described, the Park Service and CSLC underwent an extensive and comprehensive alternative development process for both the restoration and public access components. As a part of this development process, at least eight full-scale alternatives and several minor to moderate variations to design of existing alternative restoration and public access components were considered. Of these eight alternatives, five are fully analyzed in this document. The other three were considered, but rejected because they would not adequately meet the project’s purpose and objectives or were considered too similar in scope or duplicative to other existing alternatives. These alternatives and some of the more substantial variations to existing alternative design assessed are briefly discussed in the section, *Alternatives Considered But Not Analyzed Further*, at the end of this chapter.

With the exception of the No Action Alternative, the alternatives selected for analysis meet the Mission and policies of the Park Service and the purpose and objectives of the proposed project to an acceptably large degree and are within constraints imposed by regulations and policies, potential risks to adjacent homes and roads and the municipal water supply through increasing the extent of area open to tidal and fluvial (creek) flooding, and technical and funding limitations. Although alternatives in the FEIS/EIR must meet objectives and resolve planning issues to a large degree, they can vary in their methods, or in the degree to which each objective is met. This is the case with this project. For Alternatives A through D, alternatives generally range from the least amount of restoration to the greatest amount of restoration, with alternatives building upon each other such that restoration components or elements from Alternative A are generally (but not always) carried forward to Alternative B and are often expanded. For example, tidal creek creation and enhancement in Alternative A is carried forward to Alternative B, and the amount of tidal creek creation is expanded under Alternative B relative to Alternative A. As a result of comments received during initial scoping, the Park Service and CSLC decided to incorporate restoration of Olema Marsh, a diked freshwater marsh that was once part of a large historic tidal wetland complex that included Giacomini Ranch, into two project alternatives, Alternatives C and D.

The five proposed alternatives involve some combination of geomorphic and topographic alterations aimed at restoring natural hydrologic and ecological processes. These alterations would change the current hydrologic regime within the Project Area, leading either to muted tidal action, full tidal action, and/or natural creek



action (i.e., allowing creeks to meander naturally). Emphasis was placed on those alternatives that would create the most sustainable and dynamic ecosystems. Due to the comparatively high elevations in the Project Area relative to many other diked marshes, restoration of natural hydrologic and ecological processes would likely result in development of a complex mosaic of habitat types within the Project Area, including salt marsh, brackish marsh, freshwater marsh, riparian, and open water.

For the public access component, the extent of constructed infrastructure is highest under Alternatives A and B and decreases under Alternatives C and D, such that the least extent of constructed infrastructure occurs in Alternative D. This approach to public access is consistent with the project purpose and objectives, which states that public access opportunities should not conflict with the project's purpose of restoring natural hydrologic and ecological processes and functions. The highest degree of restoration of natural process and function occurs in Alternatives C and D, and this, combined with the fact that most of the Giacomini Ranch, including its perimeters are wetland and/or riparian areas, led to public access being scaled back to varying degrees under the Full and Extensive Restoration Alternatives (Alternatives C and D) relative to the Limited and Moderate Restoration Alternatives (Alternatives A and B).

The five proposed alternatives involve some combination of geomorphic and topographic alterations aimed at restoring natural hydrologic and ecological processes

Originally, the Park Service and CSLC intended to extend one of the proposed trails to Inverness Park on the west side of the Project Area. However, based on some of the logistical constraints identified in the public access studies and discussions with the county, the Park Service and CSLC have elected to focus on public access components on Park Service and CSLC lands in this project and potentially collaborate in the future with the County of Marin on a project that would extend the southern perimeter trail to Inverness Park, as originally envisioned. This decision to focus on public access components on Park Service-CSLC lands was predicated on two factors. First, most of the southern perimeter trail between White House Pool County Park and Inverness Park would or could occur on lands largely or entirely owned or managed by the County of Marin. This includes road right-of-ways, which are subject to County regulations and, therefore, would necessitate that the County either take the lead or actively partner on the public access project. Secondly, engineering analysis of the section of road near White House Pool showed that the creek is actively eroding towards Sir Francis Drake Boulevard, and repairs and revetment of the road should be completed before constructing facilities to accommodate public access (LandPeople Landscape Architects 2005). Because a portion of this extended trail could impact the restored Project Area either through removing riparian vegetation and expanding the Sir Francis Drake road berm or through construction of a boardwalk, the potential future impacts from these activities are addressed programmatically in this document, but would need to be addressed in greater depth in subsequent studies and documents.

For this DEIS/EIR, the No Action alternative represents conditions that would be expected to develop if only the minimum amount of restoration necessary to meet mitigation requirements was performed (3.6 acres) when the Giacomini Ranch dairy closes in 2007. It is important to note that continuation of the dairy is not included – and is not feasible – under any of the alternatives, including the No Action, because the sale essentially split the ranch and left a portion of the dairy facility in the Giacomini family ownership. However, under the No Action Alternative, some leased grazing could possibly occur, although pastures would not be irrigated.

One of the critical assumptions – and principal benefits – in developing alternatives that are based on restoring process and function is that it increases sustainability or resiliency of the proposed project by allowing for a considerable amount of change in future conditions without requiring maintenance, intervention, or remediation. By definition, natural processes are extremely dynamic ecosystem components that result in change either on seasonal, annual, decadal, or other long-term time scales. In transitional zones such as the upper portion of the Tomales Bay watershed, where freshwater and saltwater environments mix, the



dynamism can be even greater than in other aquatic ecosystems. Given this dynamism, the Park Service and CSLC recognized that its task was to remove impediments to natural process, not engage in an endless – and probably futile – battle to create and maintain ecological status quo through dictating the types of habitats, specific acreages and locations of habitats, and creek alignments. This approach increases the sustainability and resiliency of the proposed project not only to current ecosystem processes, but to factors that may affect it in the future such as sea level rise. While certain restoration tasks within alternatives may focus on creating creeks or realigning creeks into historic channels as a way of removing impediments to natural process, the Park Service and CSLC acknowledge that it is possible, because of the nature of natural fluvial or creek processes, particularly in deltaic systems, that the creek could change course or meander out of the constructed course in the future or fill in with sediment and cease to function as a channel. The Park Service and CSLC recognize this type of change or ecological evolution as inherent to the proposed project and not cause for maintenance or remedial action. In addition, should natural process result in change that affects public access infrastructure, the Park Service and CSLC would focus on adaptively managing public access to fit the changed environment rather than adapting the environment to fit public access. The only factors that would trigger future maintenance or intervention would be if 1) the project somehow did not successfully remove impediments to natural process or function or 2) if special status species habitat enhancement and creation efforts were not fully successful.

One of the principal benefits in developing alternatives that are based on restoring process and function is that it increases sustainability or resiliency of the proposed project

Detailed Project Area Description

The Project Area is located in coastal Marin County at the head of Tomales Bay between the towns of Point Reyes Station and Inverness Park (Figure 2). The Project Area lies at the confluence of Lagunitas, Olema, and Bear Valley Creeks with Tomales Bay. Lagunitas Creek flows in a northerly direction from the upper portions of its watershed in the Coast Range mountains through largely local- and state- owned lands to the headwaters of Tomales Bay where it curves to the west for a short distance before resuming its northward course. Lagunitas Creek bisects the Giacomini Ranch into two pastures – the East and West Pastures (Figure 3). Both of these pastures are leveed.

The 200-acre West Pasture is bordered by the town of Inverness Park and Sir Francis Drake Boulevard (Figure 3), which is the only road connecting the town of Inverness and the rest of the Point Reyes Peninsula to other areas within west Marin and the county. While most of the businesses and homes occur on the west side of Sir Francis Drake Boulevard at the base or along the steep hillsides of the Inverness Ridge, several private residences have been built on the east side of Sir Francis Drake Boulevard directly adjacent to the pastures. Several creeks and drainages, including Fish Hatchery Creek, drain off the Inverness Ridge and into the West Pasture, many of which flow through or close to private properties. Notable features within the West Pasture include the extensive freshwater marsh in the northern portion of the pasture, Fish Hatchery Creek, and the north levee, which is currently used as an informal social path.

The 350-acre East Pasture is bordered by the town of Point Reyes Station and the outlying residential community north of the town on the Point Reyes Mesa (Figure 3). The town is located on a mesa or coastal terrace, with all of the homes and businesses are elevated anywhere from 30- to 100 feet above the East Pasture. The lowest elevation portion of the mesa near the downtown portion of Point Reyes Station, which is almost triangular in shape, houses the Giacomini Dairy facility, including milking barns, loafing barns, hay barns, and corrals, as well as several small houses. The dairy runs parallel to C Street, located in the southwestern portion of the town. A number of homes, businesses, and agencies exist within the immediate vicinity of the dairy, including a Sheriff's substation and firehouse. The main commercial street in the town of Point Reyes Station is State Route 1, which is located two city blocks east of the dairy.



