



MEMO

To: Coastal Conservancy

From: Nadine Hitchcock, Deputy Executive Officer

CC: Oversight Members

Date: November 6, 2008

Re: Draft Climate Change Project Selection Criteria and Associated Guidance

Since December 2007, we have been reporting to you about the specific actions we are undertaking to reduce the Conservancy's carbon emissions, and to identify and address climate change impacts as called for in the Conservancy's *Strategic Plan 2007*.

In April 2008, we described five potential short-term climate change related actions that could be undertaken to prepare Conservancy staff, and to assist project participants in preparing to address the predicted impacts of climate change. The purpose of this memo is to update you on the progress of these activities, and to focus in detail on proposed draft climate change project selection criteria and associated guidance (Exhibit A, Preliminary Discussion Draft, Guidance on Climate Change for Potential Grantees,) on how to develop and evaluate a project's consistency with the criteria.

Staff is seeking input from the Conservancy with regard to:

1. the specific wording of the proposed draft project selection criteria and
2. general direction on the content, scope, phasing and degree of flexibility toward application of the guidance.

Staff will incorporate suggested changes to these documents to create a new draft that will then be circulated for review and comments from interested persons. We will present the draft and obtain comments at public meetings, and from selected responders. The materials will also be posted on the Conservancy's website for public review and

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comments. A revised version will be presented to you in February 2009, along with a recommendation for adoption of climate change project selection criteria.

Accomplishments on Climate Change Actions

Climate Change Science

1. Speaker Forum. The Conservancy's climate change committee is sponsoring a climate change speaker forum (approximately monthly) for Conservancy staff and project participants. To date, we have engaged in presentations and discussions with three scientists whose topics focused on climate change and the future of California's endemic flora, carbon sequestration in wetlands, the implications of sea level rise for coastal wetlands, and using models to assess climate change implications for species distribution.
2. Request for Qualifications for Science Support. Staff has drafted a request for qualifications (RFQ) for services of one or more scientists with expertise in climate change. Staff is seeking assistance in preparing guidance to support new project selection criteria, advice in how staff should apply science to project selection and assistance in developing and overseeing a new science-support technical assistance program for staff. This is likely to include convening one or more scientists from a pool of competitively selected experts to advise the Conservancy on a topical and as needed basis. It is our intent to circulate the RFQ by the end of 2008 and to select one or more contractors shortly thereafter.
3. Identify Climate Change Science Gaps Pertaining to Conservancy Needs. We have surveyed Conservancy managers, consulted with other agency staff, and attended numerous presentations by scientists to identify the particular climate change related challenges and science gaps relevant to the Conservancy's funding and project management decisions. We have written "white papers" for the Conservancy and Ocean Protection Council on climate change research needs for the Climate Action Team's (CAT) report to the Governor on research needs.
4. Increase private and public funding for research that can address identified priority needs related to climate change. We are working with the Gordon Moore Foundation to develop a project that will collect and analyze sediment samples in SF Bay to determine carbon sequestration rates in tidal wetlands. We are also participating in the CAT's Research Committee which is coordinating state agencies' research agendas and submitting a report to the Governor. The "white papers", described above, identify our current understanding of priority research needs for coastal and ocean resources, and will be included as an appendix to the report. The Conservancy will continue to participate on this CAT with the objective of ensuring that coastal impacts and development and evaluation of adaptation techniques are considered a research priority of the California Energy Commission and the Public Utilities

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Commission, both of which have funding sources that could potentially be directed to address our priority needs.

5. Coordination with Bay Conservation Development Commission. We established monthly research climate change coordination meetings with staff of the Bay Conservation and Development Commission. The goal is to share information and support one another's common research priorities. We also co-organized and sponsored a public meeting to obtain input from scientists and other agency staff on priority climate change research needs.

Other Recent Climate Change Actions and Activities

1. Ocean and Coastal Resources Sector of the California Adaptation Plan. Ocean Protection Council staff within the Conservancy are leading a working group with representatives from state agencies, the California Ocean Science Trust, National Oceanic and Atmospheric Administration and scientists to develop the Ocean and Coastal Resources Chapter of the California Climate Change Adaptation Strategy.
2. Google Earth and Climate Change Information. We are coordinating with the Stockholm Environmental Institute, who has received grants to explore how the Google Earth platform can be expanded to assist in accessing climate change information. The project, as funded, is using California as a case study.

Preliminary Draft Climate Change Project Selection Criteria

The Conservancy adopted Project Selection Criteria and Guidelines in January 2001. When we undertook a strategic plan update in 2007, we identified the need to consider climate change in the way we conduct our business, including by reducing our emissions and incorporating climate change science into project-related decisions. The Conservancy's *Strategic Plan 2007* states that "climate change will have dramatic physical, ecological, economic, and social impacts on coastal, marine and inland resources". It contains thirteen objectives related to addressing greenhouse gas emissions and climate change impacts. We now need to provide explicit policy direction to staff and potential grantees for how to interpret and implement these objectives. The addition of new climate change project selection criteria is the preferred way to provide a transparent, publicly reviewed and board adopted policy direction. It further ensures that climate change be addressed in each project that comes before the Conservancy.

Staff has drafted two new project selection criteria for consideration, one that addresses greenhouse gas emissions, the other addresses project objectives, design, siting and vulnerabilities to climate change. The proposed draft language for each criterion is provided below, followed by a discussion of what the criterion is intended to accomplish, what the proposed guidance document recommends for interpreting

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the criterion, and the issues and considerations to be considered by the Conservancy and by staff when applying the guidance document to projects.

Proposed New Criterion Related To Greenhouse Gas Emissions

Climate Change and Greenhouse Gas Emissions: *Project reduces greenhouse gas emissions, is greenhouse gas neutral, or incorporates feasible measures/features to compensate for carbon emissions.*

Purpose of Criterion

The Conservancy should ensure that the projects it funds do not contribute direct greenhouse emissions. Indirect emissions, such as vehicle miles traveled to recreation sites, would not be considered for purposes of meeting this criterion; however this does not exclude indirect emissions from California Environmental Quality Act (“CEQA”) evaluations.

Guidance for Interpretation of Proposed Criterion

The majority of Conservancy-funded projects involve protection or restoration of natural resources which generally sequester carbon. For acquisitions, the Conservancy currently requires that these natural resources be legally protected in perpetuity, so these projects would not be affected by this proposed criterion.

Projects that involve construction can meet this criterion by using best management practices to minimize energy use during construction, providing offsets onsite or elsewhere, and by meeting *Leadership in Energy and Environmental Design (LEED)* standards in building design, if applicable.

Issues and Considerations in Adopting and Implementing the Proposed Criterion

1. Relationship to CEQA greenhouse gas requirements: project proponents now need to quantify and address greenhouse gas emissions as part of CEQA evaluations for proposed projects¹; however, the Resources Agency may not adopt guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions until January 1, 2001. In the interim, Conservancy legal staff are reviewing how best to apply CEQA to issues of climate change. The Conservancy will need to make findings regarding a project’s consistency with CEQA, but CEQA sets a floor, not a ceiling. For example, CEQA may exempt certain kinds of projects. But these projects would not be exempt from the Conservancy’s proposed project selection criteria, thereby ensuring that each Conservancy-funded project incorporates measures or offsets so as to not result in direct greenhouse gas emissions that contribute to climate change.

¹ Public Resources Code § 21083.05(a) (Senate Bill 97, 2007).

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2. Conservancy staff will need to develop expertise and provide technical assistance to grantees to identify methodologies and resources for calculation and evaluation of greenhouse gas emissions.
3. Conservancy staff will need to identify existing standards for applying carbon sequestration rates to projects that require emission offsets. These standards are evolving at the state and national level and staff will utilize existing standards where they are in place. Where no standards exist, staff will work with policy and science experts to develop interim standards based on best available science.

Proposed New Criterion Related to Project Objectives, Design, and Siting

Climate Change and Project Vulnerability: *Project objectives, project design and project siting consider and address vulnerabilities from a range of climate change scenarios.*

Purpose of Criterion

There are two major purposes for this criterion. The first is to ensure that projects funded by the Conservancy consider the implications of climate change at all stages of project development and implementation, starting with development of clear and achievable project objectives. This is essential to provide assurance that capital funds will be directed to projects that can withstand the predicted rise in sea level, or that acquisitions to protect natural habitats have the greatest likelihood of realizing the project goals. Establishing clear project objectives is also essential for developing a baseline and ongoing monitoring program.

The second purpose is to ensure that grantees actively address vulnerabilities of the project under likely climate change scenarios. For example, scientists frequently note that many invasive species are predicted to benefit under a warming climate. If not controlled, invasive species can add significant stressors to species already stressed by a rapidly changing climate. Identifying the vulnerabilities of natural habitats and species at the outset of a project, and having a plan to control invasions is an important element to maintaining habitat resiliency. Monitoring for early detection of stressors will be essential for developing and implementing management measures to assist in adaptation.

Guidance for Interpretation of Proposed Criterion

Actions needed to meet this criterion will vary depending on the project type and objective. The guidance document addresses considerations for meeting the proposed criterion for four types of projects: 1) natural resource acquisition and protection projects, 2) restoration and enhancement projects, 3) projects with risk of inundation or storm surge, 4) and other types of projects. The guidance also provides additional recommendations on tools and projects that will be helpful if not essential to support adaptation to climate change. These include: baseline and periodic monitoring, adaptive management, projects beneficial to adaptation to climate change, and carbon sequestration.

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Natural Resource Protection/Acquisition Projects

Recommendations for meeting the proposed criterion in a resource protection/acquisition project are provided by type of project objective as follows: 1) protection of natural habitats and connecting corridors, 2) protection of open space, areas accessible to urban populations for recreational and educational purposes and scenic areas, 3) protection of riparian areas, floodplains, and other sensitive watershed lands, including watershed lands draining to sensitive coastal or marine areas, and 4) agricultural preservation and preservation of working landscapes. Key recommendations in the guidance document for these project types are summarized below.

1. *Protection of Natural Habitats and Connecting Corridors* - For an acquisition project whose objective is to protect species assemblages, applicants should assess how the acquisition will support adaptation and resiliency of the maximum number of these species. If a project is intended to support one or more specific species, applicants should provide an assessment of how those species will adapt to the effects of climate change. If an objective is to provide connectivity with other habitat, an applicant should evaluate whether barriers exist that would impede migration.
2. *Protection of Open Space, Areas Accessible to Urban Populations for Recreational and Educational Purposes and Scenic Areas* - The guidance document encourages applicants to choose acquisition projects that also provide connectivity with other undeveloped lands and have multi-use trails and/or public transit options for providing low impact transportation to the properties.
3. *Protection of Riparian Areas, Floodplains, and Other Sensitive Watershed Lands, Including Watershed Lands Draining to Sensitive Coastal and Marine Areas* - The guidance document identifies protection of riparian corridors and floodplains as an important climate change adaptation measure. Lands adjacent to existing floodplains and shorelines may require protection to accommodate higher water levels and to support wetland and riparian species.
4. *Agricultural Preservation and Preservation of Working Landscapes* - The Guidance encourages acquisition of agricultural lands on the urban fringe as a method for reducing urban sprawl and greenhouse gas emissions.

Restoration/Enhancement Projects

The guidance document acknowledges the multiple benefits habitat restoration and enhancement projects provide to support adaptation to climate change. These projects reduce anthropogenic stresses, which is an established means of promoting resiliency of natural processes and habitats. The guidance document identifies the need for

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robust on-going monitoring to trigger management measures to accomplish project objectives and reduce stressors. The guidance document lists six types of restoration and enhancement projects, for which specific guidance will be provided in a later draft of the guidance document.

Projects with Risk of Inundation or Storm Surge

The guidance document notes that a key consideration for projects near shorelines is to identify whether the project will be inundated, eroded or otherwise subjected to significant climate change impacts within the lifespan of the project. This determination will need to be made by consideration of predicted climate change scenarios.

Other Types of Projects

It is recommended that all environmental education projects include a climate change component, and that climate change effects are considered in all planning and resource evaluation projects.

Issues and Consideration in Adopting and Implementing the Proposed Criterion:

1. To meet this criterion, grantees will need access to current information on climate change impacts, vulnerability of natural and physical resources under climate change scenarios, and methodologies for assessments, monitoring, and adaptive management. This information will come from many sources and the Conservancy will need to assist grantees in developing the capacity to undertake the additional measures required to address climate change impacts. Conservancy staff will need to build up their own capacity through training and assistance from technical experts. The Conservancy will also need to provide grantees with additional guidance about which predictive models they should apply in consideration of their projects vulnerability to climate change. To this end, Conservancy staff will need to:
 - a. Provide a range of climate change scenarios to be used by potential grantees.
 - b. Provide methodologies and resources to potential grantees for: evaluation of carbon sequestration potential of various natural lands, best management practices for green buildings, assessments of impacts on species and ecosystem processes, assessments of impacts on shorelines and floodplains, baseline and periodic monitoring, adaptation approaches that support ecosystem resilience (specific guidance is needed with respect to different habitat types, invasive species management, protected species recovery projects, and sediment management projects).
 - c. Provide a list of websites and documents that are most relevant and informative for addressing climate change issues.

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2. Staff and many of interested parties have identified the need for and efficiencies derived from having a web portal that contains links to useful climate change research, best management practices, assessments and adaptive management tools. It would facilitate the rapid incorporation of the best available scientific information into project selection, design and adaptive management. This project is supported by the California Biodiversity Council. Conservancy and California Department of Parks and Recreation staff are seeking funding to support its development.
3. The challenges associated with increasing the capacity of the Conservancy and our grantees in addressing climate change impacts suggests that a priority should be given to rapidly increasing this capacity and maintaining flexibility in how they are addressed in the interim.
4. Additional funding will be needed to conduct the assessments and monitoring needed to address and manage impacts from climate change. This will present challenges because of the magnitude of need and because of restrictions on types of projects that can be funded with state bonds. Conservancy staff will need to continually seek the most efficient means of conducting this work, and make a compelling case for other funders to support it.

Baseline and Periodic Monitoring

We currently require baseline and periodic monitoring for natural resource protection and restoration projects. The guidance recommends these plans utilize methodologies that will improve understanding of key parameters such as species distribution and stressors to support analysis of the impacts of climate change and to help identify and prioritize management actions to minimize extinctions. It also recommends the monitoring results be available for analysis by scientists and others. Additional guidance will need to be developed to ensure that monitoring is feasible and is effective in informing management decisions.

Adaptive Management

Adaptive management is commonly recommended for natural resource projects because it focuses on creating a feedback loop of information, generated through monitoring, to land managers, who can then alter management practices to respond to achieve project objectives. Stressors on natural resources will dramatically increase as a result of climate change, so it is more critical than ever to identify and reduce stressors that can be reduced. The guidance describes the components of successful adaptive management and recommends specific management actions that will efficiently support species migration, ecosystems functions and reduction of stressors.

Projects That Are Beneficial to Adaptation to Climate Change

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Projects that are highly beneficial to supporting adaptation to climate change are identified and recommended as a high priority for Conservancy and other funding. Innovative pilot or demonstration projects that support implementation of the state's climate change adaptation strategy for the ocean and coastal resources sector should also be a priority.

Carbon Sequestration and Carbon Credits

As AB32 and other climate change initiatives are implemented, carbon markets will increasingly attach monetary value to carbon offset projects. Conservation projects can benefit from sale of their "carbon credits" while also supporting biodiversity and protecting natural lands for recreation and scenic values. The guidance advises applicants and grantees to inform the Conservancy if they are considering obtaining funding from mitigation of greenhouse gases because there is uncertainty about how and whether state funds can be combined with carbon credits or other mitigation funds.