

SUMMARY

San Francisco Bay Area Conservation External Evaluation: Assessing Stewardship Outcomes and Project Impact

Prepared for the
Gordon and Betty Moore Foundation

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Photo Credits

Left:

Redwood Cathedral

Location: Santa Cruz Mountains, CA

Photographer: Richard Masoner, Flickr

Middle:

Cows Grazing on Robertson Property, Sonoma County, CA

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Right top:

Mountain Lion (Puma concolor)

Location: Santa Cruz Mountains, CA

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Right bottom:

Golden Gate Bridge

Location: San Francisco, CA

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This report is prepared in collaboration with sub-contractors Jenn Fox, Jodi M. McGraw (Jodi McGraw Consulting), and Stuart B. Weiss (Creekside Center for Earth Observation).

Disclaimer

Blue Earth Consultants, LLC's research is drawn from review of grant documents and online surveys and interviews with grantees, decision-makers and land managers. While we strive to present the most accurate information as possible, we cannot always guarantee the accuracy and/or timeliness of the information highlighted in documents or shared as perceptions by informants.



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ACRONYMS AND ABBREVIATIONS

BACS	Bay Area Conservation Sub-Program
BAECCC	Bay Area Ecosystems Climate Change Consortium
Bay Area	San Francisco Bay Area
BCDC	San Francisco Bay Conservation & Development Commission
Blue Earth	Blue Earth Consultants, LLC
Caltrans	California Department of Transportation
C-CAT	Climate Carbon Accounting Tool
CLN	Conservation Lands Network
EBRPD	East Bay Regional Park District
Foundation	Gordon and Betty Moore Foundation
GHG	Greenhouse Gas
GIS	Geographic Information System
MROSD	Midpeninsula Regional Open Space District
NGO	Non-governmental Organizations
NRCS	Natural Resources Conservation Services
OSA	Santa Clara Valley Open Space Authority
Pepperwood	Pepperwood Foundation
POST	Peninsula Open Space Trust
RCD	Resource Conservation District
RLF	Resources Legacy Fund
SCAPOSD	Sonoma County Agricultural Preservation and Open Space District
SCC	California State Coastal Conservancy
State Parks	California State Parks
TBC3	Terrestrial Biodiversity Climate Change Collaborative
TNC	The Nature Conservancy
UCSC	University of California, Santa Cruz
USGS	U.S. Geological Survey

SECTION 1

The Bay Area Program's conservation portfolio

1.1. BAY AREA CONSERVATION SUB-PROGRAM OVERVIEW

The Gordon and Betty Moore Foundation (foundation) Bay Area Program's conservation portfolio, established in 2001, works to preserve and enhance habitat for native species in the San Francisco Bay Area (Bay Area), a biologically rich region with a Mediterranean climate and a vast network of open space (Bay Area Open Space Council, 2011). The region is home to over 50 endemic species, 3,000 native plant taxa and supports charismatic megafauna (*e.g.*, mountain lions, black bears, tule elk), endangered birds (*e.g.*, Ridgeway's rail, marbled murrelet, northern spotted owl), and threatened amphibians (*e.g.*, yellow-legged frogs, California tiger salamanders) (Ackerly *et al.*, 2012). The diverse assortment of Bay Area ecosystems includes grasslands, wetlands, redwood and Douglas-fir forests, chaparral and others, in over 1.37 million acres of protected open space (Bay Area Open Space Council, 2014). However, the Bay Area faces a suite of risks that could lead to declines in ecosystem and species condition, such as increased human population and associated development demands, limited conservation funding to support ecosystem protection, and climate change and invasive species (Greenbelt Alliance, 2012). Climate change, for instance, is likely to place increased stress on Bay Area ecosystems; sea level rise is expected to lead to increased flooding risk of mudflat and marsh habitats, and warmer and drier conditions are likely to lead to species range contractions and reduced diversity of endemic plants (Goals Project, 2015; Ackerly *et al.*, 2012). Furthermore, continued development and urban sprawl present serious risks to the biodiversity of the region; over 1.24 million acres of the Bay Area's 4.5 million acres of land have already been converted from natural land to other uses (Bay Area Open Space Council, 2014). Thus, there is still a need to continue and strengthen efforts to protect the Bay Area's valuable ecosystems.

The overarching goal of the Bay Area conservation portfolio is to protect and preserve native habitat and species in the Bay Area. The foundation promotes conservation and protection of Bay Area land and achieves its overarching goal through supporting projects throughout 10 counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma. The program funds "land protection" grants that support acquisition and easement of ecologically valuable properties and "enabling intervention" grants that support collaboration, research and capacity building to advance protection and conservation of Bay Area habitats. The foundation focuses on achieving this goal through three key strategies:

- Property Acquisition
- Natural Resources Use Practices
- Conservation Finance

These strategies lead to a variety of outcomes, such as land acquisition and conservation easements that are grounded in science-based regional conservation planning priorities, and establishing effective conservation finance structures to maximize the impact of funding and ensure financial sustainability of the projects.

In September 2015, the foundation saw the value in an external evaluation that would seek to answer two difficult questions: assessing stewardship outcomes and variability for local lands protected with Moore Foundation funding, and determining the impact of enabling intervention funding. The foundation hired Blue Earth Consultants, LLC (Blue Earth) to conduct the evaluation. Blue Earth served as the prime contractor and led a multi-disciplinary team including sub-contractors Jenn Fox, Jodi M. McGraw (Jodi McGraw Consulting), and Stuart B. Weiss (Creekside Center for Earth Observation). The following report summary includes a synthesis of the evaluation results organized in four main sections: 1) an overview of the evaluation objectives, questions, and methods used throughout the evaluation; 2) a discussion of the overarching impact of the portfolio; 3) a synthesis of results regarding stewardship outcomes achieved by land protection grants; and 4) a synthesis of results regarding the impact of enabling intervention grants.

1.2. EVALUATION OBJECTIVES, QUESTIONS AND METHODS

Evaluation objectives and questions

The overarching objectives of this evaluation were to: 1) assess the stewardship of foundation-supported protected area, conservation easement and ecological restoration¹ sites (*i.e.*, land protection grants), including site ownership and easement status, and 2) evaluate the impact (*e.g.*, use of information by decision-makers to inform key decisions and policy) of enabling intervention grants. The evaluation addressed the following five questions:

- **Question 1:** What is the ownership/easement status of selected foundation-funded sites, and does it match the anticipated plan in the original grant?
- **Question 2:** What is the variation in stewardship outcomes of the selected foundation-funded sites?
- **Question 3:** What are the determinants of the variations in stewardship outcomes of the selected foundation-funded sites?
- **Question 4:** What has been the performance against the outcomes and outputs of selected enabling intervention grants?
- **Question 5:** What has been the impact of selected enabling intervention grants?

Methods summary

We combined social and ecological methods and conducted a mixed-methods evaluation drawing upon multiple sources of relevant information to evaluate both the land protection and enabling intervention

¹ For the purposes of this evaluation, we define ecological restoration as activities that improve conditions of degraded and destroyed ecosystems and help restore ecological processes.

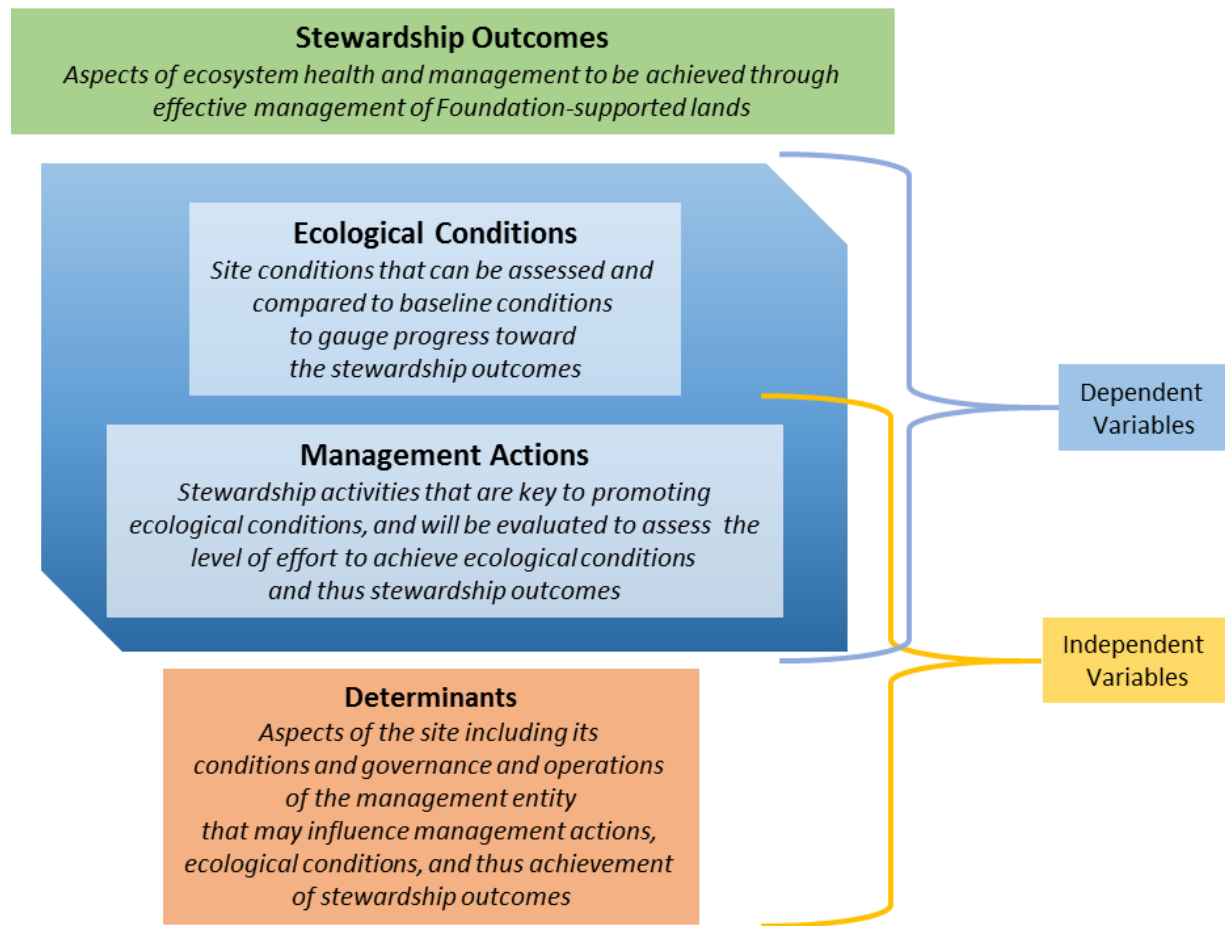
grants and identify their key achievements, challenges, lessons learned and critical needs. We selected a representative subset of 20 land protection and 10 enabling intervention grants for in-depth analysis (*e.g.*, site visits and key informant interviews), and focused the majority of the analysis on the representative subset. Our triangulated approach offered a means to use complementary sources of information and validate research findings. We paired ecological and social data and applied quantitative and qualitative analysis approaches to collect data surrounding the five evaluation questions related to the representative subset.

We also drew upon key land stewardship literature (*e.g.*, Worrell and Appleby, 2000; Land Trust Accreditation Commission, 2015) to develop an operational definition of stewardship and a conceptual framework. The framework highlights three variables related to stewardship, which guided our assessment and analysis of land protection grants (Figure 1).

We analyzed land protection and enabling intervention grants through the following methods:

1. **Document review** of grant documents, products and other information (*e.g.*, management plans, reports, websites) related to the grants.
2. **Online surveys** of grantees, site managers, grant partners and decision-makers who had used or were potential users of grant information produced through enabling intervention grants. For enabling intervention grant surveys, we distributed the survey to 229 informants, and received 105 responses (46% response rate). For land protection grant surveys, we distributed the survey to 80 informants and received 46 responses (58% response rate).
3. **Key informant telephone interviews** with grantees, site managers and decision-makers who had used or were potential users of grant information produced through enabling intervention grants. For enabling intervention grants, we interviewed 21 informants, and for the land protection grants, we interviewed 36 informants.
4. **Site visits** to selected protected areas, conservation easement and ecological restoration sites.
5. **Spatial analysis** of the land protection grant portfolio and a selected subset of sites.

Figure 1. Stewardship Conceptual Framework



1.3. BAY AREA CONSERVATION PORTFOLIO OVERVIEW AND IMPACT

Portfolio overview

At the time of this evaluation, the Bay Area conservation portfolio consisted of 83 grants, including 47 land protection and 36 enabling intervention grants. The overall budget (*i.e.*, total funds distributed) for the entire portfolio is \$173,323,416. Of this total, approximately 89 percent of allocated funds support land protection grants (\$154,548,630), and 11 percent support enabling intervention grants (\$18,774,786).² Land protection grant budget sizes range from \$180K to \$50M, and enabling intervention grant budget sizes range from \$20K to \$2M.

Land protection grants address a diverse range of goals, such as permanent protection of land, enhanced stewardship of land, ecological restoration of habitat and species, acquisition of land, creation of connected protected areas and leveraging funding to support land acquisition. Land protection grants also promote preserving and maintaining several ecosystem components, including biodiversity (*e.g.*,

² Note: Some enabling intervention grants were still in progress during this evaluation, so their budgets were calculated based on current budget amounts and do not necessarily reflect the final grant budget.

endemic species), cultural resources, water resources, environmental services and scenic resources, and many land protection grants target multiple, overlapping goal themes.

Enabling intervention grant goals also have diverse themes, including applied research, climate change, collaboration, economic valuation, outreach, re-granting and leveraging conservation financing. Examples of grants include funding the Santa Clara Valley Open Space Authority (OSA) to evaluate the economic benefits of conservation and to align conservation funding streams, supporting California State Coastal Conservancy (SCC) in the implementation of the Bay Area Ecosystems Climate Change Consortium collaborative network (BAECCC), and funding University of San Francisco, Department of Environmental Science to measure carbon sequestration of Bay Area wetlands. Some enabling intervention grants also develop products and collaborative groups, such as reports, online tools, scientific publications, steering committees (e.g., San Francisco Baylands Steering Committee) and interactive forums.

Portfolio impact

Table 1 shows the impact of the portfolio related to key Bay Area conservation outcomes in terms of numbers of interventions facilitated, partnerships formed, sites protected, and funding structures and mechanisms developed. Achievements that contributed to the impact of the portfolio follow Table 1.³

*Table 1. Land Protection Portfolio and Enabling Intervention Subset Impact against Outcomes**

Outcome	Enabling Intervention (subset)	Land Protection	Total
<p><i>Increased land acquisition and conservation easements that are grounded in science-based regional conservation planning priorities, deliver durable conservation outcomes, and address threats</i></p> <p><i>Increased interventions that focus on overall habitat acreage, quality, and connectivity</i></p>	<p>3+ interventions</p>	<p>118,264 acres</p>	<p>118,264 acres protected and/or restored</p> <p>3+ interventions focused on connectivity</p>
<p><i>Stronger partnerships across the region to foster effective collaboration among stakeholders involved in conservation and management</i></p>	<p>15+ partnerships</p>	<p>63+ partnerships</p>	<p>78+ stronger partnerships</p>

³ The data only represents informant perception and grant document information; the term “over” and the + used in the table accounts for the likelihood that grants have had more impact than identified through this evaluation.

Outcome	Enabling Intervention (subset)	Land Protection	Total
<i>Establishment of effective conservation finance structures to maximize the impact of funding and ensure financial sustainability</i>	7+ funding mechanisms	39+ funders and finance structures	46+ funders and finance structures and mechanisms Enabling Intervention subset grants influenced over \$442M in investments for natural resources Land Protection grants leveraged over \$218M in dedicated mechanisms (e.g., endowments, organizational budgets) to fund stewardship

*We did not conduct analysis and coding on the whole enabling intervention portfolio, only the subset. The “+” acknowledges that the data only represents informant perception and grant document information and accounts for the likelihood of impacts beyond what we identified. Source: grant documents, survey perception and interview perception.

Key outcome achievement examples

Below, we highlight grant examples across the land protection portfolio and the enabling intervention subset related to each outcome area to provide an illustrative sample of the various types of achievements realized by grantees. We selected grants that represent a range of grantees, geographic locations and impact (e.g., establishing a large collaborative forum; protecting a small, but ecologically significant, landscape; and providing research to inform policy and decision-making).

Outcome: *Increased land acquisition and conservation easements that are grounded in science-based regional conservation planning priorities, deliver durable conservation outcomes and address threats*

- **Land protection:** Protected and restored 2,329 acres of San Pablo Bay – a highly threatened wetland – and related upland habitats in the North Bay and considered to be the most ecologically significant acquisition currently available in the Bay Area (Sonoma Land Trust).
- **Land protection:** Protected 19,732 acres of threatened open space through fee acquisition and conservation easements through the Peninsula Open Space Trust (POST), including planning and implementation of stewardship activities on the sites purchased in the *Saving the Endangered Coast* campaign (POST).
- **Land protection:** Permanently protected 10,000 priority acres in the Mount Hamilton to the Sea region through Resources Legacy Fund (RLF), who with additional leveraged funds and in partnership with local land trusts, conserved habitat that supports critical ecosystem functions (RLF).

Outcome: *Increased interventions that focus on overall habitat acreage, quality and connectivity*

- **Enabling intervention:** Collared mountain lion cubs for California Department of Fish and Wildlife to identify wildlife corridors connecting the Hamilton Range to the Santa Cruz Mountains (University of California, Santa Cruz [UCSC]).
- **Enabling intervention:** Shared data and expertise to assess linkages between habitats to support the Land Trust of Santa Cruz County in developing a county conservation blueprint (UCSC).

- **Land protection:** Permanently protected Tolay Creek Ranch (previously known as Roche Ranch) through Sonoma Land Trust, which included 1,689 acres of upland riparian habitat that became part of Tolay Lake Park, and completed a 6,000 acre protected corridor adjacent to San Pablo Bay (Sonoma Land Trust).

Outcome: *Stronger partnerships across the region to foster effective collaboration among stakeholders involved in conservation and management*

- **Enabling intervention:** Created multiple collaborative groups such as BAECCC (key forum for the exchange of information regarding climate change in the Bay Area) (SCC); Terrestrial Biodiversity Climate Change Collaborative (TBC3) (collective to bring science to inform climate change adaptation strategies in California) (Pepperwood); and San Francisco Baylands Steering Committee (initiated in 2012 to cultivate regional and local business, community and agency leaders to support the ecological restoration and flood improvement funding needs) (RLF).
- **Land protection:** Created and supported the Living Landscape Initiative, a collaborative effort among five land conservation organizations (The Nature Conservancy [TNC], POST, Save the Redwoods League, Sempervirens Fund and Land Trust of Santa Cruz County) (RLF).
- **Land protection:** Promoted partnership among the California Department of Forestry and Fire Protection, the Pacific Gas and Electric Company and Mount Diablo State Park on road management (Save Mount Diablo).
- **Land protection:** Promoted partnership between the Land Trust of Santa Cruz County and U.S. Fish and Wildlife Service to remove acacia and scotchbroom (Land Trust of Santa Cruz County)
- **Land protection:** Acquired 16,596 acres of salt ponds from Cargill Salt, Inc., through RLF, who with additional leveraged funds and in partnership with six federal and state agencies, helped restore the salt ponds to tidal marsh and pond habitat, and supported initial stewardship planning activities (RLF).

Outcome: *Establishment of effective conservation finance structures to maximize the impact of BACS funding and ensure financial sustainability*

- **Enabling intervention:** Catalyzed five land trusts (Land Trust of Santa Cruz County, Land Trust of Napa County, Sonoma Land Trust, POST, Solano Land Trust) to leverage public funding for stewardship of priority projects (RLF).
- **Enabling intervention:** Conducted research that was incorporated into state legislation (Assembly Bill 1532) to identify natural resource protection as eligible climate change investments by funding TNC to provide a model and a guide for integrating conservation into climate change policies and actions at the county scale (TNC).
- **Enabling intervention:** Provided credible data for Measure Q (authorizing OSA to levy a tax of \$24 per parcel annually for 15 years) in Santa Clara. Measure Q results in \$118M for conservation funding (OSA; Sonoma County Agricultural Preservation and Open Space District [SCAPOS]).
- **Land protection:** Leveraged Moore grant of \$80K to bolster Solano Land Trust's fundraising capacity to support long-term stewardship and conservation in the region, resulting in the establishment of a \$2M stewardship endowment (Solano Land Trust).



- **Land protection:** Applied \$200M stewardship endowment from State Coastal Conservancy for all Land Trust of Napa County properties (Land Trust of Napa County).
- **Land protection:** Generated ~\$250K revenue per year from sustainable timber harvest in San Vicente Redwoods, which was used to support stream restoration and other stewardship activities (POST/Sempervirens).

SECTION 2

Land Protection Grant Trends and Impacts

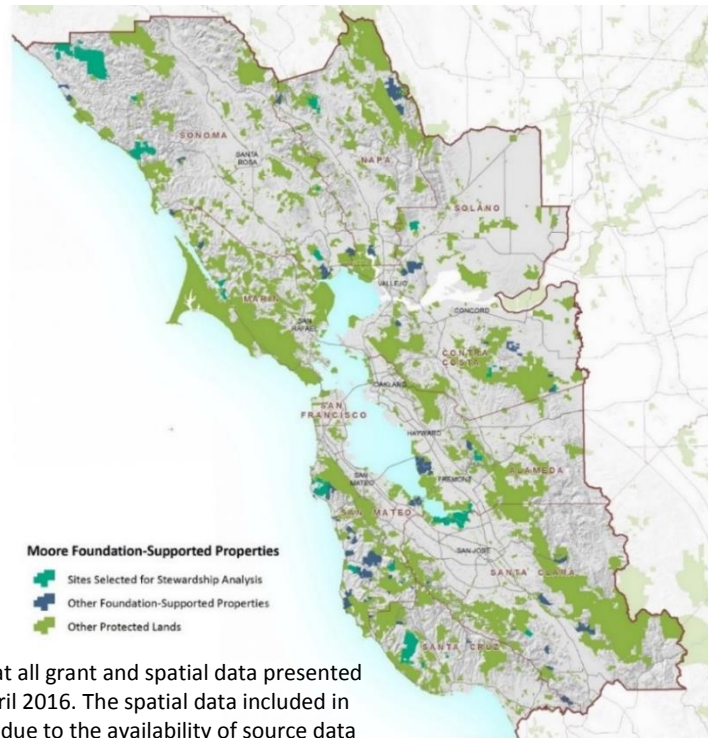
To assess the effects of the program’s land protection grant portfolio, we conducted a suite of social and ecological analyses to observe portfolio trends and impacts. Below, we highlight trends related to the entire portfolio, major findings found in a subset of 20 sites we selected for in-depth analysis, and also discuss key challenges, lessons learned and needs for site stewardship.

2.1 GENERAL CHARACTERISTICS OF THE LAND PROTECTION PORTFOLIO

Land protection grants resulted in protection of 102 individual sites, or 118,264 acres over nine counties in the Bay Area⁴ (Figure 2). About 28.3 percent of the Land Protection grant acreage is located in Sonoma County and 20.8 percent is in San Mateo County (Figure 2).

Figure 2. Map of Land Protection Sites and Table of County Locations of Land Protection Grant Portfolio Sites

County	Sites*	Acres	% of Total
Alameda	4	8,124	6.9
Contra Costa	10	6,167	5.2
Marin	3	2,288	1.9
Napa	8	12,027	10.2
San Mateo	40	24,579	20.8
Santa Clara	13	15,823	13.4
Santa Cruz	9	10,283	8.7
Solano	4	5,463	4.6
Sonoma	14	33,510	28.3
Total	105	118,264	100.0



*Note 3 sites straddle 2 counties. Please note that all grant and spatial data presented in this report are as accurate as possible as of April 2016. The spatial data included in this report are subject to a ±10% margin of error due to the availability of source data from the Bay Area Protected Areas Database and GreenInfo Network. The source data may have inaccuracies due to changes in name and ownership of sites and acquisition of new protected sites. Neither of these limitations dramatically change the findings of this report.

Source: Bay Area Protected Areas Database and GreenInfo Network

⁴ One site was in Monterey County, and was thus not included in the GIS analysis.

We found that 75.5 percent of the sites are protected by fee title (77 sites), while conservation easements and hybrid protection types (sites covered by both conservation easements and fee title) comprise 15.7 percent (16) and 8.8 percent (9) of the portfolio, respectively (Table 2).⁵ Non-governmental organizations (NGOs) constituted 97.1 percent (100) of the grantees; the remaining 1.9 percent (2) of the grantees were regional governmental agencies. POST is the grantee organization with the most foundation-funded sites (32), followed by RLF with 26 properties. NGOs managed 66.7 percent (68) of sites, with regional agencies trailing behind at 12.7 percent (13), state agencies at 6.9 percent (7), federal agencies at 7.8 percent (8), private entities at 3.9 percent (4), and hybrid (combination of different types of managing entities) at 2.0 percent (2).

*Table 2. Distribution of Site Ownership Types of the Land Protection Grant Portfolio**

Ownership Type	Count	Percent
Fee title	77	75.5%
Conservation easement	16	15.7%
Hybrid	9	8.8%
Total	102	100.0%

*Source: Grant documents and informant perception. Hybrid is a combination of both fee title and conservation easement.

2.2 SPATIAL CHARACTERISTICS OF THE LAND PROTECTION PORTFOLIO

We conducted a suite of spatial analyses to characterize the 102 mapped land protection grant sites to quantify landscape composition and biological resources, including three factors that influence their conservation values: rarity of the vegetation, runoff and recharge potential, and the size of the protected blocks of land.

Vegetation rarity types and acreage

The Moore portfolio has protected more than 33,220 acres of rare and unique vegetation within the Bay Area. In doing

so, it has greatly advanced the goals set in the Conservation Lands Network (CLN) Report, which are to protect Rank 1, 2, and 3 vegetation (Bay Area Open Space Council, 2011), and in the

Table 3. Vegetation Type by Rarity Rank of BACS Portfolio

Rank	BACS Acres	% of Total
Rank 1: Globally Unique or Highest Priority Locally Rare	9,582	8.1
Rank 2: Locally Rare	23,638	20.0
Rank 3: Locally and Globally Common	58,901	50.0
Rank 4: Redwood in Santa Cruz County	4,683	4.0
Converted (primarily cultivated areas)	3,021	2.6
Bay Wetlands (not ranked but high priority)	18,085	15.3
Total	117,909	100.0

Conservation Blueprint for Santa Cruz County (Mackenzie et al. 2011). Rank 1 vegetation types include

⁵ There are grants that have more than one type of land ownership and there are two grants for which data were not available.

species that are considered globally unique or locally rare vegetation, such as old-growth redwood and serpentine grasslands, and Rank 2 vegetation types includes species that are categorized as locally rare vegetation types that make up 5 percent or less of a landscape unit, such as blue oak/foothill pine woodland in the Mt. Hamilton Range and montane hardwood in the Blue Ridge region in eastern Napa County (Table 3) (Bay Area Open Space Council, 2014).

Runoff and recharge

To assess the contributions of the portfolio toward surface and groundwater resources we conducted spatial analyses to quantify runoff and recharge potential on foundation-supported sites using multi-year hydrology data from the TBC3 project (Weiss et al., 2013).⁶ Runoff is surface flow in streams of water from precipitation and snow melt, and recharge is water that infiltrates into aquifers (USGS, 2015). Runoff and recharge affect water quantity and quality at the watershed scale. Buckeye Forest, San Vicente Redwoods, Jenner Headlands and Dunn-Wildlake Ranch are the top contributors to the protection of water resources. Total runoff and recharge from Moore-funded sites is displayed in Table 4 below. Protecting lands that contribute runoff into streams and promote groundwater recharge is important for stream habitat, water supply and water quality; these areas provide essential ecosystem services such as water purification, flood control and groundwater recharge (Mackenzie *et al.*, 2011).

Table 4. Runoff and Recharge Protected by Bay Area Conservation Portfolio*

Type	Acre/feet of water per year		% of unconverted (2013)	% of protected (2013)
	Total for the Portfolio	Unconverted Bay Area		
Runoff	98,716	2,831,181	3.5	9.8
Recharge	88,093	1,937,740	4.6	8.8

Landscape and protected landscape blocks connectivity

To assess the conservation value associated with landscape connectivity and contiguous protected areas, we analyzed the total acres and the percent of the entire portfolio in protected landscape blocks and within critical linkage (Table 5). Ninety-two percent of the land is part of a protected landscape block, with the majority (>70 percent) in blocks less than 50,000 acres. Overall, the portfolio is creating many significant blocks of protected lands, and these blocks are being connected by linkages. A total of

Table 5. BACS Portfolio within Protected Landscape Blocks

Size of Protected Land Block	Acres	Percent of Total
5,000-20,000 acres	45,983	38.0
20,001-50,000 acres	38,162	32.3
50,001-100,000 acres	17,303	14.6
> 100,000 acres	7,043	6.0
Not in a Protected Land Block	9,617	8.1
Total	118,108	100.0

⁶Our analysis of runoff and recharge is based on data from the BACS-funded TBC3 research and science. This is an example of the links between the Land Protection and Enabling Intervention portfolio.

23,606 acres (20 percent of the portfolio) are within a critical linkage,⁷ a key connectivity zone that promotes movement between large landscape blocks for species and ecological processes (Penrod *et al.*, 2013).⁸ Therefore, the portfolio is helping maintain habitat connectivity for species such as the mountain lion, badger, San Joaquin kit fox (Endangered), California kingsnake and Alameda whipsnake (Threatened) (Penrod *et al.*, 2013).

2.3 LAND PROTECTION SUBSET CHARACTERISTICS

Based on a preliminary analysis of the land protection portfolio and in collaboration with foundation staff, we developed selection criteria, and used the criteria to select a subset of 20 protected areas, conservation easement, and ecological restoration sites for in-depth analysis. Selection criteria included: grant size, length of time protected, site acreage, geographic location, landscape context and use, conservation values, land management entity and type, and site type and protection mechanism.

We assessed the subset through interviews (n = 36), site visits (n = 19), online surveys (n = 46) and document review to gather data on current extent and effectiveness of stewardship activities, as well as identify critical needs to support site stewardship. The selected land protection subset selected includes 20 sites with a total of 62,202 acres, encompassing 53 percent of the total land protection portfolio (118,264 acres) (Table 6). The subset sites are part of grants with a total budget allocation of \$119M,⁹ 77 percent of the land protection portfolio, and 69 percent of the total portfolio budget.

Table 6. Land Protection Grant Subset

Site Name	County
Alviso Ponds (part of the South Bay Salt Ponds)	Alameda, Santa Clara
Arata Ranch Conservation Easement	San Mateo
Blair Ranch (part of the Rancho Cañada del Oro Open Space Preserve)	Santa Clara
Buckeye Forest (formerly Preservation Ranch)	Sonoma
Curreri property (part of Sonoma Valley Regional Park)	Sonoma
Curry Canyon Ranch	Contra Costa
Dunn-Wildlake Ranch Preserve	Napa
Giacomini Dairy	Marin
Giacomini Wetlands	Marin
Jenner Headlands	Sonoma
Mindego Hill (Russian Ridge Preserve expansion)	San Mateo
Portola Redwoods State Park expansion	San Mateo
Rancho Corral de Tierra	San Mateo

⁷ Our analysis of connectivity is based on data from the Moore-funded Critical Linkages project research and science. This is yet another example of the connections between the land protection and enabling intervention portfolio.

⁸ Note that due to the regional nature of the spatial analyses used to identify critical linkages, many areas that are important for connectivity are not included in the linkage network, thus underestimating the percentage of the portfolio covering critical linkages.

⁹ Some grants include multiple sites; budgets are pulled from the whole grant budget, not budget per site. We calculated that approximately \$64M was the total budget for subset sites; however, this figure was difficult to calculate exactly due to challenges in differentiating how much of a multiple site grant budget (*e.g.*, POST 32) was actually allocated to a particular site.

Site Name	County
Robertson property (part of the Pleasanton Ridge Regional Park)	Alameda
Roche Ranch	Sonoma
Rockville Trails Preserve	Solano
San Vicente Redwoods (formerly CEMEX Redwoods)	Santa Cruz
Santa Cruz Sandhills	Santa Cruz
Souza III	Contra Costa
The Cedars (Area of Critical Environmental Concern)	Sonoma

2.4 LAND PROTECTION SUBSET PERFORMANCE

We analyzed the land protection grant subset’s performance based on ecological conditions, management actions, and governance, operational, and site determinants to assess the three evaluation questions. Below, we highlight key findings and trends related to each evaluation question.

Key findings

Evaluation Question 1: Ownership and easement status of selected properties

We analyzed grant documents, site-specific documents (e.g., management plans, conservation plans and public access plans), and interview and site visit data to determine the ownership and easement status of our subset of 20 properties. In analyzing ownership and managing entities for the subset, we found the following:

- 65 percent of sites were transferred from a grantee to different owners and managing entities, and 25 percent of sites have current owners that are different than the planned owners.
- Due to changes in how California State Parks (State Parks) acquires land, all three planned transfers from land trusts to State Parks did not occur.
- Land trusts are expanding their traditional role, by acting as long-term site managers and stewards of the land.
- 35 percent of sites planned to be protected in fee title only now also feature conservation easements, creating increased protection for the land.

Table 7. Subset Site Ownership Type

Ownership Type	Count	Percent
Fee title	11	55%
Conservation easement	2	10%
Hybrid	7	35%
Total	20	100%

In assessing the ownership types for the subset, we found that compared to the entire land protection portfolio, the subset has higher percentage of hybrid ownership types (35 percent for the subset; 8.8 percent for the portfolio) (Table 7). Additionally, the subset has the same percentage of sites transferred to different managing entities (both 65 percent), but a smaller percentage is managed solely by NGOs (50 percent for the subset; 67 percent for the portfolio).

Seven out of 20 sites do not match the original anticipated plan for ownership type and now feature both fee titles and conservation easements, creating increased site protection. These seven sites were planned to be protected through fee title only; however, following property purchase, conservation easements over the properties were granted to third party conservation organizations (*e.g.*, Sempervirens and POST are each 50 percent owners of San Vicente Redwoods, and Save the Redwoods League holds a conservation easement over the site). The combination of protecting a site through both fee title and a conservation easement creates an increased form of legal protection for these sites and can help ensure long-term protection and conservation: protection is ensured even in the event of a future transfer of site ownership or if the conservation organization changes its approach to manage land.

In addition to changes in the managing entity (Table 8), we found that 50 percent of sites are managed solely by NGOs (Table 9). In relation to the anticipated managing entity plan outlined in grant documents, five out of 20 sites do not match the anticipated managing entity plan. This is due partially to timing (*e.g.*, the transfer is still slated to occur, but has not happened yet) at the time of this evaluation, but also attributable to the state budget crisis, which affected state and local agencies' (*e.g.*, State Parks) budgets and their ability to acquire land. Due to this shift, several land trusts have expanded their stewardship responsibilities, built management capacity, and are acting as long-term land stewards.

Table 8. Subset Sites with Management Transfers

Transfer Grantee- Managing Entity Type	Count	Percent
NGO to NGO	4	20%
NGO to Local gov't	0	0%
NGO to Regional gov't	3	15%
NGO to State gov't	0	0%
NGO to Federal gov't	4	20%
NGO to Private	2	10%
No change	7	35%
Total	20	100%

Table 9. Subset Sites' Current Managing Entities

Current Managing Entity Type	Count	Percent
NGO	10	50%
Local government	0	0%
Regional government	4	20%
State government	0	0%
Federal government	4	20%
Private	2	10%
Total	20	100%

Evaluation Question 2: Variation in stewardship outcomes

Based on interviews, online survey data, and 19 site visits,¹⁰ we assessed ecological conditions and management actions for 19 sites. We analyzed initial versus current ecological conditions, and initial ecological conditions versus management actions. Overall, we found the following:

¹⁰ One site was not visited due to an ongoing legal dispute.

- Most sites showed some improvements in ecological conditions, with most improvements of one rank (e.g., moderately unhealthy to healthy).
- Positive changes in ecological conditions were influenced by the responsiveness of the ecosystem, with some systems (e.g., wetlands, grasslands) showing faster response times than others (e.g., forests).
- Sites with the poorest baseline conditions tended to receive the most management action, and exhibited substantial improvements where ecosystems had time to respond.

There were a number of management activities that yielded improvements in ecological conditions. For instance, sites with grassland ecosystems saw improvements including strengthened grazing management practices and removal of exotic plants; in particular, grazing plans led to enhancements in grasslands by improving grazing practices (e.g., designated grazing areas and intensity). Similarly, many sites with wetlands showed marked improvements due to the rapid response time of wetlands to targeted ecological restoration actions. For instance, two wetland restoration project sites – Giacomini Wetlands and Alviso Ponds – demonstrated strong improvements in wetland conditions and ecosystem processes, return of key species, and improvements in vegetation assemblages.

Compared to the rapid response time for wetlands, conifer forests demonstrated very little change in condition due to the slow response time of the ecosystem; it will likely take decades to see improvements to forests degraded by intensive harvests. Even sites with high management effort related to conifer forests – such as Jenner Headlands, San Vicente Redwoods and Buckeye Forest, which are working on sustainable timber harvest, restoration forestry and preservation of redwood forests – showed limited ecological improvements in response to significant management actions.

There were reductions in the abundance of invasive species through targeted removals implemented as part of integrated pest management programs. The sites with largest improvements in invasive species tended initially to support substantial amounts of invasive species, and subsequent targeted management efforts effectively controlled key species. Most sites experienced no to low change in rare species conditions due to the need for sufficient time to restore habitats and populations. However, rare and listed species tended to drive stewardship actions. Overall, there were more regulatory requirements (i.e., through permitting) regarding threatened and endangered species due to federal and state laws, which motivated management actions to ensure compliance with regulatory requirements.

Evaluation Question 3: Determinants of variation in stewardship outcomes

We used data from interviews, grant documents and site visits to score and categorize the sites based on a number of determinants of variation in stewardship outcomes, including: *site operational capacity* (e.g., number of staff dedicated to the site, staff capacity at the site), *site financial sustainability* (e.g., dedicated stewardship funding, diversity of funding), *site collaborations* (e.g., coordination with non-governmental organizations and government partners), *site reporting and work planning* (e.g., annual reporting, annual work planning), and *site community engagement and political will* (e.g., extent to which community is engaged in protection and stewardship of the site, initial and current political support for establishment and protection of site).

Overall, we found no statistically significant relationship between governance, operational, and site determinants, management actions or ecological conditions. The stewardship efforts and actions were very site-specific and depended largely on site conditions, ecological features present on the site and the level of management action. For instance, the presence of rare and listed species on the site prompted concerted management actions.

Furthermore, the importance of Moore stewardship funds depend largely on the organizational capacity and the site conditions. Bay Area conservation portfolio contributions to initial acquisition cost often freed up money for internal stewardship funding, and initial stewardship funding helped leverage future stewardship funding. Additionally, permitting often required significant resources, led to bottlenecks and slowed management actions, but regulatory permits create assurances that actions would be planned and implemented to high standards

Specifically, a few highlights and best practices related to each determinant include:

- **Site operational capacity:** On average, sites had strong operational capacity, with sufficient staff present on site to support management and staff capacity for natural resource management through staff and outside experts. Despite the high average scores, many informants expressed a desire for increased operational capacity to respond to other pressing stewardship challenges, such as: addressing the complexity of permitting requirements, creating strong site management plans, instituting the enforcement capacity to address illegal trespassing, and planning for and managing recreation and its associated impacts. Examples of best practices related to operational capacity included supporting science-trained site managers to lead innovative site conservation management such as incorporating natural history in management (Dunn-Wildlake Ranch Preserve), engaging with external regional researchers to conduct studies to inform management (*e.g.*, presence-absence of rangeland management on property and adjacent state parks in Curry Canyon Ranch), and using staff and outside experts to develop management plans and monitoring programs (Jenner Headlands, Giacomini Wetlands and Rockville Trails Preserve).
- **Site financial sustainability:** In general, we found that the importance of Moore stewardship funds depends largely on the organizational capacity and site conditions. Examples of best practices included using a collaborative governance arrangement to combine funding from four organizations with high capacity in natural resource management and financial resources (*e.g.*, Sempervirens, POST, Save the Redwoods League and Land Trust of Santa Cruz), obtaining an SCC grant to support public access planning, and designating working forests that generate revenue to fund restoration forestry and protect preservation reserves (San Vicente Redwoods); funding stewardship through grants and unrestricted funding (Curry Canyon Ranch); and promoting effective long-term management by leveraging the \$80K the foundation provided for fundraising to set aside \$2M for site management (Rockville Trails Preserve).
- **Site collaborations:** We found that partnering with agencies such as Resource Conservation Districts (RCDs) and the Natural Resources Conservation Service (NRCS) helped site managers in

at least half of the subset sites complete important on-ground work by providing technical assistance and funding. Additional examples of best practices included supporting a citizen science group to monitor rare plants on site and sharing data in a nation-wide database on key seasonal changes in plant and animals, and initiating improvements in grazing pressure through coordinating new infrastructure installation to exclude cattle from streams, and solar pumps to promote even utilization (Curry Canyon Ranch).

- **Site reporting and work planning:** Reporting and work planning helped managers identify priorities and guided on-site stewardship activities. Examples of best practices included using regular monitoring to help plan, evaluate and adapt site activities, such as early detection and rapid response to invasive species (Mindego Hill), as well as detailing annual reports on targeted management and implementation goals (Souza III).

2.5 LAND PROTECTION GRANT CHALLENGES, LESSONS LEARNED AND NEEDS

Challenges

Overall, sites within the land protection subset realized improvements in ecological conditions and implemented a large suite of management actions; however, they still face many challenges in implementing good stewardship practices. Through interviews, we identified a number of key challenges to stewardship, such as:

- **Illegal uses of land** (27 percent of respondents): Respondents noted issues such as trespassers on the site, illegal marijuana farms, and theft of equipment.
- **Ecosystem impacts** (23 percent of respondents): Informants discussed the ongoing challenge of preparing to deal with potential ecological threats, including invasive species and climate change.
- **Prioritization of management actions** (23 percent of respondents): A number of informants noted the difficulty in identifying where to concentrate management efforts and determining management priorities for their sites.
- **Recreational demand and the impacts** (23 percent of respondents): Informants discussed the challenge of balancing the demand and impact that recreational activities can have on site ecosystems with protection of biological resources on the site.

These challenges reflect the difficulty site managers have in addressing various threats to site management, from threats that can be more easily controlled with sufficient capacity like illegal trespassing, to threats that can be harder to address due to external factors, such as invasive species and climate change impacts. In interviews, respondents suggested a number of ways that the sites and managing entities could overcome these challenges, such as:

- working with communities to address recreation issues and ensure low-impact recreation;
- installing infrastructure and increasing enforcement capacity to deter trespassing and other illegal uses; and
- obtaining increased funds to support a diversity of management activities.

Lessons learned

In interviews, respondents shared lessons learned about supporting site stewardship, stewardship successes, and factors influencing successes.

In discussing governance and operational elements necessary to support site stewardship, 35 percent of respondents highlighted the need for ongoing community and political engagement.

In describing lessons learned regarding political will and community engagement 58 percent of respondents also highlighted this theme, and respondents stressed that in addition to engaging the community and political leaders during the site establishment process, site managers should continue to communicate with stakeholders to garner support for the site. They suggested that this continued engagement could occur through ongoing public meetings, newsletters and outreach through workshops and guided tours and hikes, which all serve as mechanisms to build social capital in support of the site.

“There was lot of anxiety with [the protected area and our organization] moving into the neighborhood. And building good will with the local community has gone a long way.”

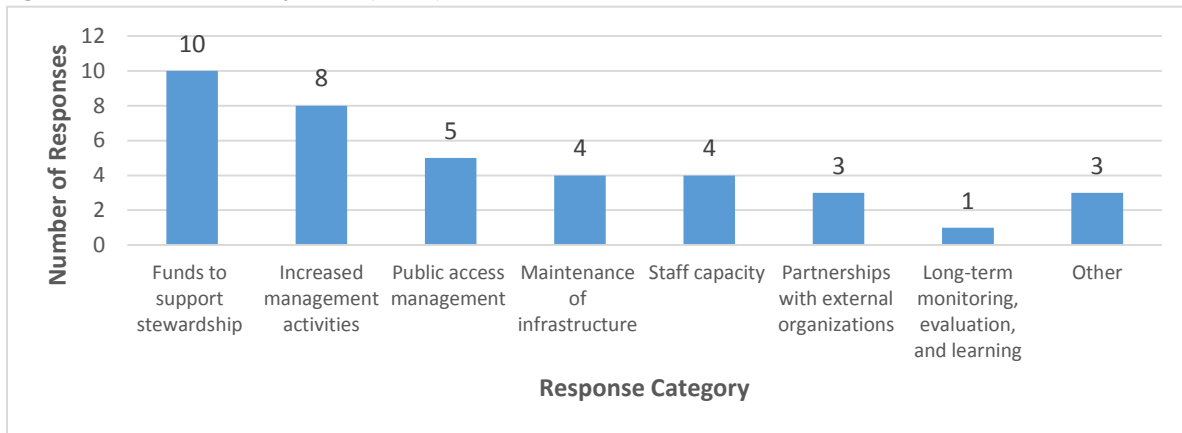
Another common theme (30 percent of respondents) was the need for having sufficient funds to support site management. Respondents noted the importance of connecting with public and private donors to ensure long-term funding for stewardship, as well as the need to lead campaigns to raise funds to support site stewardship.

“I think some of the basic stuff from any manager is having sufficient financial and staff resources to do adaptive management, where you monitor the management work.”

Stewardship needs

To determine how managing entities could work to strengthen site stewardship, we asked site managers to describe their overarching critical stewardship needs (Figure 3). In general, the most commonly cited responses – which included increased funds for site stewardship and increased management effort – mirrored our findings from throughout evaluation: stewardship activities require ongoing funding. Some sites were able to obtain funding through organizational budgets (e.g., the Midpeninsula Regional Open Space District [MROSD] at Mindego Hill and the East Bay Regional Parks District [EBRPD] at Souza III) or pooling of funds across multiple organizations (San Vicente Redwoods). However, even for sites with sufficient funding, with increased funding managers would have the ability to conduct increased management actions and would also have increased capacity – through site staff, volunteers, and partnerships with outside agencies or scientists. Increased funding and organizational capacity could help site managers understand site conditions, conduct management actions to address threats and respond to changing ecological conditions. Additional stewardship funding and staff capacity will also aid site managers in responding to other pressing stewardship challenges, such as addressing the complexity of permitting requirements, creating strong site management plans, instituting the enforcement capacity to address illegal trespassing and planning for and managing recreation and its associated impacts.

Figure 3. Critical Stewardship Needs (n = 24)



SECTION 3

Impacts of Enabling Intervention Grants

3.1 OVERVIEW OF THE ENABLING INTERVENTION GRANT PORTFOLIO

The enabling intervention grants the foundation supported resulted in a total of \$18.7M, an average of \$478K per grant and a median grant size of \$376K. The majority of enabling intervention grantees are environmental non-profit organizations (70 percent), but also include entities such as academic institutions and government agencies. Although enabling intervention grants have diverse goals ranging from applied research, to climate change, to leveraging conservation financing, in general, grant results help inform planning and decision-making related to conservation values relevant to the Bay Area conservation portfolio (e.g., improving recreational activities and scenic views, protecting long-term durability of conservation investments, enhancing Bay Area habitats and strengthening the provision of ecosystem services), and promote progress toward the achievement of the overarching goal for the Bay Area conservation portfolio.

3.2 ENABLING INTERVENTION SUBSET CHARACTERISTICS

Based on a preliminary analysis of the BACS Enabling Intervention portfolio and in collaboration with foundation staff, we developed selection criteria, and used the criteria to select a subset of 10 enabling intervention grants for in-depth analysis (Table 10).

Table 10. Enabling Intervention Subset by Grant Theme Cluster

Climate Change
<ul style="list-style-type: none"> • California State Coastal Conservancy: Enhancing Bay Area Ecosystems Adaptation under Climate Change • California State Coastal Conservancy: Actively Managing for Bay Area Ecosystems Adaptation under Climate Change
<ul style="list-style-type: none"> • Pepperwood Foundation: Applied Science for Bay Area Conservation and Climate Adaptation • Pepperwood Foundation: Terrestrial Biodiversity Climate Change Collaborative (TBC3)
<ul style="list-style-type: none"> • The Nature Conservancy, California: Integrating Conservation into Climate Change Policies and Actions at the County Scale
Economic Valuation
<ul style="list-style-type: none"> • Santa Clara Open Space Authority: Using Economic Valuations to Align Funding Streams for Conservation in Santa Clara County
<ul style="list-style-type: none"> • Sonoma County Agricultural Preservation and Open Space District: Demonstrating the Economic Value of Conservation in Santa Cruz and Sonoma Counties
Individual Grants
<ul style="list-style-type: none"> • Resources Legacy Fund: Creating Conditions to Leverage Public Funding into Priority Landscapes
<ul style="list-style-type: none"> • University of California, Santa Cruz, Department of Environmental Studies: Habitat Fragmentation Impacts on Puma Energetics, Behavior, and Ecology in the Santa Cruz Mountains
<ul style="list-style-type: none"> • University of California, Santa Cruz, Department of Environmental Studies: Human Impact on Mountain Lion Reproduction, Dispersal and Genetic Isolation in Bay Area

Selection criteria included: grant completed, scale of proposed impact, known impact, length of investment, potential for future investment, organizations involved, grant strategy, institution type and innovation.

The enabling intervention subset that Blue Earth and the foundation selected for in-depth analysis includes 10 grants across seven grantees. The subset had a total budget allocation of \$6.7M, about 36 percent of the enabling intervention portfolio (and 3.9 percent of the total portfolio budget), and subset grants leveraged an additional \$14,660,507 from other funding sources. For example, grantees conducted applied research on mountain lion behavior to identify critical habitat and linkages (UCSC), created a network of land trusts and state agencies to strengthen land stewardship and conservation (RLF), and conducted outreach with various stakeholders (*e.g.*, government officials, agency representatives, communities, and NGOs) to gather input on a landscape scale greenhouse gas (GHG) accounting method and tool (TNC).

3.3 ENABLING INTERVENTION SUBSET PERFORMANCE

To address evaluation questions 4 and 5 (Section 1.2, pg. 2), we used both grantee and decision-maker perceptions collected through interviews ($n = 21$), the online survey ($n = 105$) and grant document data to score the performance effectiveness and assess the overall impact of enabling intervention grantees (Table 11). We rated grantees in 10 identified outcome and output areas with scaled impact criteria of “not effective” (*i.e.*, the grant did not achieve the outcome) to “very effective” (*i.e.*, the grant achieved the outcome at various scales through ongoing, time-deployed efforts). By assessing the performance effectiveness against these criteria, we were able to see the extent of the grantees’ impact, including the geographic scale (*e.g.*, local, regional, state) and length of deployment time of a solution (*e.g.*, 15-year tax income stream influencing a 30-year strategic plan) on the achieved outcomes and outputs categories (Figure 4). We identified the categories based on analysis of grant documents and interview data. Identified outcome¹¹ categories include: informed policy and decision-making, built capacity for ecosystem management, informed conservation planning, increased collaboration, enhanced ecosystem condition, informed strategic planning and increased funding. Output¹² categories include: increased scientific knowledge, conducted outreach and developed data collection and analysis tools.¹³

Key findings

Evaluation question 4: Performance against selected outcomes and outputs

- The subset achieved 85 percent of their intended outcomes and outputs.

¹¹ An outcome is an achievement that can be measured in terms of changes that occur in people, institutions or conditions.

¹² An output is the immediate result of what the organization does (activities) and delivers in the short-term to achieve outcomes.

¹³ In grant documents, grantees often did not clearly distinguish between outcomes and outputs and only included data regarding achieved outputs.

- On average, all grantees achieved **moderately to very effective performance** in the top three performing outcome categories:
 - Informed strategic planning,
 - Informed conservation planning,
 - Increased collaboration.
- All grantees achieved additional, unplanned outcome and output categories (*e.g.*, informed strategic planning, conservation planning, increased collaboration).
- The subset influenced at least six decisions made in relation to land protection grants in the portfolio.

Evaluation question 5: Impact of the work of selected grants

- The subset informed 21+ policies and decisions through key strategies for success including forming multi-sectoral partnerships, engaging the target audience early on in project processes, and allocating considerable budget funds to informing policy and decision-making (Table 11).
- Forming multi-sectoral partnerships between grantees and intended resource managers and decision-makers and conducting extensive outreach helped ensure grant impact.
- Allocating considerable budget funds to outcomes related to informing policy and decision-making tended to result in higher grant impact.

Table 11. Overall Performance Effectiveness of Enabling Intervention Outcomes/Outputs

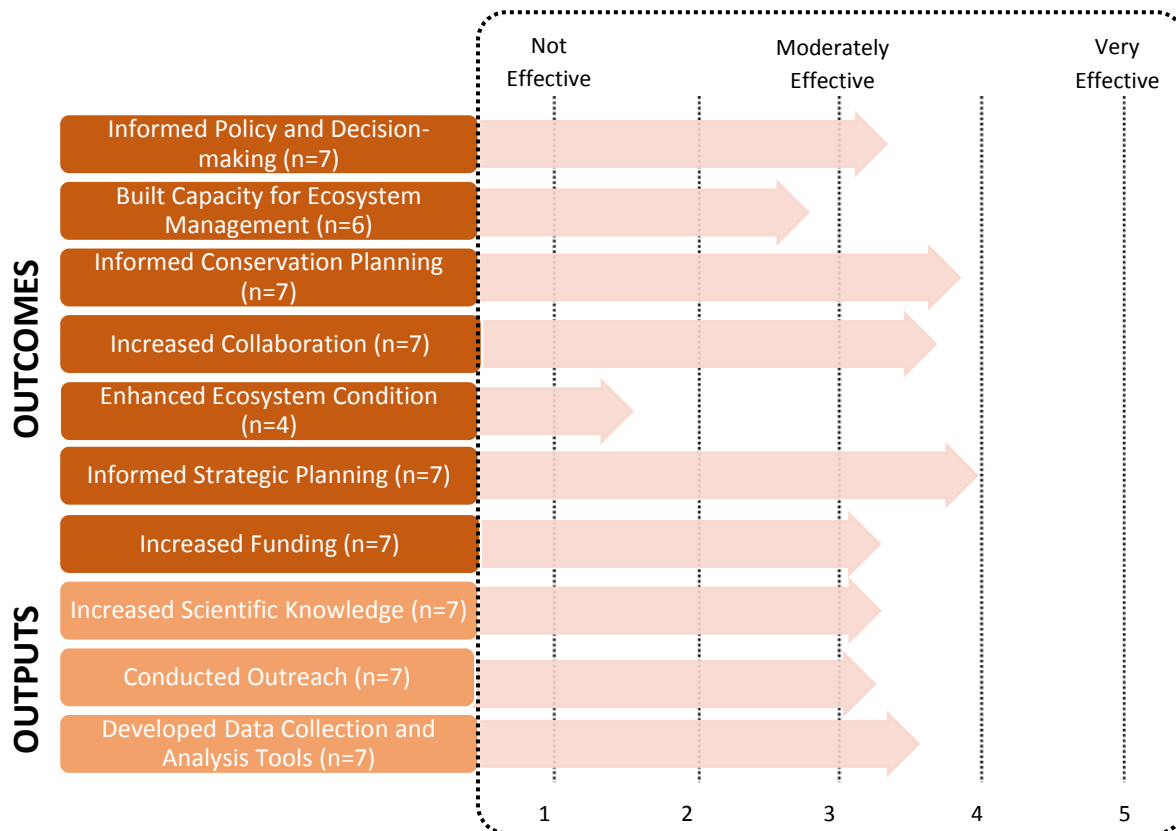
Outcomes/Outputs		Overall Performance
OUTCOMES	Informed Policy and Decision-making	21+ policies and decisions
	Built Capacity for Ecosystem Management	9+ efforts
	Informed Conservation Planning	21+ conservation plans and planning processes
	Increased Collaboration	15+ collaborations
	Enhanced Ecosystem Condition	6+ managing entities
	Informed Strategic Planning	43+ strategic plans and planning processes
	Increased Funding	12+ funding mechanisms and frameworks that influenced over \$442M in investments
OUTPUTS	Increased Scientific Knowledge	14+ reports, publications, and tools
	Conducted Outreach	15+ outreach avenues
	Developed Data Collection and Analysis Tools	11+ data collection and analysis tools

Below, we highlight key achievements of the enabling intervention subset in the top three performing areas, and also discuss how the subset worked to inform policy and decision-making.

Performance effectiveness highlights

On average, all subset grantees achieved moderately to very effective impact scores in the top three performing outcome categories *informed strategic planning*, followed by *informed conservation planning*, and *increased collaboration*. Below, we include highlights related to each of these three outcomes.

Figure 4. Overall Enabling Intervention Subset Average Performance Effectiveness of Outcomes/Outputs



*Average performance effectiveness across subset grantees (on a scale of not effective to very effective) based on average scores of survey and interview responses regarding how grantees performed in the identified outcome and output categories. N=# of grantees.

Informed strategic planning

The enabling intervention subset informed 43+ strategic plans and planning processes at the local (14 percent), regional (73 percent), state (11 percent) and national (2 percent) level. The grants helped inform strategic planning for county water districts and agencies, state conservation boards and agencies, regional authorities, RCDs, regional park districts, county planning departments, NGOs, rangeland managers, state conservancies, state transportation agencies, regional and county joint policy committees, national marine sanctuaries and open space districts. Key examples of how the subset informed strategic planning include:

- Assisted an effort by the Land Trust of Santa Cruz County to develop a conservation blueprint for the county (funded through RLF) by sharing mountain lion data and expertise in order to inform the strategic prioritization of different habitats, as well as to assess linkages between different habitat (UCSC)
- Resulted in the Climate Carbon Accounting Tool (C-CAT), which is a scenario tool that allows users to assess GHG reduction benefits of land use conservation activities, and informed the

- California Department of Conservation and Regional Climate Protection Authority's conservation strategy planning processes (TNC)
- Generated the BAECCC "Strategic Science Plan – Scientific Priorities for Detecting, Understanding, and Adapting to Climate Change," which the Contra Costa County Joint Policy Committee used to guide their planning process on understanding and mitigating the impact of climate change in San Francisco Bay Area (SCC)
 - Produced "A Conservation Blueprint: An Assessment and Recommendations from the Land Trust of Santa Cruz County," which informed the California Wildlife Conservation Board on how to prioritize projects and the importance of projects within the landscape (RLF)

Informed conservation planning

The enabling intervention subset informed 21+ conservation plans and planning processes at a local (14 percent), regional (81 percent), and state (5 percent) level. The grants helped inform conservation planning for open space districts, NGOs, land trusts, state conservation and transportation agencies, county water districts and state conservancies. Key examples of how the subset informed conservation planning include:

- Used mountain lion telemetry data to inform Caltrans prioritization planning and identification of mountain lions movement corridors in the region (UCSC)
- Informed Sonoma County's Climate Action 2020, the county's long-term climate mitigation strategy, by assessing the County's strategic acquisitions of protected land with C-CAT and looking at reduction benefits of land use conservation activities (TNC)
- Integrated data produced by BAECCC into the MROSD's conservation planning framework (SCC)
- Informed San Francisco Estuary Partnership's work on economic analysis of integrating habitat into flood control projects (OSA)

Increased collaboration

Enabling intervention subset grants created 15+ collaborations at the local, regional and state level. The grants helped establish and sustain networks among county water districts, state conservation and transportation agencies, open space authorities in different counties, academic institutions, NGOs, scientists and resource managers, land trusts, preservation districts and regional park districts. Key examples of how the grants increased collaboration include:

- Brought together multiple water agencies and districts in three counties, such as Sonoma County Water Agency and Santa Clara Valley Water District, and helped these vital organizations become early adopters of ecosystem services valuation, leading to an integrated systems approach to emerging policy, planning and funding initiatives (OSA)
- Created collaborations with non-traditional partners, such as tax payers, the California Farm Bureau, land trusts and park districts, to inform ecosystem services and spatial decision analysis tools (SCAPOSD)
- Fostered connections among agencies at various geographic scales (*e.g.*, local, regional and federal) and across sectors (*e.g.*, coastal, terrestrial and wetlands), which resulted in collaboration among the Greater Farallones National Marine Sanctuary and other state and

federal agencies on the development of “Our Coast-Our Future,” a web-based tool for natural resource managers to help understand and plan for the effects of sea level rise (SCC)

Informing policy and decision-making

A key way for enabling intervention grants to achieve the stated overarching goal of preserving and enhancing habitat for native plant and animal species in the Bay Area is through informing policies and decision-making processes that will either directly result in increased preservation and enhancement of habitat, or create the enabling conditions that can lead to these goals. Therefore, understanding the subset’s performance effectiveness in this outcome theme was a focal point of our evaluation and a key way of assessing the overall impact of the enabling intervention subset. Overall, enabling intervention subset grants informed over 21 policies, decisions and processes at the local, regional and state level, with the majority (15) at the regional level. Key examples of how the grants informed policy and decision-making include:

- Provide research and data that informed California state policy, which now includes natural and working lands in its long-term climate mitigation strategy and is investing auction proceeds (from cap and trade program) in natural resource conservation (TNC)
- Informed Wildlife Conservation Board’s acquisition and project prioritization decisions (RLF)
- Shaped policy through “The Baylands and Climate Change: What We Can Do – Science Update 2015,” (Baylands Ecosystem Habitat Goals Technical Update), which multiple agencies are using to inform agency policies and strategy developments – *e.g.*, updates to San Francisco Bay Conservation and Development Commission (BCDC) shoreline resilience policy, recommendations for ecological restoration project revisions to the State Water Resources Control Board’s bay and stream policy, and integration into the U.S. Army Corps of Engineers sediment reuse policy (SCC)
- Informed EBRPD’s Master Plan policy on climate change through the TBC3 Climate Portfolio Reports (Pepperwood)

3.4 CHALLENGES AND LESSONS LEARNED

In interviews, we asked decision-makers to describe factors that made information from enabling intervention grants easy to use, and to describe what facilitated their use of information. Responses fell into four main categories, and highlight the need for products to contain geographically-specific scientific information communicated clearly and with specific application examples:

- **Area-based and site-specific information (*e.g.*, GIS information, economic modeling):** Site-specific information that decision-makers and managers can use to address regional and agency-specific needs.
- **Sound science that addresses information needs:** Reports including scientific findings related to specific needs and information gaps of agencies and decision-makers.
- **Case studies demonstrating applicability of results:** Reports including detailed case-studies (*e.g.*, agency or site-specific examples) demonstrating different ways agencies can use report findings.

- **Clearly communicated results (e.g., user friendly summaries):** Reports with clearly communicated findings that are accessible beyond scientific and technical audiences (e.g., reports including maps and report summaries).

These quotes underscore the importance of some of the best practices highlighted by grantees, such as working with decision-makers to identify their needs and ensure that the information is applicable at a relevant geographic scale and comprehensible by the target audience. For instance, in outlining actions they took to ensure the impact of their grants on informing policy and decision-making, grantees stressed the importance of forming multi-sectoral partnerships between grantees, intended resource managers and decision-makers who were the potential end users of products. Furthermore, by identifying and engaging their target audience early on in the project process, grantees provided resource managers and decision-makers with opportunities to co-produce knowledge – thus increasing the likelihood of product use.

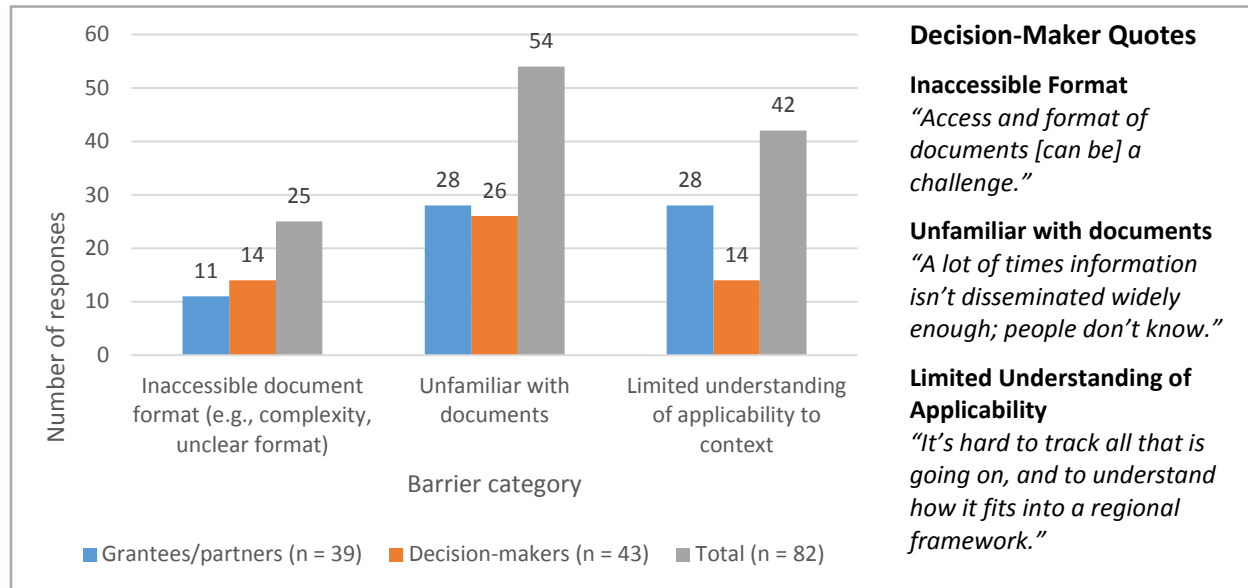
“What made it particularly attractive... [was that it] set up a county level framework. [There should be] more products that are tools for county planners, important tools that average county planners can use.”

Though on average the enabling intervention grant subset performed well in informing policy and decision-making, interview and survey data (from both decision-makers and grantees) highlighted barriers to using information produced through the grants. In both surveys and interviews, decision-makers and grantees were asked about potential challenges to using information and products generated through Enabling Intervention grants (Figure 5).

Out of all individuals surveyed and interviewed (n = 82), the commonly identified barriers to using information produced through enabling intervention grants included: 1) lack of familiarity with the products (66 percent of respondents), 2) limited understanding of how products were applicable to their context and needs (51 percent of respondents), and 3) inaccessibility, such as the complexity of information presented in the documents and unclear document format (30 percent of respondents).

“The graphics [and] maps are really valuable...whether you are talking to resource agencies, supervisors, partners. [You] can clearly and easily get on the same page and see what they are talking about.”

Figure 5. Challenges and Barriers Identified through Interview and Survey Data by Grantees, Grant Partners and Decision-makers*



*Based on using information and products produced through enabling intervention grants, as well as quotes from decision-makers highlighting key challenges. N=# of informants.

Both grantees and decision-makers suggested strategies to help grantees strengthen grant impact. Decision-makers described the type of information they need to inform decision-making. The three most common themes included:

- Prioritized conservation actions:** The most common theme (25 percent) identified was the need for products to include prioritized conservation actions for agencies to take. Decision-makers spoke to the need to have information that they can easily incorporate into long-term planning processes.
- Focused research:** Another common theme (17 percent) was the need for focused research targeting a broad audience – in other words, applied scientific research that is relevant and can be interpreted by resource managers and decision-makers.

“[We need to] sit through [a] crash course and see what each product is about and what other people are doing with them – [we want] direct application stories.”

“We are overwhelmed by the abundance of information; how do we screen and sift through this.”



- **Ecosystem and species impacts:** 17 percent of decision-makers highlighted the need for reports containing information outlining specific impacts (e.g., due to climate change, development, etc.) on ecosystem and species.

Through the online survey and interviews both grantees and decision-makers provided a number of recommendations regarding strategies grantees could take to design projects targeting the needs of decision-makers and to help ensure use of information produced through grants (decision-makers [n = 43] and grantees and key grant partners [n = 33]). These recommendations included:

- **Outreach** (60 percent of decision-makers; 94% of grantees and key partners): Conduct increased outreach efforts describing products produced and the purpose of these products. Decision-makers requested specific examples of how they could use products, and how products apply to agency needs. This underscores the desire highlighted above for increased outreach regarding grant products.
- **Direct Recommendations** (47 percent of decision-makers; 73 percent of grantees and key partners): Include direct recommendations in final products on how products should be used.
- **Trainings and workshops** (33 percent of decision-makers; 61 percent of grantees and key partners): Hold trainings and workshops regarding how to use products.

"[It would be] helpful to understand the range of impacts on ecosystems in the Bay from climate change, on the shoreline of the bay; [it] helps drive the need to have policies to address the issues when you can show what the tangible issues are and drive the need for action."

SECTION 4

Conclusions

We found that as a whole, the Bay Area conservation portfolio has made significant progress toward the stated goal of preserving and enhancing habitat for native plants and animals in the Bay Area through supporting targeted property acquisitions, as well as efforts to strengthen natural resource use practices and leverage other conservation funding to extend the portfolio's full impact. Both the land protection and enabling intervention portfolios have yielded considerable impacts, and there have been cross-linkages across grants in the two portfolios. Due to foundation grants, grantees have protected and restored over 118,264 acres of threatened and ecologically valuable land in the Bay Area, developed over 78 partnerships, and leveraged and created over 46 funders and finance structures or mechanisms. Enabling intervention grants in our subset advanced at least three interventions focused on connectivity, and influenced over \$442M in investments for natural resources policy and management. Land protection subset grants leveraged over \$218M in dedicated funding mechanisms (*e.g.*, endowments, organizational budgets) to support site stewardship. Additionally, information and data produced through Bay Area conservation grants have informed more than 21 policies and decisions, and resulted in the launch of over 15 innovative collaborative networks in the Bay Area. These results demonstrate the tangible impact and the importance of the Moore Foundation in Bay Area conservation and protection.

SECTION 5

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