

Balancing Ecology and Economics, Part II: Lessons Learned from Planning an MPA Network in Victoria, Australia

In 2002, the Australian state of Victoria and the American state of California approved plans for representative networks of marine protected areas in their waters. Involving long and contentious planning processes, both efforts offer lessons to practitioners and stakeholders around the world who face similar challenges in designing MPA systems.

In a two-part series, MPA News distills lessons learned during each process by examining the obstacles encountered and how participants might have improved the processes in hindsight. Part II of the series, focusing on Victoria, appears in this issue. (Part I, on the Channel Islands National Marine Sanctuary in California, appeared last month [MPA News 4:6].)

Background on Victoria planning process

The process to plan a system of marine national parks in Victoria lasted 10 years, involved six periods of public comment, and was overseen by three successive state governments. Initially intended to be a four-year process, the planning effort encountered extensions and delays due to a range of factors, including evolving views on the comparative value of multiple-use parks and no-take areas.

The effort began in 1991 with work by the Land Conservation Council (LCC), an independent statutory authority that conducted land-use planning for the Victorian government. Charged with offering recommendations for a representative system of marine parks, the LCC released a draft final report in 1996 that proposed designating 21 multiple-use MPAs, of which relatively small portions would be set aside as no-take zones.

While in the process of finalizing recommendations, the LCC was disbanded by the state government. In its place, the government established another independent body, the Environment Conservation Council (ECC), which took charge of planning a marine park system. The ECC consisted of three members from the fields of academia, agriculture, and finance, respectively, each of whom had extensive experience in natural resources management. In 1998, the ECC published an interim report that again canvassed public comment on

objectives for the selection of MPAs on a multiple-use basis.

By that time, however, a shift in mindset was occurring within the ECC: council members had begun to change their view on the ability of multiple-use protected areas to protect Victoria's marine biodiversity. Deciding that science indicated no-fishing areas would offer greater protection, the ECC effectively changed its course, moving toward a system of no-take MPAs.

In December 1999, the ECC released a report for public comment in which it proposed a network of no-take *marine national parks* and no-take *marine sanctuaries* covering roughly 6.2% of Victoria's marine waters. (Marine national parks were to be considerably larger than marine sanctuaries.) Following the comment period and consultation, the ECC made several changes to proposed site boundaries and submitted a final report to the Victorian environment minister in August 2000, recommending 13 marine national parks and 11 marine sanctuaries. The ruling Labour government submitted a bill based on the recommendations to the state parliament, which held authority to approve the new MPA system.

The parliament received significant lobbying on the bill from stakeholder groups. In an effort to secure support for the legislation, the Labour government modified several park boundaries and proposed a temporary, capped system of financial assistance for commercial fishermen to cover increased operating costs and reduced catches due to the new closures (MPA News 3:11). But support for the bill was lacking from opposition parties, whose backing was necessary for passage. A second version of the bill, introduced in 2002, featured additional boundary modifications and expanded the ability for fishermen to gain compensation. By this time, the proposed system covered 540 km², or 5.3% of state waters. The Victorian parliament passed it in June 2002.

The 13 marine national parks and 11 marine sanctuaries were proclaimed in November 2002. Bans on fishing took effect immediately at all but five sites; at these five, the bans will commence in 2004.

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Lessons learned

MPA News interviewed six individuals who participated in the ECC planning process and/or legislative negotiations. Spanning government, NGOs, and the commercial and recreational fishing sectors, these participants described challenges faced by practitioners and stakeholders in the planning effort. Through these discussions, MPA News garnered the following lessons:

1. Opposition is part of consultative processes on no-take areas.

Once the ECC shifted its focus toward designation of no-take areas, public comment on the council's proposals turned much more contentious. Attending a series of public meetings following release of their draft report, ECC members encountered strong opposition from fishermen concerned about the loss of their fishing areas. "The public meetings were particularly stressful," said John Lovering, ECC chairman. "They inevitably deteriorated into 'theatre of the absurd' in which constructive dialogue between the public and council became impossible." He said some disaffected individuals even threatened ECC members with harm.

Unlike the reserve-planning process for the Channel Islands in California (MPA News 4:6), there was no effort made in Victoria to pursue community consensus on a marine park plan. "A consensus model was deliberately not chosen for this process," said Joan Phillips, who oversaw the government's marine park planning effort from 1998 onward. Now manager of protected area establishment and policy for the Victorian Department of Sustainability and Environment, Phillips says the main challenge of the Victoria process centered on the impact on users. "Where users derive part of their livelihood from their use of resources — or their recreational use forms part of their identity — the process can very quickly become adversarial," she said. "The broader public interest and the interests of future generations are often lost in the ensuing debate." She acknowledges that impacts on fishermen are important to consider in MPA planning. She also points out that political bargaining appropriately ensured the establishment of compensation arrangements and other strategies for minimizing impacts. But the process's greatest strength, she says, was that the necessary social choices — i.e., which fishing areas to close — were made by government on behalf of all the people.

Tim O'Hara, senior curator of marine invertebrates for the state-run Museum Victoria, collated biodiversity data to inform the ECC planning study. "Because almost 100% of a coastline is usually fished, it is impossible to avoid the not-in-my-backyard syndrome," he said. "It is impossible to negotiate a solution that will not upset some fishers somewhere. This is unfortunate but unavoidable. It is similar to the

establishment of other public-good enterprises, like hospitals, that disrupt those who live nearby."

Tim Allen, who served as Victoria coordinator for the Marine and Coastal Community Network (an NGO) through the planning effort, says consultative processes should be carefully tailored to suit individual communities. "While the ECC used a range of techniques to facilitate public input to the process, [the council] soon became aware that public meetings were not one of the better strategies employed in smaller communities," said Allen, now national coordinator for his organization. "Public meetings tended to work against the process as they established an opportunity for opponents to 'grandstand'. With many meetings [filled] with vocal recreational and commercial fishermen, potential supporters were intimidated on occasion. The meetings also helped to establish entrenched regional media opposition to the process that was hard to counter."

2. Advisory bodies should strive to maintain a reputation of independence.

"The planning process needs to be driven by a planning body, like the ECC, that is completely independent of the [ruling] government, government bureaucracy, and all other vested interests," said Lovering. "Members of the planning body also need to have a high level of credibility for independent and unbiased decisionmaking with all stakeholders."

While the ECC's investigation of marine national parks was underway, says Lovering, the three members of the council were generally accepted as being independent of the various vested interests involved in discussions of no-take areas. Nonetheless, that changed once the ECC released its draft report in 1998. "The commercial and recreational fishers decided the ECC was a threat to their activities and carried out a campaign to discredit the independence of the ECC and its draft report," he said. "As a result, when the council went to conduct public meetings explaining its draft recommendations, these groups disrupted them. It may have helped to restore order if the meetings had been chaired by somebody independent of the ECC, its draft report, and other stakeholders."

Ross McGowan, executive director of Seafood Industry Victoria, an industry group, said the ECC failed to consider all stakeholders' interests equally. "We must find a balance between competing interests and aspirations, recognizing that all have valid opinions," he said. "Does a fisher have the same rights as a conservationist?" McGowan said consultation was too late and not transparent enough. "The process of consultation is always one that, with hindsight, can be improved."

Ray Page, executive officer of VRFish, a leading organization of recreational anglers in Victoria, says the process should have been run by an organization

consisting of stakeholders. “[Planning MPAs] should not totally be a government responsibility,” he said. He says the outcomes did not satisfy most stakeholders. “A consultative group should have been convened at the commencement of the process, with representatives from major stakeholders. This group should then have agreed on terms of reference for the planning process, and could have been used as a steering committee for the entire process.” The final results may not have been different, he said, but at least stakeholders would have felt more involved.

3. For supporters, educating the public on the need to protect biodiversity is critical.

The majority of the public does not have a strong view in either direction about MPAs, says Phillips. For proponents of the marine national parks plan, this meant that success would come from building public appreciation for the importance of protecting marine biodiversity. “Because the most obvious stakeholders are commercial or recreational fishers who may be genuinely anxious about their futures, much of the public discussion focuses on addressing issues raised by these groups,” she said. “However, when the general public is presented with simple messages about protecting marine biodiversity — accompanied by visual material such as underwater video footage — their understanding and support for MPAs increases. In the Victorian case, mobilizing some of the support in the broader community was vital to securing bipartisan support for the legislation.”

“Be prepared for a long haul in educating stakeholders to the need for fully protected marine areas,” said the ECC’s Lovering. “There is one thing that I think we should have done earlier, and that was to have had a professional communications company establish at a very early stage a process to market the crucial importance to future generations of establishing a system of marine national parks.”

Allen says that absent a strong communications effort by the ECC, NGOs largely carried the responsibility for disseminating information on the need for the planning process and MPAs. The fact the process lasted 10 years allowed NGOs time to build an active constituency across many sectors, including scientists, divers, and local government. “The length of time associated with the process created a persuasive public argument — i.e., there must be a positive outcome after 10 years of public discussion and scientific input,” said Allen.

For O’Hara, the main challenge of the process was establishing the public ethic in favor of no-take areas. “The principle was gradually accepted by the majority of Victorians, who came to appreciate the beauty of the marine environment and accept the conservation needs of marine ecosystems,” he said. “No-take marine national parks and marine sanctuaries were eventually

seen as a vote winner by the two largest political parties in the parliament.”

4. For opponents, negotiation is sometimes a better strategy than total opposition.

When the ECC disclosed its intent to recommend large no-take areas, VRFish argued that such measures would enhance neither fish stocks nor the marine environment in general, and that recreational fishing had little impact on marine ecosystems. It has maintained these positions. However, the organization chose to negotiate with the government in the final legislative stages rather than oppose all MPAs outright. In a 31 July 2002 media release (“An Open Letter to All Recreational Fishers”, <http://www.vrfish.com.au/asp/announcement.asp>), VRFish Chairman Pat Washington said the government had made clear there would be marine national parks with or without the support of the fishing community. VRFish took the view that it was best to negotiate to minimize the impact, rather than fight the bill and potentially end up losing more fishing areas.

Washington wrote further in the July 2002 VRFish newsletter (<http://www.vrfish.com.au/news/jul02.htm>), “Despite the disappointment in the final legislation, I feel that we have made significant changes to the legislation and our position in this debate has been justified. The introduction of these parks was inevitable. The changes made through VRFish negotiating with the government have been significant, and could not have been achieved through any other method.”

Washington also stated that street demonstrations against the marine national parks, as were led by other MPA opponents, could only work if many thousands of people were willing to attend. Poorly attended demonstrations proved to be counter-productive, he said, and sent a message to the government that anglers were not concerned about marine national parks.

5. There are benefits to pursuing an “all-at-once” strategy for creating an MPA system.

Phillips says the state of Victoria’s effort to plan MPAs across all of its waters in one process, rather than in a piecemeal fashion, was a good move. “It was helpful in identifying issues and implications, as well as tradeoffs for the commercial fishing industry in particular,” she said. “This approach delivered some certainty to commercial fishing license holders, who at the end of this process do not face the threat of having more areas restricted for MPA purposes in the immediate future.”

“Making recommendations that would significantly alter marine management across 10,000 km² of state waters was never going to be an easy task,” said Allen. “But it did offer benefits. First, it focused the public debate not only on the values of parks themselves, but

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on the principles of representativeness, adequacy, and comprehensiveness. The statewide approach also raised the public and political profile of the issue, and fostered widespread community knowledge about marine biodiversity in the process. This will have long-lasting benefits.”

Although percentage-based targets were not established for the process, the percentage figure of state waters covered by the system proved to be useful for MPA supporters in the public debate, said Allen. “It was not seen as unreasonable by the public that 6% of the state’s coastal waters should be protected,” he said.

Outcomes of the process

Commercial and recreational fishing organizations have joined in criticizing the marine national parks legislation for doing little to address what they view as the real ecological problems facing Victoria’s waters, including urban and rural runoff, seagrass dieback, and introduced pest species. And it remains to be seen how costly the compensation framework — a key part of legislative negotiations — will be. Under the compensation scheme, assistance will be available to commercial fishing license holders for up to three-and-a-half years, depending on the type of fishing license held and the park site. A three-member assessment panel, including at least one fishing-industry representative,

will determine compensation for those who show they suffered financial losses (i.e., reduced catches and increased operating costs) due to the new no-take areas. The panel’s decisions may be appealed to an independent tribunal. Eligible charter boat operators may also file for compensation to cover increased operating costs.

Industry sources have estimated compensation claims could total tens of millions of dollars, but government officials are confident the amount will be much less, with fishermen adjusting relatively easily to the new system.

Allen says NGOs will continue to strive for improved marine management practices throughout state waters. In the Victoria MPA-planning process, he says, NGOs’ most important goal was to retain the no-take principle through the legislative negotiations, which they achieved. Although he is disappointed that the negotiations modified boundaries for non-scientific reasons, such boundaries can always be revisited. “And in time, I have no doubt they will be,” he said.


In the meantime, Parks Victoria, the state parks agency, has taken charge of the new MPA system. It is now finalizing a management strategy for the entire network, setting out statewide objectives for planning, operations and research. That strategy is expected to be completed soon and will be posted on the agency website, at <http://www.parkweb.vic.gov.au>. 

Table. Characteristics of Victorian and Channel Islands (US) representative MPA networks.

	Victoria	Channel Islands National Marine Sanc. (CINMS)
Description	13 marine national parks 11 marine sanctuaries	10 marine reserves and 2 marine conservation areas (These are in state waters within the CINMS. A proposed second phase of designation, involving federal waters, would add one marine reserve and expand boundaries of some existing areas.)
Size	540 km ²	450 km ² . (The proposed federal phase would expand this to 1100 km ² .)
Regulation of fishing	Fishing is prohibited in marine national parks and marine sanctuaries	Fishing is prohibited in marine reserves but allowed on a limited basis in marine conservation areas.
Percentage of region set aside as no-take	5.3% of Victoria state waters	10% of CINMS. This figure excludes the marine conservation areas. (The proposed federal phase would expand this to 25%.)
Allowed activities	Diving, boating, research	Diving, boating, research
Does network include representative examples of all marine habitats in region?	Yes	Yes

MPA Perspective Tips for Developing Marine Boundaries

By David Stein, Technology, Planning and Management Corporation (TPMC)

Depleted marine resources and increased threats by man-made pollutants are forcing many jurisdictions to expand law enforcement and begin comprehensive planning in the offshore environment. As a result, the need for accurate, useable, and accessible digital marine boundaries that define territorial claims and marine protected areas is unprecedented in today's oceans.

Marine or maritime boundaries share a common element with their land-based counterparts in that, in order to map a boundary, one must adequately interpret the relevant law and its spatial context. However, unlike on land, marine boundaries often have no physical evidence to mark them. As a result, there can be confusion, disagreement, and conflicting versions of marine boundaries. The following tips are designed to assist practitioners in drafting and developing digital marine boundaries for MPAs. Tips 1-3 are general recommendations for those drafting the legal or authoritative descriptions of marine managed areas. Tips 4-7 are more specific recommendations designed to assist those in developing the digital boundaries for MPAs.

1. The legal or authoritative description of an MPA must be clearly written so that it can be easily and accurately translated into a digital boundary. Ambiguous language like "general contour of the coast," "slightly off of Resurrection Point," or "approximate low water" should be avoided; instead, use references that can be mapped. **Rationale:** Clear, concise boundary descriptions translate into legally defensible and enforceable boundaries, and make it easier for technicians, GIS specialists, and cartographers to map digital marine boundaries. A person must be able to take information contained in a legal document and place the description on the ground or in a map. If a surveyor or technician cannot do this, then the description fails.

2. When describing or developing a digital marine boundary, it is advisable to reference fixed features that will not move over time. A natural feature such as a rocky headland is a good example. **Rationale:** Referencing features that are ambulatory or have a tendency to move can result in obsolete boundaries. A sandy point is a good example to avoid, but even a groin, jetty, or other seemingly fixed feature may be moved or demolished.


3. Prior to publication, have your boundary reviewed by mapping, legal, and enforcement staff. **Rationale:** If the goal of an MPA is to protect natural resources, key

staff members need to know how to map, defend, and enforce the extents of the MPA.

4. When developing a digital marine boundary, use the official source for boundary information. For example, if a legal description for an MPA boundary indicates the three-mile jurisdictional boundary as the outer limit, make sure you obtain the "official" three-mile jurisdictional boundary for that state. **Rationale:** Referencing other boundaries of questionable source may render your boundary unenforceable.

5. When developing a boundary from a hard copy document, use the most detailed chart or map available. This will capture the greatest amount of information and ensure the highest level of accuracy. **Rationale:** In a geographic information system (GIS), data become scale-less due to the ability to display the data at any scale. Because accuracy is a function of the scale at which a map was created, presumably the more detailed the scale, the more accurate a digital marine boundary. It is important to note that there is a threshold scale at which the boundary's accuracy will be compromised.

6. Develop minimum mapping specifications, or a Standard Operating Procedure (SOP), for developing boundaries within your organization. **Rationale:** A SOP is a set of written instructions that document a routine or repetitive activity followed by an organization. The development and use of SOPs are an integral part of a successful quality system, as they provide individuals with the information to perform a job properly and facilitate consistency in the quality and integrity of a product.

7. Share your marine boundary data through a data clearinghouse or the World Wide Web and notify all appropriate authorities of the existence of new or modified boundaries. **Rationale:** Data sharing is essential to ensure that marine resource users, managers, and law enforcement staff are all utilizing the most current and accurate boundaries possible. 

For more information

Questions about these tips can be directed to Heidi Recksiek, MPA Training and Technical Assistance Coordinator, 2234 South Hobson Avenue, Charleston, SC 29405-2413, USA. Tel: +1 843 740 1194; E-mail: heidi.recksiek@noaa.gov.

Editor's note:

This perspective piece, authored by David Stein, addresses a challenge often encountered by MPA managers: inexact or inconsistent boundary information. Stein, a geographer for the US-based Technology, Planning and Management Corporation (TPMC), is a contractor to the National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center, site of the Training and Technical Assistance Institute for the National Marine Protected Areas Center.

These tips were drawn from his and others' work for the NOAA Coastal Services Center, the Training and Technical Assistance Institute, and the (US) Federal Geographic Data Committee's Marine Boundary Working Group. The NOAA Coastal Services Center is in the process of developing a publication entitled *Marine Boundary Best Practices: A Handbook on Developing Legal Descriptions and Digital Boundaries for Marine Managed Areas*.

Letter to the Editor

Dear MPA News:

I refer to your item "Designation expected soon: Antarctica's first wholly marine protected area" in the December 2002/January 2003 issue (MPA News 4:6).

While it is true that the Terra Nova Bay (approximately 30 km²) proposal will be the first wholly marine protected area designated under Annex V of the Madrid Protocol, it will not be the first wholly marine protected area designated under the Antarctic Treaty System. In 1987, the Antarctic Treaty Consultative Meeting accepted a Chilean proposal to designate three wholly protected marine areas:

- "Chile Bay" (Discovery Bay), Greenwich Island, South Shetland Islands (now Antarctic Specially Protected Area No. 144), of two small areas of benthic habitat (0.8 km²);
- Port Foster, Deception Island, South Shetland Islands (Antarctic Specially Protected Area No. 145) of two small areas of benthic habitat (1.9 km²); and
- South Bay, Doumer Island, Palmer Archipelago (Antarctic Specially Protected Area No. 146) (1 km²).

This was followed in 1991 by a proposal put forward by the United States for designation of two substantial Marine Sites of Special Scientific Interest — Eastern Dallmann Bay (520 km²) and Western Bransfield Strait (910 km²), now designated as Antarctic Specially Protected Areas Nos. 153 and 152 respectively — which was adopted by the Antarctic Treaty Committee Meeting XVI (Bonn 1991).

Additionally, under the Convention for the Conservation of Antarctic Seals (CCAS), three substantial marine areas in which the killing or capturing of seals is prohibited have been designated: an area around the South Orkney Islands of 90,901 km²; the area of the southwestern Ross Sea south of 76°S and west of 170°E (205,896 km²); and Edisto Inlet, Moubay Bay, Borchgrevink Coast (231 km²).

Further information about Antarctic Protected Areas may be obtained from <http://www.era.gov/resources/apal/index.html>.

Bruce Hull

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Notes & News

Correction Due to an editorial error in last month's issue (MPA News 4:6), the MPA Perspective essay by William Alevizon contained a temporarily faulty web link to a list of his cited literature. The link is now active at the URL provided with the article: <http://depts.washington.edu/mpanews/Alevizon-cited.htm>.

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Tunisia contemplates expanded MPA system A multidisciplinary science team has proposed nine sites in the three main Tunisian gulfs as potential marine protected areas, to be considered as part of Tunisia's next five-year, national socioeconomic development plan, beginning 2006. The team's research was ordered by the Tunisian Minister of Agriculture, Environment, and Water Resources. The proposals for the nine sites — ranging in size from 20 km² to 850 km² — took into account several criteria, including existing social and economic benefits of the areas. The research team, drawn from the Institut National des Sciences et Technologies de la Mer (INSTM), called for conservation measures to integrate existing human activities except in cases where such activities posed a major risk of environmental disturbance. Tunisia's current five-year socioeconomic development plan calls for the designation of three new MPAs, which are now in various stages of implementation. **For more information:** Karim Ben Mustapha, Laboratoire Ressources Marines Vivantes, INSTM, 2025 Salamambo, Tunis, Tunisie. Tel: + 216 71 730420; E-mail: karim.benmustapha@instm.rmr.tn.

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New report on marine reserves as ecosystem-management tools No-take marine reserves are an effective tool for restoring and maintaining coastal and marine habitats, according to a new report published by the Pew Oceans Commission, an independent board conducting a comprehensive review of US ocean policy. Authored by biologist Stephen Palumbi, the report states that, to date, networks of marine reserves are the best-understood means for managing marine ecosystems. "We know that reserves dramatically increase the density and size of species that are over-exploited outside reserve borders," said Palumbi in an interview. He said that although proof of the spillover of larvae and adults from reserves is limited so far, evidence of it is increasing. "Given this state of knowledge, we can be fairly certain that reserves set up in major marine habitats will serve a critical conservation need — preserving habitats and ecosystems that house thousands of species," he said.

Marine Reserves: A Tool for Ecosystem Management and Conservation emphasizes the need for inclusion of all stakeholders in the planning of reserves. The 45-page report is available online in PDF format at http://www.pewoceans.org/reports/pew_marine_reserves.pdf. **For more information:** Steve Palumbi, Department of Biological Sciences, Stanford University, Hopkins Marine Station, Pacific Grove, CA 93950, USA. Tel: +1 831 655 6210; E-mail: spalumbi@stanford.edu.

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Newsletter available on US MPA efforts *Connections*, a new monthly newsletter published by the (US) National Marine Protected Areas Center, provides information on the resources and mission of the Center, including training opportunities, research, management tools, and publications. To view issues of the newsletter online in PDF format, visit <http://mpa.gov/mpabusiness/center.html>. To be added to the *Connections* e-mail distribution list, e-mail dana.topousis@noaa.gov.

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searchable back issues, MPA-related conference calendar, and more