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PAUL SABATIER

43. Response of State Commission to appeals.

State commission decision comp. with regional comm. decision	Appellant		
	Applicant (%)	Environmental or planning group (%)	Neighborhood or misc. group or indiv. (%)
Same as Reg. Comm.	63	10	8
Impose more stringent conds.	0	40	63
Impose less stringent conds.	3	4	0
Deny Reg. Comm. approval	0	46	30
Approve Reg. Comm. denial	34	0	0
Total	100	100	100

Cramer's V = .47, sig. = .001.

^aThree categories of appellants on 76 cases considered to have substantial issues.

- 44. For a discussion of the crucial role of environmental and consumer organizations in the implementation of regulatory statutes, see Paul Sabatier, "Social Movements and Regulatory Agencies: Toward a More Adequate and Less Pessimistic Theory of 'Clientele Capture,'" *Policy Sciences*, vol. VI (1975), 301-342.
- 45. A survey of commissioners found that of the 56 who responded, 64% had voted for the Coastal Initiative (*Los Angeles Times*, Feb. 12, 1973). The author and Daniel Mazmanian of Pomona College have conducted a rather detailed survey of members and staffs from four of the seven commissions. A preliminary analysis of the data indicates that a substantial majority of both groups voted for, and still support, the Initiative, moreover, most of the commissioners feel that their primary responsibility is to faithfully administer the Act rather than, for example, represent the views of their appointing bodies or their constituents.
- 46. See the discussion in Sabatier, "Social Movements and Regulatory Agencies," 301-305; see also Jeffrey Pressman and Aaron Wildavsky, *Implementation* (Berkeley: Univ. of California Press, 1973).
- 47. California Secretary of State, "Propositions and Proposed Laws, Together with Arguments, General Election of November 7, 1972," p. 53.

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23

Comments

COASTAL MANAGEMENT IN PORT PHILLIP

PETER CULLEN

Abstract Port Phillip is an enclosed bay surrounded by some 3 million residents of the city of Melbourne, Australia. It has a complex management system with many overlapping agencies. The management system is described and its performance examined in the context of a case study of coastal erosion at Black Rock Point. The project was commenced with inadequate technical evaluation and without the establishment of explicit management objectives for the area. Various ways to strengthen the system are proposed, based mainly on involving the public to assist with developing the management objectives.

Introduction

Public awareness of the problems of the coastal zone has increased rapidly in Australia as elsewhere during the last decade. This awareness has led to a series of reports that examine the problems of the coastal zone and call for further studies of the coast and the development of more appropriate coastal management policies. Two of the six Australian states now have agencies concerned with managing some aspects of the state's coastal resources.¹

The concern with coastal management is not surprising as Australia is really a coastal country, having a coastline of 36,735 km, with some 10.5 million people living within municipalities that abut the coastline. This constitutes 8.3% of the whole Australian population and compares with 4.9% for the same population in the United States.² There are only the six urban areas of more than 30,000 people that are not situated adjacent to the coastline.

Port Phillip Bay in Victoria drains a catchment of 9800 km² in which live some 2.6 million people, roughly 20% of the country's population. The Bay has a water area of 200 km² and a coastline of 260 km. Its location and form are shown in Figure 1. A coastal management agency was established for the Bay in 1966, and it is the purpose of this article to examine this management system, especially in the context of a case study on a coastal erosion issue.

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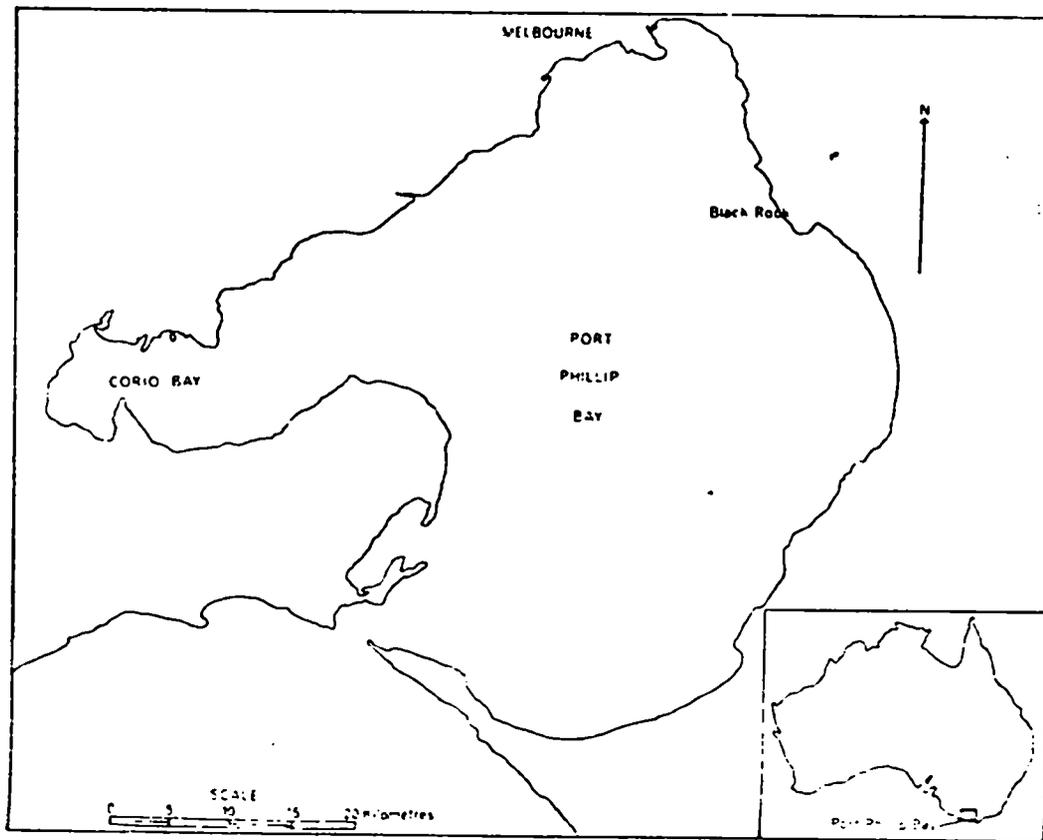


Figure 1. Location and form of Port Phillip Bay, Victoria, Australia.

Table 1
Primary Uses of Port Phillip

Recreation	300,000 people per day (including boating)
Shipping	3000 ships; 10,540 T cargo/year
Commercial fishing	Valued at \$0.5 million/year
Waste disposal	For 2.5 million people
Industrial	73% of Victorian factories in catchment
Mining	Shellgritt, salt

Most of the eastern shoreline of the Bay is made up of sandy beaches with small dunes behind them. There are a few sectors of rocky coast. Most of the eastern shoreline is accessible to the public and is regarded as a prime recreational resource. It is estimated by Cullen³ that about 250,000 people will use the beaches of the Bay on a hot summer's day.

But of course a Bay such as Port Phillip is used for much more than recreation. The main uses of Port Phillip are shown in Table 1.

This article outlines the present management system of Port Phillip Bay and then examines how it functioned in the context of a coastal erosion issue at Black Rock Point. The study shows the need for clear management objectives for the coastal zone and suggests some ways in which they can be developed.

Coastal Management Issues in Port Phillip

It is obvious from the diverse uses of Port Phillip that conflicts between user groups will abound. The four main issues in coastal management in this area are pollution, coastal erosion, public/private use of shorelines, and recreational conflicts. *

Pollution

The main pollutants that enter Port Phillip are raw sewage, treated sewage effluent, urban run-off, and industrial wastes. The Environmental Study of Port Phillip Bay⁴ showed that although rather high levels of nutrients are found in the Bay, they have not as yet caused widespread eutrophication problems. The main concerns with pollution are:

1. Potential health hazards of bathing in sewage contaminated seawater⁵
2. Aesthetic revulsion at the thought of swimming in such waters
3. Accumulation of seaweed on some beaches
4. Accumulation of heavy metals by some marine species

It should be noted that although there are swimming beaches all around the Bay, none have as yet been closed to swimming because of sewage contamination.

Coastal Erosion

The primary issue here is whether to protect land on which public or private structures have been unwisely built or to protect the beaches. Many miles of vertical sea walls have been built around Port Phillip with the result that beaches have often eroded. Attempts to retain a beach by the use of groyne fields has often reduced the amenity of the beach. The problems are those of establishing and implementing adequate setback lines for structures, deciding when coastal protection works are warranted, and adopting coastal protection techniques that are not so destructive of beaches, such as beach replenishment, sand bypass systems, and floating breakwaters.

Public/Private Use of Shorelines

A considerable part of the shoreline of Port Phillip is in public ownership, but there are conflicts in the areas in which private property goes to the high-water mark, or where private property restricts access to the coastal fringe that may be in public ownership.

There is also the problem of exclusive occupancy of public lands for private purposes. Some areas have shacks built on the back of the sanded area, and such private use of public lands is a continuing issue. Allocation of public land on the coast to clubs with restricted membership is also an issue, especially when such clubs are not coastal-dependent, such as football and bowling clubs.

Recreational Conflicts

The provision of facilities for launching boats and of marinas is a recurring issue in Port Phillip. Occasionally, opposition to such facilities is based on nature conservation objectives, but it is generally based on the loss of beach area for other forms of recreation. Conflicts also occur for water space between motor-boating and yachting interests. There is also conflict between coastal campers and day visitors to shoreline areas.

The Management System of Port Phillip

* The occupation of land in the state of Victoria began in 1837; in the ensuing 40 years some coastal lands down to the high-water mark were sold, but by 1879 it was realized that the sale of coastal lands and the land abutting rivers was not in the public interest, so a blanket prohibition was placed on further alienation. Some areas that had been alienated were, in fact, returned to public ownership.

This land is administered by elected committees of management under the

general administration of the Department of Crown Lands.⁶ There are 39 such committees around Port Phillip, each of which has considerable autonomy in managing its section of coast, down to high-water mark. It is possible for a municipal council to be appointed a committee of management for all or part of its municipality, but it is more common for these committees to be elected directly at public meetings. Such elected committees generally manage only a small section of coastline, often as little as a few kilometers. They do not receive any general financial grants from the state, but may receive grants from the state or local municipality for specific purposes, such as beach-cleaning, boat ramps, and toilet blocks. The committees have the power to charge for the use of facilities on their land, provided that any monies so derived are spent within the area they manage.

Some of these crown lands have become intensively developed recreation areas with a consequent high income. Other areas that have attempted to retain natural conditions are impoverished.

There are also some 23 government agencies that have either a responsibility or a direct interest in some aspects of Bay management, as shown in Table 2. The responsibilities of many of these agencies are highly specific, so they do not consider the impact of their operations on the overall management of the resource.

In 1966 the Port Phillip Authority was established to advise the Minister of Lands on methods of coordinating developments and preserving existing beaches and the natural beauty, as well as provide facilities to enable the area to be enjoyed by the people. Under the Act it is also necessary to obtain the consent of the Authority before any works can proceed on crown land around the Bay.

The Authority consists of a chairman and part-time representatives from the agencies that the Authority is supposed to be coordinating—public works, soil conservation, lands, and town and country planning board.

The Authority has been active in granting consent for works, but does not appear as yet to have tackled the problem of coordination as required under the Act.

The federal government also has some impact on the Bay management both with regard to land it directly controls for defense, navigation, or quarantine, and with regard to funding for special purposes, such as acquiring lands, and sewer areas.

Black Rock Point: A Case Study

Situated on the eastern shoreline of Port Phillip, in the municipality of Sandringham, Black Rock Point together with nearby Red Bluff is one of the most prominent landmarks on the Bay. The cliff is some 20 m high and is composed

Table 2
Victorian state agency involvement in coastal management

<i>Agency</i>	<i>Pollution issues</i>	<i>Erosion issues</i>	<i>Land-use planning</i>
Country Fire Authority	-	✓	✓
Country Roads Board	✓	✓	✓
Dandenong Valley Authority	✓	-	✓
Environment Protection Authority	✓	-	✓
Fisheries and Wildlife Division	✓	-	✓
Geelong Harbour Trust	✓	✓	✓
Geelong Regional Planning Authority	✓	✓	✓
Health Department	✓	-	-
Land Conservation Council	-	✓	✓
Lands Department	-	-	✓
Melbourne and Metropolitan Board of Works	✓	✓	✓
Melbourne Harbour Trust	✓	✓	✓
Ministry of Conservation	✓	✓	✓
Ministry of Tourism	-	-	✓
Motor Boating Officer	✓	-	-
Police Boating Squad	-	-	-
Port Phillip Authority	✓	✓	✓
Public Works Department	✓	✓	-
State Electricity Commission	✓	-	-
State Rivers and Water Commission	✓	-	✓
Soil Conservation Authority	-	✓	✓
Town & Country Planning Board	✓	✓	✓
Western Port Regional Planning Authority	✓	✓	✓

of Red Bluff sands, which overlies the most resistant Black Rock sandstone, and has formed a rock platform of about 25 m in width.⁷ Much of this coastline has been treated by smoothing and planting and the building of sea walls⁸; consequently, the diversity created by the undamaged headlands, such as Black Rock Point, is welcomed in an otherwise fairly uniform section of coast. This probably accounts for much of the popularity of the area, for people like to explore the cliff and rock platform area.

The Reclamation Project

As has been the case in many environmental conflicts in Australia, there was virtually no public discussion on this reclamation prior to the work commencing

in August 1970, when the Sandringham City Council (who are also the committee of management) started to dump paving rubble over a small sanded area known locally as Little Beach. Public complaints to the Port Phillip Authority led that body to ask the council why these works were proceeding without the consent of the Authority. The council replied a month later to the effect that such consent was not required as the reclamation was simply an extension of an earlier scheme started prior to the establishment of the Authority. They continued the works, and further public complaints led to a directive by the minister of lands that work cease pending investigation into the matter. The minister is an elected politician who is directly responsible for an agency's actions.

The Council's Approach

The approach adopted by the Council was based on a sketch included in the report of the Foreshore Erosion Board in 1936.⁹ Because the philosophy of this 1936 report has been widely, and perhaps uncritically, adopted by coastal engineering agencies and others, it is worth considering in more detail.

The 1936 report was apparently commissioned following a period of heavy storms, which had caused considerable erosion. The report was prepared by the Foreshore Erosion Board, which consisted of three eminent engineers who reported on the magnitude of coastal erosion and on the need for protective measures to prevent erosion of valuable reserves abutting the coastline as well as roads and private property that were apparently threatened. The report emphasizes protection of land, as opposed to protection of beaches; an extensive program of sea wall construction has subsequently been carried out. The consequences of this approach have been documented by Bird,⁶ who shows that littoral drift and sand supply need to be better understood before such engineering works can be attempted. Erosion and deposition are often a natural cyclic process that only become a problem when people have unwisely sited structures.

Since this report was prepared in 1936 our understanding of coastal processes has improved; it is unlikely that any similar program of sea wall construction would be carried out at this point. However, the approach of the Foreshore Erosion Board continues, as evidenced by the following extract given by V. W. Officer, of the Soil Conservation Authority of Victoria, to a State Development Committee on May 22, 1974.

On beaches which are intensively used by the public and, progressively this must mean all of the swimming beaches within Port Phillip Bay—stability of the shoreline cannot be preserved by vegetation means. Beach protection therefore must become largely an engineering project, with masonry, concrete and planted lawns re-

placing the original natural features. This stage already has been reached at, for example, St. Kilda and Elwood.

The Soil Conservation Authority regards the spread of masonry and concrete along the shores of Port Phillip Bay as inevitable.

~~X~~ The 1936 Report proposed that Black Rock Point be treated by constructing a large paved esplanade area to extend beyond the rock shelf to the next sandy beach together with smoothing and planting of the cliff. The council pointed out that they had no intention of completing this job as it was not their responsibility, but that they would make a small contribution when they had spare fill available. They contended that they had no legal obligation to do this, and that if they were to be "involved in procedures," they would be unlikely to continue spending funds on the job.

Responses of Other Agencies

The agency responsible for coastal protection at Black Rock Point at this time was the Melbourne and Metropolitan Board of Works.

On receiving the proposals of the Sandringham Council, the Port Phillip Authority sent copies to the Melbourne and Metropolitan Board of Works (the responsible agency below High Water), the Public Works Department, and the Soil Conservation authority. The responses of these agencies show some interesting inconsistencies.

The Board of Works pointed out that although erosion by surface run-off had indeed occurred, the erosion by sea action did not warrant urgent treatment. The Board suggested that the council's project would, however, assist further stabilization by enabling the cliff to be flattened and planted at a later date. They did not oppose the work as long as it only extended over about half of Little Beach. They pointed out that further work on cliffs south of the council's proposed reclamation would be needed in the near future.

This proposal was in the nature of a compromise - it did not allow the council to continue to dump as intended, but it did not require them to remove what had already been done. No technical reasons were advanced or are apparent for finishing the reclamation at this particular point midway across Little Beach.

The Soil Conservation Authority claimed that erosion control works were "undoubtedly required both at the base of the cliffs and on the cliff faces." The Authority suggested that erosion was attributable to three causes - high seas undercutting the cliff, run-off causing gullies, and wind erosion of sand at the top of the cliff. To protect the base of the cliff it was suggested that rocks be placed at the toe of the cliff, or alternatively, that the council's filling project be continued to provide a hardstanding reclaimed area that would both protect the cliff and provide a car park, which they claimed was needed in the area.

Furthermore, they recommended that the council reclamation, or the alternative rock wall, be extended a further 12 m southward to provide adequate protection of the cliff against erosion.

The Soil Conservation Authority also recommended that the cliffs be treated by tipping clean filling over the cliff edge until a batter not exceeding $1\frac{1}{2}$ to 1 was formed, and that this be planted and fenced off from the public. The small area of exposed sand at the top of the cliff was to be covered with topsoil and planted.

The Soil Conservation Authority recommendations included details of the types of work required but contained no evidence to support the claim that such erosion control works were needed. This is hardly satisfactory, because although some erosion is apparent, it was later demonstrated that this was not doing an appreciable damage. The philosophies developed for the control of erosion on agricultural land are not applicable to the geologic erosion that has been occurring at Black Rock Point. A subsequent comparison of aerial photographs taken in 1945 with more recent photographs taken in 1972 showed that any recession of the cliff that had occurred in the 27-year period was less than 0.6 m. There was no significant difference in the alignment of the cliff during that period.

Even had it been possible to measure recession of the cliff, the control works that were proposed were hardly warranted. Any recession that was occurring was brought about by run-off of storm water down the cliff. This water washed sand and clay from gullies in the cliff; the material formed fans at the base of the cliff. Storm waves reach the base of the cliff and remove these fans only a few days each year. The waves do not erode the cliff itself, which is not undercut to a significant degree. Therefore, the facts do not support the need for a rock wall at the base of the cliff. Had erosion been serious it could have been reduced by preventing run-off down the cliff by building a drain across the top, rock walls and reshaping of the cliff were a heavy-handed and unnecessarily expensive solution to a problem that has not been shown to be significant.

The Public Works Department made their views known after a delay of $4\frac{1}{2}$ months, presumably while they were investigating the situation. They stated that protective works were necessary if the vegetated area to the top of the cliff were to be retained. They claimed that provision for car parking was inadequate in the area and that this should be provided on reclaimed land rather than by destroying vegetation at the top of the cliff. The department thus supported the concept of the reclamation but required more details of "a sound engineering proposal" for the scheme.

The Public Works Department gave no evidence to support their assertion that the work was required. Their claim that further car-parking facilities were needed was supported by the Soil Conservation Authority, but was not sup-

ported by a car parking survey carried out by the Port Phillip Authority. It is not known what investigations were made by these departments to show that further parking was required, but it is unfortunate that such evidence was not made available to other coastal management agencies.

In the light of these opinions the Port Phillip Authority resolved that the works should proceed, and they so advised the minister of lands, who declined to accept this recommendation. To this stage there is no evidence to show that the council or the commenting agencies had carried out any field or model studies of the area; the whole project appears to be based on the 1936 scheme, apparently a broad concept rather than a detailed engineering design. The minister of lands then directed the Port Phillip Authority to investigate both the reclamation and the report.

This investigation was apparently the first attempt to measure the rate of cliff recession, as it was shown to be insignificant. The line of cliff has been accurately mapped, and the map published⁷ to enable later measurements for establishing the actual rate of cliff recession.

The minister accepted this later report, directed that the reclamation cease, and that the recently dumped rubble be removed. This has, in fact, been done. The minister also ruled that no further coastal protection works be undertaken at the site for a period of 10 years, during which time the rate of erosion would be accurately established.

Performance of the Coastal Management System

In an analysis of decision making in resource management, Haefele¹⁰ suggests that there are four common deficiencies in environmental decision making. (1) In the technical area it is common for an inadequate range of strategies to be considered, (2) for technicians to disregard certain strategies, which they decide are politically unacceptable; (3) in the political area, the decision is often taken by the wrong group of politicians, perhaps a single Minister, or a Public Works Committee, and (4) they often justify their decisions on technical reports that are supposed to be objective. This framework can be used to examine the decision-making process in the Black Rock Point example.

Technical Adequacy

It would appear that the criticism of technicians who consider an inadequate range of alternative strategies to achieve a goal is valid in this case. If the goal were really to prevent cliff erosion as claimed there were strategies that would have been more effective and cheaper, in both financial and environmental terms, that seem not to have been adequately considered. In particular, digging a drain to prevent run-off down the cliff seems to have been considered only by

the Soil Conservation Authority. Every agency concerned seems to have exceeded its area of technical competence, the council in embarking on a coastal engineering project, the Soil Conservation Authority in recommending construction of sea walls, the Public Works Department in recommending the construction of a car park, and the Board of Works in making coastal planning decisions to smooth cliffs.

The nonstructural alternative of doing nothing in the area seems not to have been adequately considered by any of the works/construction agencies, yet it is a viable alternative that has, in fact, been adopted.

Technicians Making Political Decisions

Haelele suggests that technicians often disregard certain strategies that may be technically feasible on the grounds that such strategies are politically unacceptable. This decision is one that should be made by the politicians whose function it is to gauge community needs and feelings. It is a disservice to the politician and society not to present the widest possible range of options for consideration. The fault is compounded by the fact that the politician is led to believe that the technical options presented to him are objective.

In this case there is little evidence that the technical options presented were objective, in fact, had the minister not continued to probe the further options, he would have been in the position of trying to make decisions with grossly inadequate technical evaluations. It would seem that the proposal by the Board of Works that work should cease, but not be removed, is the most blatant of the political decisions being promoted by a supposed technical agency. The technical justification for their proposal was not presented, but presumably they considered it politically acceptable to the council and the minister.

Political Decision Making

There is inadequate information available at this time to analyze the decision-making process at either the council or state government level, although it is clear that had the minister of lands accepted the technical recommendations put to him initially, a different outcome would have resulted. In this instance the political decision making was effective in that a competent minister was able to take a wider perspective than that available from the single-purpose agencies.

Performance of the Port Phillip Authority

The performance of the Port Phillip Authority was unsatisfactory in several aspects in this example. First, the fact that matters are referred back to main agencies for their consideration causes long delays in decision making. In the Black Rock case study, the Public Works Department was unable to respond for

4½ months, and the Authority was unwilling to act before receiving all viewpoints. An interagency coordinating body such as the Port Phillip Authority should be made up of departmental representatives of sufficient seniority and professional standing to allow decisions to be made with a minimum of formal referral back for agency comments.

If the government's intention in establishing the Port Phillip Authority was to have more than just an interagency coordinating body, as seems likely from the wording of the legislation, it would seem desirable to widen the range of expertise on the Authority by including representatives of the public as well as academics with professional skills in coastal management and sciences. Black Rock demonstrated that agencies were prepared to see public funds committed for works that could not be justified. A wider range of viewpoints and expertise may have ensured that societal values were considered rather than narrow agency objectives. In this case, these viewpoints had to be injected by the minister at a late stage in the decision-making process.

A permit system would seem desirable in a coastal management system with so many isolated compartments. The question of whether a permit issued by an interagency body such as the Port Phillip Authority should remove the need for permits from the individuals agencies needs to be closely examined to see if the benefits of requiring multiple permits outweigh the costs to both the developer and the permitting agencies. If the permitting system is to be effective, each application should be investigated by professional staff members who can assess the technical merits of the design, and whether the proposal is in accord with previously established management objectives for the area. This was not done in the case of Black Rock Point until it was directed by the minister of lands. The permitting process here appeared to be nothing more than alerting other agencies as to what was proposed.

Necessary Improvements to the Management System

The importance of establishing clear management objectives, agreed to by the various management agencies, is apparent from the case of Black Rock Point. It is likely that each agency concerned had a clear objective; the trouble was that these objectives seemed to differ from agency to agency, and there was inadequate discussion to try to resolve conflict. Objectives that ranged from the disposal of paving rubble, the provision of car parks, the protection of land from erosion, the protection of beaches and the preservation of landscape diversity all seem to be relevant in this example. Some of the objectives conflict, which indicates a need for some mechanism to make trade-offs among the differing objectives.

The establishment of objectives is a complex matter which requires the

interaction of technical experts and the public, either directly through participatory planning or through normal political channels. It is necessary to consider both demand studies and resource studies. Beach usage studies have been carried out in Australia and are discussed in various reports.^{3,9}

A range of demands are identified by the public and by the technicians. These need to be considered in the light of the attributes of the resource as well as possible institutional factors that may exclude some demands. The set of possible objectives then requires further study in order to identify conflicts between uses and to determine the ramifications of each alternative over space and time. The final selection of objectives is something that should not be done by the technicians alone, but requires a public or political decision on the alternatives presented by the technicians. It is at this stage that the trade-off between competing uses must be made to ensure that the best possible use is made of the resource.

Involvement of the public is necessary to establish the demands on the area and later to evaluate the alternative management objectives and strategies when these have been developed. But it is critical at the final selection stage, at which point there must be a trade-off between competing objectives.

A network for public involvement already exists in the management system of Port Phillip. There are 39 elected committees of management responsible for managing the crown lands around the bay. Rather than create some new system of public involvement it would seem better to rejuvenate the existing one by furnishing the committees of management with technical help, publicity, and funds. Committees could be helped to understand the resource they manage as well as how it interacts with other areas. Analysis of future demands on resources is better done on a regional basis, but committees could be given such information and helped to develop draft management objectives for the environmental systems for which they are responsible. This would require some coordination between committees that were managing parts of the one environmental system. The committees could be helped from a central agency in communicating to their constituencies, thereby involving a wider public in the establishment of draft management objectives, these could then be commented on by state agencies and affected interest groups before management objectives were adopted.

Whereas this approach to strengthening local committees of management may appear to increase the coordination problems in Port Phillip, in point of fact, if it were to lead to the development of management objectives that could be widely understood and discussed, it would simplify decision making. At the moment, agencies are making decisions based on agency objectives that are not revealed explicitly either to the public or even to other agencies. While this

situation is allowed to persist, further similar conflicts would seem to be inevitable.

Conclusions

It is apparent from this case study that the rather elaborate system of coastal management in Port Phillip did not function effectively. The works-oriented agencies clearly considered only structural solutions to a problem and did not adequately consider other strategies that later proved viable. Agencies have also been shown to be making political decisions, which are then presented as objective technical opinions.

The Port Phillip Authority was ineffective because of the delays in its decision-making process, its initial failure to make a technical evaluation of the project, and the limited range of agency viewpoints represented on the Authority. That a wide range of society viewpoints was only considered by the minister, and at a late stage in the decision-making process, is a good argument to widen the viewpoints represented on the Port Phillip Authority.

The importance of establishing explicit management objectives for coastal areas is also apparent from this case in which agencies were making decisions based on agency objectives that, in fact, conflicted. The technical aspects of developing objectives, such as resource and demand studies, can be handled by existing agencies, but the establishment of objectives requires some trade-off between competing claims for the limited coastal resource. This trade-off is a political decision and must be made either by the politicians or directly through some form of participatory planning. The basis for such public participation already exists through the committees of management around Port Phillip, techniques for involving them have been proposed. Until a clear set of mutually agreeable management objectives are adopted for the various environmental systems around the bay, further conflicts such as the one at Black Rock Point can be expected.

Notes

1. Queensland established the Beach Protection Authority in 1968, South Australia, the Coast Protection Board in 1972. New South Wales, Victoria, Tasmania and Western Australia do not have agencies dealing exclusively with coastal management on a state wide basis.
2. M. B. Spangler, "Projections of Socio-economic Trends in the Coastal Zone," *MTS Journal*, Vol. 6, 1972, 421-424.
3. Peter Cullen, *Recreational Demands on The Beaches of Port Phillip*. Port Phillip Authority, 1973.
4. *Environmental Study of Port Phillip Bay*, Report on Phase I, 1968-1971. Melbourne & Metropolitan Board of Works.
5. V. J. Cabelli, M. A. Levin, A. P. Dutoir, and L. J. McCabe, "The Development of Criteria for Recreational Waters," in A. L. H. Gameson, ed., *Discharge of Sewage from Sea Outfalls* (London: Pergamon, 1975).

6. Crown lands refer to lands that have not been sold or leased but retained in public ownership by the state government. These lands are administered in each state by a department of crown lands.
7. E. C. F. Bird, P. W. Cullen, and N. J. Rosengren, "Conservation Problems at Black Rock Point," *Vic. Naturalist*, vol. 90 (Sept. 1973), 240-247.
8. E. C. F. Bird, "Man's Impact on the Melbourne Coast," *Vic. Resources*, Sept./Nov. 1973), 12-17.
9. Anon, Report of the Foreshore Erosion Board (Victorian Government Printer, 1936).
10. E. T. Haefele, "Environmental Quality as a Problem of Social Choice," in A. V. Kneese and B. T. Bower, eds., *Environmental Quality Analysis* (Baltimore: Resources for the Future, 1972).
11. D. Mereer, "Beach Usage in the Melbourne Region," *The Aust. Geog.* vol. xii, no. 2, 1972. 123-139.