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Enabling conditions to support marine protected area network planning: California's Marine Life Protection Act Initiative as a case study

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ABSTRACT

Without the proper enabling conditions, MPA planning processes can be significantly hindered in their capacity to achieve stated goals. In California, after two unsuccessful attempts, statewide planning of a network of marine protected areas (MPA) was achieved through the California Marine Life Protection Act (MLPA) Initiative. Six initial enabling conditions contributed to moving the MLPA Initiative forward, ultimately meeting the statutory objective of redesigning the statewide system of MPAs. Those conditions included: (1) a strong legal mandate which provided guidance and flexibility; (2) political support and leadership which enabled the process to overcome political challenges and opposition; (3) adequate funding which ensured sufficient staff support and facilitated innovative approaches to a public MPA network planning process; (4) an aggressive timeline with firm deadlines which propelled the process forward; (5) willingness of civil society to engage which provided for better informed and broadly supported outcomes; and (6) an effective and transparent process design which optimized contributions from stakeholders, scientists, and policy makers. These conditions enabled the MLPA Initiative to avoid shortcomings of similar planning processes, with implications for broader national policy on coastal and marine spatial planning in the United States.

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1. Introduction

The success of public environmental planning processes depends not only upon the actions of participants and decision-makers, but also on the legal, political, and socioeconomic context in which planning takes place and decisions are made (UNEP, 2011). Favorable or “enabling” conditions allow participants and decision-makers to more efficiently utilize time and resources to complete a planning process and implement the plan.

Conversely, unfavorable conditions may delay or prevent completion of the planning process due to confusion regarding process objectives, political interference, inability to achieve the objectives in the stated timeline, lack of capacity and funding, or other factors (Cogan et al., 1986; LaChapelle et al., 2003; McCool and Guthrie, 2001; Toupal, 2000). Enabling conditions are particularly important for marine protected area (MPA) network planning at the regional-scale, which can involve a complex array of user groups and other stakeholders, overlapping state and federal jurisdictions, and public controversy over the use of MPAs as a resource management tool (Cicin-Saina and Belfiore, 2005).

A number of comprehensive guides to protected area planning in terrestrial and marine environments have been developed, which provide straightforward recommendations for managers based on case studies from around the world (e.g., Hockings et al., 2006; IUCN, 2008; Johnstone et al., 2010; Samonte et al., 2010). Although detailed recommendations regarding MPA planning, implementation, and management vary, there are several recurrent

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conditions which can be fostered early in the design phase, or even before the start of the process. These “key” conditions include favorable legal frameworks, political support, financial resources, agency participation, stakeholder engagement, effective process management and data availability. The importance of these enabling conditions is further emphasized in retrospective evaluations of regional-scale efforts (Day, 2008; Gleason et al., 2010; Osmond et al., 2010), and smaller, community-based MPAs (Christie and White, 2007; Weeks et al., 2010).

The Marine Life Protection Act (MLPA) is a California state law enacted in 1999 that mandates the redesign of California’s existing MPAs to create a statewide network that achieves six ecosystem-focused goals (Gleason et al., 2013; Kirlin et al., 2013). The MLPA Initiative was a public–private partnership formed in 2004 to implement the MLPA through a public MPA network planning process. The partnership was formalized through memoranda of understanding (MOUs), which identified timelines and deliverables (Gleason et al., 2010; Kirlin et al., 2013), and it effectively facilitated the redesign of a statewide system of MPAs with stakeholder input through four regional processes over the course of nearly seven years (see Gleason et al., 2013). This outcome was not assured, as a variety of factors threatened to impede progress, from political issues to legal challenges to public perception difficulties. The MLPA Initiative overcame these challenges, in part due to the favorable conditions under which it operated and in part due to the design of the MLPA Initiative around those enabling conditions.

This paper outlines six conditions which improved the MLPA Initiative’s ability to complete a public planning process to redesign California’s MPAs as a network. These six conditions are consistent with those prescribed in MPA guides and post-process evaluations at both large and small scales, and were fostered early in planning process design. The six conditions include: (1) a strong legal mandate; (2) political support and leadership; (3) adequate funding; (4) an aggressive timeline with firm deadlines; (5) willingness of civil society to engage; and (6) an effective and transparent process design. A seventh key condition, the availability of relevant data, is further described in Saarman et al. (2013) and Merrifield et al. (2013). For each of the six key conditions highlighted in this paper, the authors describe benefits to MPA planning, significant challenges faced, lessons learned, and implications for other marine spatial planning processes and national ocean policy. Analyses are based on the direct experiences of the authors as designers and implementers of the MLPA Initiative planning process.²

2. Background

Marine resources in California state waters (generally defined from the shore to three nautical miles offshore), are subject to a complicated array of both state and federal policies. The California legislature directly manages some high value fisheries (e.g., Dungeness crab, which had the second highest commercial landed value for California in 2007 (CalCOFI, 2008)), while the California Fish and Game Commission (Commission) and the California Department of Fish and Game (CDFG) retain primary authority over all other fisheries in state waters. Both the Commission and CDFG are managed by the California Natural Resources Agency (CNRA, 1997).

CDFG is responsible for managing “California’s diverse fish, wildlife and plant resources and the habitats upon which they depend for their ecological values and their use and enjoyment by the public” (CDFG, 2011). The Commission is a board of political

appointees that develops regulations responsive to statutory and constitutional authority following procedures established by the California Office of Administrative Law and other relevant legal authority, including the California Environmental Quality Act. Under these regulations and Commission-adopted general policies, CDFG manages programs focused on species-specific fisheries management measures, such as fisheries management plans, as well as habitat-based management measures, including MPAs (see Kirlin et al., 2013).

Other state agencies share responsibility for coastal resource management in California. For instance, the California Department of Parks and Recreation is charged with preserving biological diversity, protecting natural and cultural resources, and creating recreational opportunities, all to provide for the health, inspiration, and education of the public (CDPR, 2011); further information is provided in Fox et al. (2013a). In addition, the State Water Resources Control Board regulates discharges into the marine environment; the California Coastal Commission regulates coastal development and other activities affecting California’s marine and coastal resources in partnership with coastal cities and counties; the California State Lands Commission manages and issues leases for tidelands and submerged lands, and oversees protection of the marine environment from oil spills; and the Ocean Protection Council addresses a wide range of ocean issues, but lacks regulatory authority.

Federal agencies also play a role in managing state marine resources. Based upon fishery management plans developed by the Pacific Fishery Management Council (PFMC), the National Marine Fisheries Service, part of the National Oceanic and Atmospheric Administration within the United States Department of Commerce, manages fisheries covered by federal fisheries management plans along the West Coast either solely, or in conjunction with states (PFMC, 2010). In addition, four national marine sanctuaries extend into California state waters, four protected areas managed by the National Park Service are adjacent to or extend into state waters, several national wildlife refuges managed by the U.S. Fish and Wildlife Service extend into state waters, and the California Coastal National Monument, managed by the U.S. Bureau of Land Management, includes over 20,000 coastal islands and rocks spanning the entire coast. The Bureau of Ocean Energy Management, Regulation and Enforcement (previously Minerals Management Service), the U.S. Department of Defense, and other federal agencies also act as natural resource trustees.

This complicated array of state and federal jurisdictions in California fragments marine resource management responsibilities across multiple entities (Sivas and Caldwell, 2008). For example, while the state legislature retains direct control over selected commercially important fisheries, other fisheries are managed jointly with the federal PFMC (e.g., groundfish, Chinook salmon, swordfish), and still others are managed solely by the Commission (e.g., market squid, spiny lobster, spot prawn, sea urchin, white sea bass) (FGC, 2010).

Due in part to public concern over declining health of ocean ecosystems and depletion of some marine resources, fisheries management at federal and state levels was beginning to change when the MLPA became law in 1999. The federal Sustainable Fisheries Act was enacted in 1996, representing a shift to ecosystem-based management as an alternative to traditional fisheries management (Fluharty, 2000). Around the same time, stocks of several marine species in California were declining, with three runs of salmon listed as threatened, four runs of steelhead listed as threatened, and one run of steelhead listed as endangered under the federal Endangered Species Act (USFWS, 1997, 1998, 1999). In 2001 and 2002, the National Marine Fisheries Service

² Additional documentation of the MLPA Initiative is available online at <http://www.dfg.ca.gov/mlpa/>.

formally declared commercial groundfish failures off California's coast and established cowcod and rockfish conservation areas as management measures designed to reverse these stock collapses (NOAA, 2011). At the state level, CDFG closed the commercial abalone fishery in 1997 and listed two salmon runs as endangered and two as threatened under the California Endangered Species Act between 1989 and 2005 (CDFG, 2011b).

While fisheries stocks declined, scientific research from around the world documented the benefits and utility of MPAs as one management strategy to protect and restore marine ecosystems (Agardy, 1997; NRC, 2001). A 2001 scientific consensus statement signed by 161 leading experts on marine reserves concluded that a network of marine reserves can act as a buffer against natural variability, increase resiliency in the face of catastrophes and help maintain long-term viability of species and their habitats (NCEAS, 2001).

The MLPA was enacted during a period of increased emphasis on ecosystem-based management at the state level. Initially, the California Sea Life Recovery and Management Act in 1997 (AB 1241, Keeley) introduced the concept of establishing "marine ecosystems replenishment zones," along with creation of a new Marine Life Management Commission with expansive powers, but the proposed legislation did not pass the California state legislature. In 1998, the Legislature passed, but the Governor vetoed, the California Sea Life Conservation Act (AB 2404, Shelley), which required the Fish and Game Commission to adopt a plan to redesign and manage California's existing "marine managed areas". Ecosystem management legislation finally passed the legislature and the Governor's gauntlet in 1998 as the fisheries-focused Marine Life Management Act (MLMA), while the spatial protection concepts of earlier proposed laws became the Marine Life Protection Act (MLPA), enacted the following year. Both laws require a focus on managing ecosystems rather than single species or groups of species (e.g., MLPA's six goals primarily focus on ecosystems and identify MPAs as the tool to meet those goals) (see Kirlin et al., 2013). This ecosystem approach represented a shift for CDFG from a more traditional species-specific focus to a broad focus on coastal marine resources.

The first two attempts to implement the MLPA from 2000 to 2002 were unsuccessful. During the initial attempt, prospective MPA network designs were created by a panel of scientists and agency staff, followed by a series of meetings to solicit public input. Key stakeholders and the public were not privy to the meetings of the science and agency group, nor had the public been directly involved in developing the designs. Without the resources necessary to conduct sufficient outreach and education, public reaction was strong and mostly negative; some perceived the effort as "eco-scientists" working behind closed doors to establish MPAs (Garrison, 2007; Wieble et al., 2004; Weible, 2008). The second attempt to implement the MLPA more centrally featured key stakeholders representing various constituencies (Weible et al., 2004), an approach which had been used to design and implement MPAs around Southern California's Channel Islands in 2002 (Airame et al., 2003). In 2002, seven regional planning groups worked simultaneously to create prospective MPA network components, but costs and logistical challenges of establishing and supporting these groups statewide exceeded available resources and the CDFG ended the process without proposing any MPAs for consideration by the Commission. Shortcomings of these prior unsuccessful efforts include insufficient funding, loss of CDFG staff positions in the Marine Region, unclear roles for scientists and stakeholders, and difficulties associated with planning the entire state waters area at the same time (Harty and John, 2006).

In November 2003, a new state governor was elected on a political platform which included a commitment to ocean protection, but the State's fiscal crisis brought personnel and funding cuts to key state agencies. In January 2004, CDFG announced indefinite suspension of MLPA implementation, a decision extensively covered in the media (Thompson, 2004). In response to funding issues, high level state policy makers promoted the use of funds from private charitable foundations to create the capacity needed to support an MPA network planning process. Details regarding legality of the arrangement received input from the Natural Resources Agency General Council and were later confirmed by a CDFG legal review of Fish and Game Code and Public Resources Code.

In 2004, the California Natural Resources Agency, CDFG, and the Resources Legacy Fund Foundation (RLFF)³ entered into a memorandum of understanding (MOU) to establish a public-private partnership called the California Marine Life Protection Act Initiative. This MOU re-initiated the MPA network planning process pursuant to the MLPA and included a plan for sequentially establishing MPAs in "study regions," together fully encompassing state waters (Kirlin et al., 2013). MPA network planning in four study regions has been completed to date, while a planning process design for the fifth and final study region, San Francisco Bay, has yet to be determined. The MOU called for the Secretary for Natural Resources to appoint a Blue Ribbon Task Force (BRTF) to oversee the MLPA Initiative. The BRTF, along with the MLPA Initiative executive director, managed a team of professional contractors hired with private charitable foundation funding to support CDFG's MPA planning effort. Under the MOU, CDFG agreed to provide staff and in-kind resources for the project and appoint members of a master plan Science Advisory Team (SAT) to provide the "best readily available science" to the process (see Saarman et al., 2013). In addition, the MOU called for appointment of a Regional Stakeholder Group (RSG) to draft MPA proposals. The MOU also outlined a timeline, organizational structure, requirements, and work products for the MLPA Initiative. Importantly, the initial MOU, a second MOU signed in 2006, and an amendment to the second MOU in 2008 allocated funding for MPA planning in the first four study regions, totaling \$19.5 million, which was eventually matched by the public sector through the CDFG budget. The combined funding resulted in a total of approximately \$38 million spent on MPA planning over the course of seven years (Gleason et al., 2013).

3. Enabling conditions

Following establishment of the MLPA Initiative in 2004, the public MPA network planning process lasted nearly seven years. In each of four study regions, the planning process generated recommendations to the Commission for components of the statewide MPA network (CDFG, 2008; Gleason et al., 2013). Completion of the statewide network was made possible in part due to the six enabling conditions described here, which were nurtured by public and private organizations prior to the start of MPA planning. Efforts to foster these enabling conditions were informed by lessons learned from previous unsuccessful attempts in California, as well as from best practices gleaned from other MPA stakeholder processes.

³ Funding was provided by the Resources Legacy Fund Foundation, a California-based non-profit organization focused on environmental issues, which itself received grants from other foundations. Decisions regarding use of funds provided to the Initiative were the responsibility of the BRTF.

3.1. Establishing a strong legal mandate

The MLPA constitutes a strong, legislative mandate for redesigning California's inventory of MPAs to form a network.⁴ The legislation identifies six specific goals and defines roles for a wide range of agencies and stakeholders (Kirlin et al., 2013). Importantly, the MLPA requires that “each MPA shall have identified goals and objectives” serving “varied primary purposes while collectively achieving the overall goals and guidelines” outlined in the Act, which focus largely on ecological criteria (MLPA, 1999). Through this process, individual MPAs throughout the State were designed in pursuit of a consistent outcome and as part of an effective statewide system. Prior to the MLPA, California's MPAs had been established by the Legislature or Commission in an *ad hoc* fashion, without common, unified goals and in some cases without any documented goals or objectives (McArdle, 1997).

The MLPA explicitly prescribes redesign of California's MPAs, identifying specific habitats for representation within the MPAs, along with a requirement to replicate those habitats within and across bioregions. The MLPA also calls for creation of a master plan to provide guidance for redesign and management of the State's MPAs (CDFG, 2008). These statutory guidelines, along with the MLPA preamble's clear rationale for redesigning California's MPAs, helped focus the efforts of MLPA Initiative participants around specific outcomes and milestones. Furthermore, the MLPA guidelines are consistent with pre-existing Commission authorities and CDFG mandates granting them responsibility for ensuring the long-term sustainability of California's natural resources for their inherent ecological values, as well as for public use and enjoyment (CDFG, 2011a).

While the MLPA delivered a strong mandate and clear guidance, it also allowed a degree of flexibility. For example, the legislation did not stipulate a specific process structure for redesigning the MPA network. This flexibility allowed the MLPA Initiative to adapt to the unique regional characteristics in designing the planning process (see Fox et al., 2013a). The MLPA also contained inherent flexibility for allowing changes to the initial design guidelines, based upon the best readily available scientific input and advice. For instance, the SAT reviewed habitat representation and replication guidelines in each study region. Based on review of the most recent seafloor mapping data, the SAT determined that seamounts did not exist within state waters, but underwater pinnacles did. Consequently, seamounts were excluded from replication requirements, but underwater pinnacles were added as a unique habitat to consider in those study regions where they exist.

Some aspects of the MLPA were problematic. For example, the original process timeline described in the Act (less than three years) proved too short given available resources. Through the public–private partnership, the State agreed to a more realistic timeline. In addition, the MLPA did not directly acknowledge the important role of Native American tribes and tribal communities along the coast. This shortcoming had to be navigated during the MPA network planning process, and eventually required use of a separate, parallel process implemented by CDFG (see Fox et al., 2013b).

Also, while the MLPA specifically required an “improved” marine reserve (no-take area) component of the statewide MPA network, it did not call for a specific increase in the size or number of no-take areas. This lack of specificity allowed flexibility, yet it became a point of controversy among many stakeholder groups. Some groups argued that the MLPA required California to implement new MPAs, while others believed that the MLPA required the State to revise and improve only the *existing* MPAs and to create a plan for their future management. Eventually this issue was resolved through SAT input, which indicated that meeting the MLPA ecosystem protection and network goals would require *new* no-take marine reserves (Gleason et al., 2006; MLPA Initiative, 2005).

Despite these and other shortcomings, the MLPA legislation provides a clear mandate for reassessing and redesigning the statewide system of MPAs, which allowed Initiative participants for focus on designing MPAs, rather than debating whether MPAs should be implemented. The MLPA also provides for developing a master plan for long-term management, as recommended elsewhere in MPA literature (e.g., Rieser et al., 2005). The MLPA includes enough details to guide the overall process, but is not so prescriptive as to constrain approaches to the planning process, a benefit given the significant ecological and socioeconomic differences among the four open coast study regions. The six goals of the MLPA, in particular, provide a robust framework for developing science guidelines for MPA design (Saarman et al., 2013).

3.2. Ensuring strong political support and leadership

Strong political support and leadership at multiple levels enabled the MLPA Initiative to overcome barriers to planning and implementation. The California State Governor⁵ identified a statewide network of MPAs as a priority under his administration and part of his enduring legacy. The Governor's appointed Secretary for Natural Resources similarly committed his office to the success of the MLPA Initiative. The Secretary proved well-suited to play such a leadership role, as he had previously served on the Commission and promoted science-based planning. In accordance with the MOU, the Secretary appointed a BRTF to oversee the MLPA Initiative, remained up to date on progress at each step of implementation, dedicated part of a senior-level policy staff member's time to work with the MLPA Initiative executive director, sought state funding to enable the Natural Resources Agency and CDFG to maintain their commitments, and lent his political influence to maintain momentum at key moments. gubernatorial and Natural Resources Agency leadership remained committed to the MLPA Initiative even with the election of a new Governor, near completion of the north coast study region in 2011. This strong support at the highest levels of state government proved critical to MLPA implementation, especially during the 2009 state budget crisis and repeated legal challenges to the MLPA Initiative by constituency groups opposing the process.⁶

⁴ The Marine Managed Areas Improvement Act, passed in 2000 (MMAIA; California Public Resources Code Section 36600 et seq.), defines six classifications of marine managed areas in California, three of which are marine protected areas. The MMAIA identifies the goals of each classification, what is allowed or not within each, which state agencies have authority to designate and manage each type, and further details regarding how marine managed areas are designated. The purpose of this legislation was to simplify California's complicated system of marine managed areas. It was part of a broader effort, including the MLPA, to better manage coastal resources.

⁵ The MLPA Initiative was mostly implemented under California State Governor Arnold Schwarzenegger and his Secretary for Resources Mike Chrisman, though some important aspects of the process, including engagement with California tribes and tribal communities, were finalized under Governor Jerry Brown and his Secretary for Resources John Laird.

⁶ See *Coastside Fishing Club v. Cal. Res. Agency*, 158 Cal. App. 4th 1183 (Cal. Ct. App. 2008); *Ventura County Commercial Fishermen's Ass'n v. Cal. Fish and Game Comm'n*, No. B166335, 2004 WL 293565 (Cal. Ct. App. Feb. 17, 2004); *United Anglers of Southern California v. Cal. Fish and Game Comm'n*, No. 37-2011-00084611-CU-WM-CTL (Cal. App. Dep't Super. Ct. Oct. 17, 2011); *Fletcher v. Blue Ribbon Task Force of the Marine Life Protection Act Initiative*, No. 34-2010-80000555-CU-WM-GDS (Cal. App. Dep't Super. Ct. Oct. 1, 2010).

Given California's broader political context, high level political support for MLPA Initiative was both unusual and pivotal. Table 1 illustrates the value of commercial and recreational fisheries, in comparison to other components of the California economy. Fisheries, and all direct economic activity based on extraction of living natural resources, account for a modest share of the state's economy (FGC, 2010). One consequence of this modest direct economic value is that natural resource policy issues, including marine resources, typically receive limited and infrequent attention by the California legislature and governor. With the exception of the MLPA, the MLMA, and the California Ocean Protection Act, enactment of major state legislation has been rare in this policy area. For example, in the 2005–06 legislative session during which the Initiative was launched, 114 bills were introduced with some reference to marine issues, representing less than one-tenth the number dealing with some aspect of education or crime, less than one-fifth the number of bills introduced dealing with housing or insurance and fewer than the number of bills referencing earthquakes or floods. A total of nine of these bills related to marine issues were enacted. The same pattern is evident in the 2009–10 legislative session, as the MLPA Initiative completed work on the north coast study region. In this two-year session, 146 introduced bills relating to marine issues were introduced, representing a similarly small fraction compared to other policy areas. Seven bills referencing marine issues were enacted during this period.⁷ In short, the marine natural resources policy arena is characterized by conflict among intensely interested stakeholders, but largely focused on a few state and federal agencies and the courts.

In addition to the strategically important support the MLPA Initiative received from the Governor and the Secretary for Natural Resources, vital support came from within the Commission at critical junctures, especially at the conclusion of the stakeholder process for each study region. As the Commission is the decision-making body for designation of MPAs and associated regulations in California, lack of Commission support had the potential to either discount the stakeholder planning outputs or delay designation of MPAs. The number of Commissioners supporting or openly opposing MLPA implementation fluctuated over time, from unanimous support for implementation of the final preferred plan for MPAs in the central coast study region (4–0), to more divided votes for implementation of the final preferred plans for MPAs in the north central coast, south coast, and north coast study regions (respectively 3 to 2, 3 to 2, and 4 to 1, in favor of implementation). Appointment of Commissioners themselves was similarly controversial, with groups supporting or opposing implementation of the MLPA each lobbying for nominees supporting their respective positions. For example, following intensive lobbying from recreational fishing interests, the California State Senate failed to confirm the appointment of one Commissioner due to his involvement and support for the MLPA Initiative as chair of the BRTF for the south coast study region (McGreevy, 2010). Lawsuits filed by members of the recreational fishing community regarding various aspects of the MLPA Initiative, including a lawsuit regarding the Commission process and legal authority in 2011,⁸ further indicated the controversial nature of the

Table 1

Fisheries in California comprise a modest proportion of the total California economy, which may contribute to more limited attention in California state politics. Recreational fishing generates more economic activity than commercial fishing, though both fall significantly below farming.

Selected components of California economy	Millions of dollars
California state gross domestic product, 2007	1,800,000
Total cash income from California farming	39,000
Expenditures for marine recreational fishing, early 2000s	205–545
Retail sales associated with hunting in California, 2001	526
Total value of timber harvest, 2007	474
Total landed value of all California commercial fisheries, 2007	120

Source: Lessons Learned from California's Marine Life Management Act (FGC, 2010).

MPA network planning process and the need for political support at the level of the Commission. Despite these challenges, sufficient support existed over the course of the MLPA Initiative such that redesigned MPAs were designated in all four study regions (Gleason et al., 2013).

Members of the BRTF, which oversaw the planning process and managed MLPA Initiative funds in each study region (see Kirlin et al., 2013), also provided important political support and leadership. In particular, the chairs of the BRTF in each of the four study regions helped to move the process forward by virtue of their extensive prior experience in public service, including BRTF chairs who were former legislators, mayors, an executive director of the California League of Cities, and a former member of the California Fish and Game Commission. The public service experience of BRTF members with complex, controversial, and information-intensive policy issues, guided the MLPA Initiative through California's political landscape.

Initiative staff established open communication with elected and appointed officials, while the BRTF worked with staff to maintain transparency of the decision-making process. This ongoing attention to communication and transparency was important to maintaining political support for the Initiative process. Furthermore, designers of the Initiative utilized fortuitous political conditions, as the seven-year planning period was generally characterized by political support at the highest levels of state government.

3.3. Establishing adequate funding for a statewide public planning process

A key aspect of the MOU establishing the MLPA Initiative as a public–private partnership was the agreement to allow private charitable foundation funding to be used to support CDFG as the implanting agency by hiring contract staff, supporting CDFG staff, organizing meetings, engaging the public, supporting data collection and tool development, and generally moving the planning process forward.

Private charitable foundation funds were collected by RLFF from a number of foundations, including the Annenberg Foundation, Keith Campbell Foundation for the Environment, Gordon and Betty Moore Foundation, David and Lucile Packard Foundation, and others. As these foundations have supported other environmental initiatives in the region, some controversy existed regarding use of private charitable foundation funds to support implementation of the MLPA through a public planning process. Members of the public, especially members of the recreational fishing community, periodically raised concerns that use of funds from a private foundation supporting environmental conservation could

⁷ These numbers were generating by searching the California legislative database of introduced bills, which categorizes bills by topic and lists their disposition: <http://www.leginfo.ca.gov/bilinfo.html>.

⁸ United Anglers of Southern California v. Cal. Fish and Game Comm'n, No. 37-2011-00084611-CU-WM-CTL (Cal. App. Dep't Super. Ct. Oct. 17, 2011) (confirming that the California Fish and Game Commission has statutory authority to promulgate marine protected area regulations on California's North Central Coast, and concluding that the objections articulated by United Anglers of Southern California were without merit).

potentially bias outcomes of the MPA planning process. In late 2005, a recreational fishing group filed a lawsuit in California Superior Court against the signatories for the first MOU, asserting that the MLPA Initiative funding arrangement violated the California state constitution. MPA planning continued despite this ultimately unsuccessful legal challenge.⁹ Even after the appellate court ruling upholding the Initiative's public–private partnership, some fishing interests continued to question the use of private charitable foundation funding for each of the four MLPA study regions.

The MLPA Initiative staff and the BRTF implemented several measures to reduce potential introduction of bias into the planning process and to mitigate negative public perceptions of the public–private funding mechanism. First, private charitable foundation funding was expended at the direction of the MLPA Initiative Executive Director and the BRTF, both of whom served as neutral parties in managing the process in pursuit of the MLPA objectives. The BRTF regularly reviewed the MLPA Initiative budget in public meetings, and the budget was publically available on the MLPA Initiative website. Contract staff reported to the Executive Director, who reported to the BRTF, who reported to the Natural Resources Secretary. Second, RLFF refrained from participating in any of the MLPA Initiative advisory groups, did not provide input on potential MPA designs, and did not participate on MLPA Initiative staff. Third, the MOUs setting terms of funding focused on establishment of a process based upon sound science, stakeholder input, general public participation and overall transparency, and did not contain conditions regarding final outcomes of the planning process.¹⁰ In fact, final MPA proposals forwarded to the Commission varied widely between study regions in the degree to which they met science guidelines and percentage of state waters within MPAs, supporting the assertion that the funding mechanism did not play a role in determining process outcomes (Carr et al., 2010; Gaines, 2009; Gleason et al., 2013; Saarman et al., 2013).

Although the public–private partnership generated some controversy, it also ensured that adequate resources for MPA planning were made available for each study region in a timely fashion. While the California state budget fluctuated, along with the availability of CDFG staff, private charitable foundation funds guaranteed that sufficient staffing was available to advance regional MPA planning. Contract staff hired with private funds included facilitators, geographic information system specialists, marine planners, policy experts, and outreach and media specialists. Some of the most innovative aspects of the planning process were made possible with these funds, including developing a web-based decision support tool (see Merrifield et al., 2013) and bio-economic models to support science evaluations (see White et al., 2013).

Furthermore, private charitable foundation funding allowed for concurrent evaluation and adaptive management by supporting lessons learned analyses and additional staff support. Using these

funds, the MLPA Initiative was able to contract with experts to quickly respond to demands of the stakeholder process and apply lessons learned; acquiring contractors through the traditional state hiring process could not have been accomplished within a similar timeframe, nor would it have ensured the most qualified experts. The flexibility afforded by the private funding was particularly helpful when additional expertise was required to address difficult policy issues (see Fox et al., 2013b). It also helped to address staffing requirements of the south coast study region, where the number of staff doubled from the previous region, to accommodate a geographically and demographically larger and more diverse study region. Additionally, private charitable foundation funding provided a bridge for meeting and travel expenses incurred by state employees when state funding was temporarily suspended, particularly during the 2009 state budget crisis.

The quality and extent of data available for MPA planning, as well as outreach to stakeholder groups, was further supported by non-Initiative expenditures. Additional charitable foundation funding and resources from other state agencies augmented the core support provided through the MLPA Initiative public–private partnership, allowing for: collection and processing of seafloor mapping data; additional analyses of potential socioeconomic impacts; gathering information from tribal communities regarding their interactions with marine resources; support for enhanced organization of disparate fishing groups; and support for improved communication among rural coastal communities to inform MPA planning. Although these efforts were not central to the BRTF-managed MPA planning process, they provided important information for the MLPA Initiative process and enhanced capacity for key stakeholders.

While the cost of the seven year Initiative planning process totaled approximately \$38 million, the cost per square kilometer of MPAs established through the MLPA Initiative was comparable to other MPA planning efforts globally (Gleason et al., 2013; McCrea-Strub et al., 2011). The largest expenditures included the costs of maintaining a large and diverse contract staff and running hundreds of meetings accessible to the public in person and on the internet.

The commitment for funding provided by private charitable foundations under the MOU was an important enabling condition, since previous unsuccessful efforts to implement the MLPA revealed the need for adequate capacity and funding (Weible, 2008; Weible et al., 2004). A similar process may have been possible with a smaller amount of private charitable foundation funding, but would have required use of fewer contract staff, fewer meetings, or less extensive public outreach, each carrying potentially negative consequences for MPA planning. Ultimately, this commitment to adequate funding and ability to hire contract professionals to support the process, along with the complementary activities funded from outside the MOU, allowed the MLPA Initiative to be flexible, adaptive and responsive to planning needs within the process timeline.

3.4. Setting an aggressive timeline with firm deadlines

Deadlines and time pressure are commonly utilized in negotiations to drive decision-making, in some cases accelerating concession-making and agreement, and in other cases reducing capacity for collaborative solutions (Carnevale et al., 1993). The MLPA Initiative used firm deadlines to ensure that MPA planning was completed within planning timelines and budget constraints, balancing the benefits of doing so with potential negative effects on the process and negotiations.

The original MLPA legislation set deadlines for both convening MPA network planning and for completing final products. Initially,

⁹ *Coastside Fishing Club v. Cal. Res. Agency*, 158 Cal. App. 4th 1183 (Cal. Ct. App. 2008) (holding that the MOU and funding arrangement ratified through the MOU were legally authorized by the MLPA).

¹⁰ See *Memorandum of Understanding among The California Resources Agency, The California Department of Fish and Game and The Resources Legacy Fund Foundation for The California Marine Life Protection Act Initiative* (Aug. 2004), <http://www.dfg.ca.gov/mlpa/pdfs/mou.pdf>; *Memorandum of Understanding among The California Resources Agency, The California Department of Fish and Game and The Resources Legacy Fund Foundation for The California Marine Life Protection Act Initiative Second Phase* (Dec., 2006), <http://www.dfg.ca.gov/mlpa/pdfs/mou121906.pdf>; *Amendment and Extension of Memorandum of Understanding among The California Resources Agency, The California Department of Fish and Game and The Resources Legacy Fund Foundation for The California Marine Life Protection Act Initiative* (Jul. 2008), http://www.dfg.ca.gov/mlpa/pdfs/mou_phase2amended.pdf.

a final master plan and marine life protection program were to be adopted by July 1, 2002. The MLPA was later amended to extend the final deadline to December 1, 2005. Though state efforts to meet these deadlines were unsuccessful, the expectation was set by the guiding legislation that planning would occur within a circumscribed timeframe.

The MOU establishing the MLPA Initiative in 2004 similarly set specific timelines, including a 2011 target date for completing statewide planning; this target date was reaffirmed in the second MOU signed in 2006.¹¹ The deadlines established as part of the two MOUs and subsequent Amendment were important for driving action by stakeholders, the BRTF, and to some degree the Commission. Even with firm deadlines provided by the MOUs, redesigning California's MPAs in the first four study regions required nearly seven years to complete. The MLPA Initiative came close to meeting the deadline set in the original 2004 MOU, as only the fifth study region encompassing San Francisco Bay has not yet undergone MPA planning. A planning process for the San Francisco Bay study region will be considered subsequent to completion of current planning efforts in the Sacramento-San Joaquin River Delta focused on ecosystem restoration and water supply reliability.

Although adherence to strict timelines helped to drive MPA planning to completion, it also generated heavy workloads and required tradeoffs. In order to meet the 2011 completion date stipulated in the MOUs, study region planning schedules overlapped, straining MLPA Initiative staff resources. For example, while supporting final deliberations of the BRTF in the south coast study region, MLPA Initiative staff concurrently organized public outreach workshops in the north coast study region, where planning was next scheduled to occur. Regional processes themselves were compressed to accommodate aggressive timelines, placing time pressure on stakeholder negotiations. Although strict deadlines forced decision-making, they may have also contributed to defensive, block-voting behavior in some study regions (see Fox et al., 2013a). Finally, strict timelines limited the amount of new information that the MLPA Initiative could acquire to support the planning process, requiring participants to utilize the "best readily available" data consistent with the MLPA statute (see Saarman et al., 2013), although some parties asserted that there was insufficient information for planning (Hilborn et al., 2006).

Although the overall deadlines for planning were well established, the MLPA Initiative leadership exercised its discretion to adjust the planning timeline in a few instances. For example, near the conclusion of the stakeholder portion of the north central coast study region, it became apparent that all those involved needed more time to adequately evaluate and discuss the alternative MPA network proposals. In recognition of this need, several additional meetings with stakeholders, the BRTF, and the SAT were added to ensure sufficient time for deliberation and analysis.

3.5. Engaging civil society

The MLPA Initiative provided numerous opportunities for broad involvement in MPA planning statewide (Sayce et al., 2013). Non-governmental organizations, interest groups and trade organizations, academic institutions, and members of the general population all engaged in the process via volunteer advisory groups and by providing data, information and feedback. Over 38,000 total hours were contributed by unpaid volunteers while participating in the three main advisory groups, the RSG, SAT, and BRTF (Gleason et al., 2013). Although some sectors of civil society opposed the MLPA Initiative and worked to impede its progress, the willingness

of other groups to engage in the MPA network planning process increased the likelihood for better informed and publically-supported process outcomes.

Environmental non-governmental organizations at both the national and local level supported the process by providing data and analysis, participating on RSGs, and helping to publicize information about the MLPA Initiative to their constituencies. Many of these organizations were also essential in supporting enactment of the MLPA itself in 1999. Fishing organizations played a similarly important role in engaging their constituencies, providing data, and participating on the volunteer bodies. Though some fishing organizations did not publically support the planning process and filed lawsuits even after participating in the MLPA Initiative, the deep knowledge of the marine environment held by their constituencies, as well as the potential for immediate, direct impacts to their members from redesigned MPAs, heightened the value of their engagement with the process.

Universities, research institutes, and members of academia also played an important role in the process, forming the majority of the members of the SAT and also participating on the RSGs. Several key drivers for the process, including the continually updated scientific evaluation methods, were generated by volunteer members of these groups (see Saarman et al., 2013). A core group of faculty members at University of California campuses in Davis, Santa Barbara and Santa Cruz, Stanford University, and California State University campuses in Fullerton, Monterey Bay, Northridge and Sonoma State were active contributors to academic research on MPAs and management of marine ecosystems. Although scientists sometimes disagreed regarding appropriate guidelines for MPA planning (Hilborn et al., 2006), the availability of individuals with both an academic research focus supporting design of MPAs and previous experience in policy making was important to the successful functioning of the SAT in each study region.

Finally, members of the general public participated in great numbers in the planning process, providing information to help inform deliberations, submitting feedback on potential MPA designs, and generally contributing to the value of final products (Gleason et al., 2013; Sayce et al., 2013). The willingness of members of the general public to engage in the process was important for not only planning of California's MPAs, but also garnering support for their implementation.

Some sectors of civil society challenged the MLPA Initiative. For example, although representatives from many fishing organizations constructively contributed to the MLPA Initiative process, some organizations openly opposed implementation of the MLPA and worked to impede MPA planning. These groups engaged in well-organized media campaigns, staged protests, and lobbied government officials to suspend the planning process. Some of the most active groups included both local and national level recreational fishing organizations, as well as fishing tackle manufacturers. Lawsuits addressed various aspects of the MLPA Initiative process, including the funding source,¹² transparency of the process,¹³ and the manner by which MPAs were planned and designated.¹⁴

¹² *Coastside Fishing Club v. Cal. Res. Agency*, 158 Cal. App. 4th 1183 (Cal. Ct. App. 2008) (holding that the MOU and funding arrangement ratified through the MOU were legally authorized by the MLPA).

¹³ *Fletcher v. Blue Ribbon Task Force of the Marine Life Protection Act Initiative*, No. 34-2010-80000555-CU-WM-GDS (Cal. App. Dep't Super. Ct. Oct. 1, 2010) (requiring the BRTF, SAT, and state agencies participating in the MLPA Initiative to respond to Mr. Fletcher's Public Records Act requests).

¹⁴ *United Anglers of Southern California v. Cal. Fish and Game Comm'n*, No. 37-2011-00084611-CU-WM-CTL (Cal. App. Dep't Super. Ct. Oct. 17, 2011) (upholding California Fish and Game Commission regulations for the north coast study region MPAs).

¹¹ *Id.*

Although recreational fishermen voiced some of the most significant opposition to the MLPA Initiative, several other groups challenged and tested the Initiative process at different stages, including some rural communities, California tribes and tribal communities (described further in Fox et al., 2013b), and commercial fishermen.

Without the willingness of members of civil society to engage in the MLPA Initiative, the ultimate outcome may have been less robust, more contentious, and unlikely to be supported in the long-term (Irvin and Stansbury, 2004). MLPA Initiative staff fostered participation of civil society with extensive outreach efforts (Sayce et al., 2013) and a careful stakeholder selection process (Fox et al., 2013a).

3.6. Creating an effective process design

One of the most effective features of the MLPA Initiative was the process design that balanced meaningful stakeholder engagement (per Pollnac et al., 2010; Pomeroy and Douvère, 2008) and careful consideration of scientific information (per Carr et al., 2010; Roberts et al., 2003), with agency input and guidance from the BRTF (Gleason et al., 2010). In the MLPA Initiative process, the BRTF recommended preferred alternative MPA designs for consideration by the Commission, but the RSG developed the MPA proposal designs, informed by science guidance from the SAT (developed to satisfy the MLPA) and feasibility guidance and analyses developed by the CDFG and the California Department of Parks and Recreation (Fox et al., 2013a). These clearly defined roles were helpful, but the process did not always run smoothly. Unclear guidance, shortcomings in group management, or political issues occasionally disrupted development of MPA proposals (see Fox et al., 2013a,b), but the general process design ensured that knowledgeable stakeholders with direct interests in ocean resources had a central role in shaping outcomes and were well informed. The process design also allowed for the judgment of the BRTF to check the power of the RSG. The RSG was charged with developing alternative proposals, and was not mandated to reach unanimous consensus on a single proposal; this approach gave the BRTF options to balance in their final recommendations. In each study region, the BRTF exerted its independent judgment and modified proposals developed by the stakeholders before recommending a preferred alternative to the Commission (Kirlin et al., 2013).

Transparency was an enduring theme of the MLPA Initiative, driven by the public–private partnership's stipulations for meaningful stakeholder engagement and access to information. The Initiative process design purposefully involved large numbers of stakeholders in MPA decision-making, well beyond the MLPA's requirements for stakeholder engagement. To this end, the MLPA Initiative approach included not only a science-driven and stakeholder-based design phase (see Fox et al., 2013a), but also numerous opportunities for broader public engagement to influence planning outcomes (see Sayce et al., 2013). The Initiative staff arranged for regular, full-group meetings to be webcast and archived, took steps to ensure that documents were available for public review, and designed workshops to encourage public engagement. Despite these open communication and participation design features, some groups criticized the adequacy of the MLPA Initiative's transparency, especially regarding communications within the SAT and the BRTF. One group even filed suit against these groups in protest of this purported lack of transparency.¹⁵

A regional approach, rather than statewide network planning, allowed the MPA planning process to be piloted in the central

coast study region, improved in subsequent study regions, and adapted to unique regional conditions (Fox et al., 2013a; Gleason et al., 2010). The process design also accommodated the best readily available science for redesigning the system of MPAs (see Saarman et al., 2013) and balanced input from both CDFG and the California Department of Parks and Recreation with the interests of various stakeholder groups (see Fox et al., 2013a).

4. Discussion

The scope and magnitude of the effort to redesign California's existing MPAs into a statewide network posed significant challenges to the MLPA Initiative. However, generally favorable institutional, political, financial, and social conditions allowed for completion of MPA planning in four regions along California's open coast (Gleason et al., 2013). These enabling conditions helped the MLPA Initiative avoid or mitigate problems encountered in other MPA planning processes.

The Channel Islands National Marine Sanctuary Marine Reserves Working Group (MRWG) process predated the MLPA Initiative and used a similar science-based, stakeholder process (Arame et al., 2003), but did not benefit from the same enabling conditions as the MLPA Initiative (Osmond et al., 2010). While successfully resulting in the designation of thirteen MPAs around the northern Channel Islands in Southern California in 2002, the MRWG planning process was fraught with challenges and ultimately managing agencies, rather than the MRWG itself, advanced a recommendation for MPA designs to the ultimate decision-making bodies.

MPA planning around the Channel Islands occurred after enactment of the MLPA, but relied on pre-existing authority that allows the Commission to establish MPAs following a petition from the public. Without a specific legal mandate to establish MPAs at the Channel Islands that provided clear goals and process considerations (as outlined in the MLPA), MRWG spent significant time before agreeing to the overall objectives of the Channel Islands process. Furthermore, participants and facilitators made a series of process design decisions, such as requiring that decisions be made by full consensus, that compromised the overall decision-making process and ultimately made developing a final recommendation from the group unachievable. The lack of firm deadlines contributed to struggling negotiations. The stakeholder process for the Channel Islands continued without resolution, expending limited public funds until public agencies ended the process (Helvey, 2004; Osmond et al., 2010).

MPA planning underway in Oregon is also science-based and stakeholder driven, but lacks several of the enabling conditions described here and has a fundamentally different political, economic, social, and cultural setting. Oregon's ten years of intermittent MPA planning has resulted in a handful of marine reserves being established and a few other sites under consideration. There are several notable differences in enabling conditions for MPA planning between California and Oregon. First, the legal mandate for MPA planning in Oregon is not as strong as California's. The Oregon mandate arose from a governor's executive order in 2000 directing the Ocean Policy Advisory Council (OPAC) to study whether MPAs should be implemented. In 2002, OPAC's work resulted in recommendations for a limited network of pilot MPAs to be studied for their effectiveness in meeting marine conservation objectives, and that before establishing any more reserves the State conduct additional analyses and deliberations through an open, public process. However, lack of political support in the state legislature led to no further action, and a restructuring of the OPAC and the underlying statutory system for MPAs in 2003 increased the difficulty of creating new MPAs and maintaining momentum.

¹⁵ See supra note ¹².

A proposal to establish a new federal National Marine Sanctuary in Oregon in 2005–2006 added further complications to the political landscape. In 2007, a new governor initiated a process in which the Oregon Department of Fish and Wildlife (ODFW) would consult closely with OPAC to implement an open, community-based process to identify up to nine marine reserve sites to be proposed to the Oregon legislature. An infusion of \$1 million in funding from a shipwreck settlement helped move the planning process forward, whereas previously it had been limited to existing state agency budgets. Finally, until 2008 and an executive order from the new governor, the MPA process in Oregon lacked an explicit timeline, allowing for numerous process delays and lack of clarity for when planning would be completed (Bob Bailey, pers. comm., May 19, 2011; Lanier, 2009; OCMP, 2009).

The MLPA Initiative, Channel Islands MRWG, and Oregon MPA planning process all took a science-based planning approach and solicited input from stakeholders. Each process resulted in the designation of MPAs. However, each process differed in the degree to which enabling conditions were present. Compared to the MLPA Initiative, the Channel Islands and Oregon processes operated under relatively weaker mandates for MPA planning, had more limited or intermittent political leadership and funding, were not subject to firm deadlines, and utilized process designs that were less effective for generating broadly supported MPA designs while also meeting science guidelines. All three processes engaged civil society, with some groups participating more constructively than others. With more favorable enabling conditions in place, the MLPA Initiative was able to avoid some of the problems encountered during the Channel Islands and Oregon processes that resulted in either process delays or more limited achievement of process objectives.

Ultimate success of California's MPAs will be contingent upon ongoing implementation, monitoring, and management (see Gleason et al., 2013), which will also be affected by the presence of some of the enabling conditions described in this paper. While the MLPA's strong legal mandate continues to serve as an enabling condition, political support, adequate funding, and participation of civil society may be subject to change.

Similar enabling conditions are also important for more comprehensive coastal and marine spatial planning (Ehler and Douvère, 2009; Gopnik, 2008). Failure to meet some of these conditions has been identified as one of the major impediments to implementing more integrated coastal management (ELI, 2009). Currently, the United States is moving forward with a newly adopted National Ocean Policy that follows a science- and ecosystem-based approach and includes spatial planning as a major component (CEQ, 2010). Critical to the success of this program will be to consider whether the mandate is clear enough, strong political leadership will continue, sufficient funds will be made available, firm times exist, civil society will be able to engage in a meaningful way, and an effective process for conducting marine spatial planning will be established, among other priority factors (Halpern et al., 2012). Experience through the MLPA Initiative and other national and international efforts suggests that the presence of these conditions greatly enhances the likelihood of completing regional-scale spatial planning and therefore deserves both active attention and development early in any large-scale, contentious coastal and marine planning process.

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