



<https://theses.gla.ac.uk/>

Theses Digitisation:

<https://www.gla.ac.uk/myglasgow/research/enlighten/theses/digitisation/>

This is a digitised version of the original print thesis.

Copyright and moral rights for this work are retained by the author

A copy can be downloaded for personal non-commercial research or study,
without prior permission or charge

This work cannot be reproduced or quoted extensively from without first
obtaining permission in writing from the author

The content must not be changed in any way or sold commercially in any
format or medium without the formal permission of the author

When referring to this work, full bibliographic details including the author,
title, awarding institution and date of the thesis must be given

Enlighten: Theses

<https://theses.gla.ac.uk/>
research-enlighten@glasgow.ac.uk

ProQuest Number: 10754043

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



ProQuest 10754043

Published by ProQuest LLC (2018). Copyright of the Dissertation is held by the Author.

All rights reserved.

This work is protected against unauthorized copying under Title 17, United States Code
Microform Edition © ProQuest LLC.

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 – 1346

PLANNING FOR THE COAST
A CASE STUDY OF SCOTLAND.

MARTIN J. SINCLAIR.

Submitted as part of
the requirements for the
Degree of Master of
Philosophy.

Department of Town
and Regional Planning,
University of Glasgow.

April 1981.

SYNOPSIS.

In Britain the coast is widely recognised as one of the nations most valued natural resources. It is the country's major playground in addition to being ecologically and environmentally very important. Over the last ten years the coastline of Scotland has come under increasing development pressure. The demand from industry for coastal sites has risen sharply and often the proposed uses conflict with the physical stability and aesthetic qualities of the coastline and with pre-existing uses. Until the recent demands for land for oil-related developments at coastal sites there was no national overview of policies relating to the utilization of the coastal resource. Unlike many other parts of the world, including England, no detailed work had been carried out on the Scottish coast. The advent of oil provoked a flurry of activity at the national level resulting in the production of Coastal Planning Guidelines. The re-organisation of local government and the introduction of a new planning system have also brought significant changes.

This dissertation examines current policies regarding the utilization of the coastline in Scotland. It also looks at current practices in a number of other countries to see whether any of the solutions tried by them could be adopted to bring about a more efficient use of the Scottish coastline.

Chapter one looks at why we should be concerned with the planning of the coast as distinct from other areas and seeks to provide some definitions of the coastline. It also examines the position of the environmental ethic in the decision making hierarchy.

Chapter two looks at the development pressures affecting the coast and traces the evolution of the British planning and administrative system.

Chapter three looks at coastal planning in the wider international context examining the situation in England, Ireland, Sweden, Norway, and the United States of America.

Chapter four looks in detail at the Scottish situation and examines the role of the planners at the national, regional and district levels. An assessment is made of the policies pursued at each level.

In the final chapter some general conclusions are drawn and in the light of experience elsewhere some recommendations are made for the improvement of the Scottish planning system in coastal areas.

Acknowledgements.

I would like to thank all those who assisted me in the preparation of this dissertation. In particular I am grateful to Dr. John MacKay of the Countryside Commission for Scotland who discussed the topic with me at length and provided access to the Commission's Library. I also wish to acknowledge the guidance of my joint supervisors, Dr. Gordon Adams and Mr. Miller Allan. I must also thank Doug McCallum who took the time to read chapter three. Special thanks go to my typist, Mrs. Brass, who after initial difficulties with my small script produced this volume within the restricted time scale. Finally, I am indebted to family and friends who saw me through the final trying weeks.

TABLE OF CONTENTS.

Synopsis.

Acknowledgements.-

Table of Contents.

List of Tables and Figures.

Chapter 1. : INTRODUCTION.

- 1.1 : Why Study the Coast?
- 1.2 : The Scope of Coastal Planning.
- 1.3 : Environmentalism and the Planning Framework.
- 1.4 : Defining the Coast and the Coastal Zone.
- 1.5 : Summary.

Chapter 2. : THE HISTORICAL and ADMINISTRATIVE BACKGROUND.

- 2.1 : The Origins of the Push to the Sea.
- 2.2 : Development in the Twentieth Century.
- 2.3 : The Management Response : The Planning and Administrative Structure.
- 2.4 : Summary.

Chapter 3. : THE INTERNATIONAL SETTING FOR COASTAL PLANNING.

- 3.1 : Introduction.
- 3.2 : International Concern.
- 3.3 : England and Wales.
- 3.4 : The Irish Republic.
- 3.5. : Norway.
- 3.6 : Sweden.
- 3.7 : The United States.
- 3.8 : Summary.

Chapter 4. : THE COASTLINE OF SCOTLAND.

- 4.1 : Introduction.
- 4.2 : The Physical Setting.
- 4.3 : Human Factors Affecting the Coast.
- 4.4 : The Planning Background.
- 4.5 : Planning for the Coast - The National Context.
- 4.6 : Planning for the Coast - The Regional Context.
- 4.7 : Planning for the Coast - The District Context.
- 4.8 : Summary.

Chapter 5. : CONCLUSIONS.

Appendices.

Bibliography.

TABLES.

- Table 1. - Nuclear Power Safety Zones.
Table 2. -
Table 3. - Passive Recreation - Participation on Holiday and
Non-Holiday Trips.
Table 4. - Destination of Holiday and Non-Holiday Trips in
Scotland.

Figures.

- Figure 1. - Functional Responsibilities of Government Agencies.
Figure 2. - Review of Structure Plan Coastal Policies.

CHAPTER 1.

Introduction

1 : 1 Why Study the Coast?

"The British as a nation are uniquely attracted to the coastline. The coast of Britain offers a great variety of scenery. Its complex of rock types produces over relatively short distances a succession of rocky headlands and cliffs, sandy bays and coves, shingle beaches, estuaries and offshore islands. Much of the attraction of the coast and the esteem in which it is held by the nation is a result of this change of character every few miles. Moreover it is this variety which makes it a unique natural resource. Despite the attractions of large stretches of inland Britain, there is something at once fascinating and unique about that part where land meets sea : there is only one coastline and it is of limited length".

(Countryside Commission 1970a).

To say that the coastline is a finite resource may appear glib, nevertheless it is becoming increasingly pertinent as pressures for various land uses and human activities rapidly eat away the remaining unspoilt areas. This increasing pressure highlights the fact that the value of the coastal resource goes far beyond the romantic attachment outlined above. Its influence is universal. The coastal zone sustains life in the oceans and close to shore. Through its impact on weather systems, it helps determine the growing capacity of all land areas. It is integral to the world's ecological system, of which man is part.

But to man the coast is more than an essential support to life. It is a social and economic amenity, a place where he prefers to spend his leisure time and if possible his life. Industry and commerce straddle the coastal area, finding it convenient because of the availability of land and the ease of import/export transportation. Large populations have settled on or close to the coastline and urban agglomerations have proliferated. In a small densely populated country such as the United Kingdom it is inevitable that there are development pressures of some sort on almost every part of the coastline. The coastal resource is subject not only to a variety but also to an intensity of use which is unequalled. Increasingly, conflicts arise between the demands on this extensive but vulnerable part of the environment.

Conflict/

Conflict of interest is nothing new. For decades industrial waste and domestic sewage has polluted estuaries and threatened fragile habitats. Demands for industrial sites and recreation facilities have dramatically altered the coastal environment and ecology. Now despite regulatory efforts change is occurring faster and scope of conflict is increasing. More people, changing resource patterns means more industry, more recreation facilities and more pollution. Johnstone et al (1975) fear that many semi enclosed coastal waters are faced with essentially serious degradation over the next few years and are faced even sooner with the loss of much of their scenic charm and recreational attractiveness through wasteful piecemeal development.

To the historic reasons for development on the coast such as ports, defence and fisheries have been added new pressures arising from social change and technological advance. For example the impact of the tourist industry has fallen disproportionately on the coast; in Britain over 70 per cent of all holidays are taken at the coast (Duffield and Walker, 1979). In addition the growing numbers of relatively affluent retired constitute an unexpectedly mobile group, who are drawn to the coast in ever greater numbers. On the industrial front there are many examples of major developments on the coastline which could not have been foreseen thirty years ago. These include power stations, container ports, barrages across estuaries and all the facilities necessary to allow exploitation of offshore oil and gas.

The impact of economic recession may slow this rate of change temporarily. Changes in society such as the rise in unemployment and enforced leisure time are likely to accelerate, whilst others are likely to change, for example the post war rise in mobility (between 1950 and 1980 car ownership in the U.K. rose from 2 million to 14 million) could stagnate or even decline. In a period of recession the pace of industrial development may also slacken. However in the longer term the demand for coastal land will continue to grow.

The realisation that coastal resources are scarce and potentially very valuable has led in Britain, as elsewhere, to rising public concern over the protection of coastal areas. This is backed by a strong environmentalist lobby which has opposed development in ecologically sensitive areas and on hitherto undeveloped stretches of coast.

In coastal planning, as in all other forms of planning, the role of the planner is to attempt to reconcile those conflicts which arise, often by suggesting compromise solutions and to attempt to achieve by persuasion and good argument, as well as by the rule of law, the optimum use of the resources which are available, (Wheeler, 1980). The planner faces the need to assess the most appropriate use or uses for the resource in question, the degree of conflict between them and the order of priority and level of use appropriate to gain the maximum benefit and enjoyment by the widest cross section of the public.

1 : 2 The Scope of Coastal Planning.

Much of the recent forward planning for the British coastline has taken the form of "management" plans and indeed in the United States the term "Coastal Zone Management" is widely used as an umbrella term for all planning along the coastline. In the British literature the terms "planning" and "management" are not clearly defined and are frequently used interchangeably. For the purposes of this paper "planning" is taken as something more comprehensive than "management" as management plans usually attempt to resolve existing conflicts, for example between recreation and environmental quality, and less frequently become deeply involved in long term strategic land use planning. This study attempts to analyse long term strategic planning for the coast and the more localised role of the management plan within that structure.

Another area of confusion which often occurs concerns shoreline management versus coastal management. Shoreline management is concerned with the narrow belt of land about mean tide mark and at most extends just offshore below low water mark and just inland to a short distance above high water mark. Management here is predominantly concerned with the control of coastal erosion and accretion and is predominantly the province of the coastal defence engineer and the coastal geomorphologist. Traditionally the planner has had little influence in this area, however there are many convincing reasons why the planner should become involved. The most notable of these being the knock on effect on other stretches of coast, of coastal defence and reclamation measures. (Craig-Smith, 1980).

Coastal management is concerned with an appreciably wider zone perhaps stretching some way inland and some way out to sea. Clearly any coastal management must include shoreline management but the two areas of activity have different areas of emphasis.

With the notable exception of the Scottish coastal planning guidelines (S.D.D., 1974) which took a national view of the coastal resource, coastal planning in Britain has been the preserve of the local authorities. By and large they have focussed on the management aspects of coastal planning being primarily concerned with reconciling demands for recreation with the conservation of the outstanding scenic and ecological resources of the coast. The degree of effort put into this work has been patchy and uneven and co-ordination between adjacent authorities has been poor.

Over the years there have been calls to adopt a more uniform and comprehensive approach. It has been argued that there is a strong case

"for treating the coast as a national possession: it cannot be split up into sections, sectionally treated according to County or District Boundaries".

(Abercrombie, 1946).

Similarly some thirty years later when pressures on the coast had become much more intense

"there is only one really effective way of dealing with the use of the coast - an overall state plan carried out by people who understand the economic, urban, agricultural, conservation and other demands on the coast. Unless something of this sort is done planning is bound to be piecemeal and unsatisfactory".

(Steer, 1974).

Some countries in Europe and North America have adopted this kind of approach (See Chapter 3). In Scotland too, the Coastal Planning Guidelines produced by the Scottish Development Department are an attempt to provide some kind of national perspective in relation to North Sea Oil development. One of the major aims of this study is to analyse the value of this approach and how it compares to the systems adopted elsewhere. Should the coast be singled out as a national resource requiring national planning in a comprehensive manner or should overall control be left at the local level?

1 : 3 Environmentalism and the Planning Process.

The current level of concern over the degradation of the coastline and other scenic areas and recurrent calls of conservationist policies are a measure of the impact of environmentalist thinking on our use of the biotic and physical resources of the Countryside. O'Riordan (1976) believes that the current environmentalist movement reflects the divergent evolution/

evolution of two ideological themes. The first he describes as the ecocentric mode which preaches the virtues of reverence for nature, argues for low impact technology and seeks a code of behaviour based upon ecological principles and homeostasis. In essence man should seek to protect natural ecosystems not simply to facilitate his own pleasure and recreation but as a matter of ethical principle. There is no biological justification for conservation, nature will not miss a lost habitat, it will simply readjust to a new level of equilibrium. Protection and conservation of the coast or anywhere else is solely based on the human value system. Within British Society the strength of such opinions are clearly growing. For example the proposal to set aside "National Heritage Areas" within the English National Parks where ecological considerations would be paramount (Sandford Committee 1974) and the recent introduction of the Wildlife and Countryside Bill designed to protect nature conservation sites.

The technocentric mode regards the natural environment as a neutral base which by application of rational and value free scientific and managerial technique can be shaped to the benefit of man. It assumes that man is able to understand, control and modify nature for his own purposes. Optimism that manipulation of the environment and technology can produce an adequate flow of resources without serious damage to the environment has proved, in a number of cases, to be unfounded.

Over the last two decades the influence of ecocentrism has increased however the strength of the environmentalist lobby remains weak. The system of goals to which British society aspires reveals a hierarchy of priorities. The over-riding priority goals are national security, public health and economic growth. The nation must be secure and have a healthy labour force before it can pursue other priorities and be able to compete in the international market for resources. Economic growth is the driving force of the whole mechanism of national priorities, for growth generates the wealth for investment, employment, research and development that produce economic health.

The second level of priorities revolve around redistribution. A wealthy nation can afford to be generous so efficiency gives way to equity. Such goals as removing regional disparity, redistribution of income and equalisation of opportunity are tackled.

Finally, environmental quality and ecological harmony are the last goals to be recognised and remain the most impossible if other higher priority goals are threatened. Environmental quality has always been regarded as a many sided public good to which no particular group attached special importance and from which no one derived any special benefit. Consequently the legal and economic institutions set up to protect and improve the environment have been weak.

"Even today most environmental agencies are only able to set standards and nominally enforce compliance. The environmental ministries are armed with really punitive sanctions or power of planning control and fewer still can influence the nature of industrial production, processes or legal control environmentally damaging public behaviour unless there is demonstrable danger to public good".

(O'Riordan, 1976).

The operation of this goals heirarchy is well illustrated by the impact of oil development on the Scottish coast. The threat to economic growth is a favourite theme of interests who discount the importance of environmentalism. The construction companies were quick to blame the activities of conservation groups for delays in the building of production platform sites when they were involved in lengthy planning procedures. Despite the fact that delays also resulted from numerous other factors, under threat of the energy crisis, balance of payments problems and the need for development in the Highlands the government were quick to aid the companies. The Offshore Petroleum (Scotland) Act effectively short circuits the planning process giving full power to the Secretary of State for Scotland. Economic goals were therefore promoted at the expense of adequate environmental analysis and proper public consultation.

Although the work of the United Nations should not be dismissed, the political ineffectiveness of much of that activity demonstrates environmental quality has not yet arrived as a major goal; political realities dictate that other priorities take precedence. For the coastal planner who primarily seeks to protect what remains of the undeveloped coast and seeks to guide incompatable developments to suitable locations the above heirarchy is very important. At times of economic stress his power to influence events and effectively 'manage' and 'plan' the coastline may be curtailed.

1 : 4 Defining the Coast and the Coastal Zone.

Achieving a satisfactory definition of the physical area that constitutes the "coast" is one of the foremost problems for anyone who sets out to establish a management/planning regime for this extremely visible yet remarkably variable part of the physical environment.

Johnstone et al (1975) claims that from both a functional and scientific point of view the extent of the zone will vary in accordance with the nature of the problem to which the administrator/scientist addresses himself, so that it may be as narrow as the distance between high and low water marks, and as broad as that between the headwaters and furthest reach of a major river.

In Britain government at all levels recognises the importance of the coast for recreation for nature conservation and as a prime industrial location. However no central government agency has tried to give a specific definition of what constitutes the coast. Since the re-organisation of local government in the mid seventies many authorities have shown growing interest in the problems of managing the coastline. The work they have undertaken has been confined to the landward areas as local authorities have no statutory power to control or regulate the use of inshore waters. Control of these waters is in the hands of central government departments. For all planning purposes and most other functions the limit of local authority control is the "low water mark of medium tides" (Gibson, 1980; Himsforth 1977). Therefore those local authorities undertaking coastal management are more concerned to set a landward limit on the extent of the coastal zone. Most definitions have been highly restrictive for example Essex County Council who have paid particular attention to their policies on the use of the coastal area define the coast as

"land having visual or other connection with tidal shores".

(Essex County Council, 1977).

It was left deliberately vague to allow flexibility and leave the way open to different interpretations on different parts of the coast. Many other authorities when preparing coastal management plans have not bothered to give a definition and have merely drawn arbitrary boundaries on a map, for example Gordon District's Don-Ythan Coastal Plan (1977). Others seeking a more definable limit have followed the example of the Irish National Coastline Study in defining the coast as that

"area between the coast road and the sea or within the immediate visual influence of the sea".

(An Foras Forbatha, 1972)

Even where particular stretches of coastline are afforded special attention and protection, as in the English Heritage Coasts, individual authorities have been left to draw up their own definition of limits. Generally authorities have drawn tight boundaries limiting special management control to beach areas and cliff top paths however a few have adopted wider definitions, imposing special protective definitions up to one mile inland.

In Scotland the Scottish Development Department Coastal planning guidelines (S.D.D. 1974) merely note that the influence of the sea rarely extends more than one kilometre inland. The only firm definition is that land is "coastal" as opposed to "inland" when estuaries or sea lochs are more than 500 metres wide.

The coastline in Britain has been described as a

"no-man's land which - rather like a minefield - is set to catch the unwary planner. Peculiarities of ownership, problems of nomenclature, archaic legislation, overlapping rivalries and aspirations of various government departments, differing claims of ownership and jurisdiction, make attempts at comprehensive planning a disconcerting experience". (Wheeler, 1980).

This, coupled with the planner's inability to control the use made of inshore waters immediately adjacent to the coast makes planning tasks difficult. The offshore zone is becoming increasingly important for recreation, nature conservation and dumping of waste. In fields of study outside planning and in other countries there is increasing awareness that the landward and seaward sides of the tidal zone should be treated as a single unit and planned accordingly.

There is a persuasive ecological argument for this view. Cooper (1971) insists that the coastal zone consists of an array of ecological systems such as marshes, mudflats, shallow open water, beaches and dunes. Although each of these systems has its own characteristic plants and animals and possesses its own properties they are coupled together in such a way that the entire region consists of a series of discrete yet inter-dependent systems. Because of the clearly inter-related nature of coastal ecosystems, it logically follows that phenomena that alters a single ecosystem may produce effects that are transmitted throughout a number of systems.. Cooper believes that the concept of the coastal zone must be expanded in peoples/

peoples thinking to include not only the ecosystems of the estuary and shoreline but also those systems of the continental shelf that are tied to the coastal zone.

It must be admitted that any administrative boundary, however far from shore is arbitrary from a scientific viewpoint because of the complexity of marine life and behaviour. It is also interesting to note that no country has ever used purely ecological considerations as the basis for a coastal management zone and none has shown any intent to include the outer continental shelf apparently because of the legal and political controversies this would provoke. (Johnstone, 1975).

Nonetheless in many parts of the world, particularly North America, administrators have recognised that most land uses and recreational activities associated with coastal areas are directly related to the coastline and many spill over into the inshore waters immediately adjacent to them (Wheeler, 1980). Therefore the planner's rule should run over inshore waters. Some have argued that it is logical to consider the planners writ extending out as far as is permitted under international law, currently standing at 200 miles in respect of sea bed minerals and fisheries (Mason, 1979). However in general the local level land based planner is excluded from such matters. Policies on the exploitation of the sea bed resources have been developed independently for example decisions on the rate of exploitation of North Sea Oil are taken by Central government departments. Thus policies to cope with the impact of such decisions have been reactive rather than an integral part of the initial decision making process.

The country with the most advanced coastal zone policies is the United States. (U.S.) The Congress found that

"There is national interest in the effective management, beneficial use and protection of the coastal zone".

(Coastal Zone Management Act, 1972)

and that this could best be achieved by giving the states full authority over both land and water in the coastal zone. The key to more effective protection and use of land and sea resources lay

"in developing land and water use programmes for the coastal zone, including unified policies, criteria, standards, methods and processes for dealing with land and water use decisions of more than local significance".

(Coastal Zone Management Act, 1972).

The Act defined the coastal zone as

"the coastal waters (including land therein and thereunder) and adjacent shorelands (including water therein and thereunder) strongly influenced by each other. The zone extends seaward to the outer limit of the United States territorial sea (that is the three mile limit). The zone extends inland only to the extent necessary to control shorelands, uses of which have a direct and significant impact on coastal water".

(Coastal Zone Management Act, 1972).

In the British situation the coastal zone is split into two sections, land and sea under the control of different agencies. Unlike the United States where a more unified system applies.

1 : 5 Summary.

The intention of this chapter was to examine briefly why the coast is worthy of the planner's special attention. It has mentioned the romantic attachment of the British to the sea and has outlined the new development pressures on the coast. However defining "the coast" in planning terms has proved rather difficult. This chapter has also sought to assess the level of priority accorded to countryside conservation and ecological protection in the national context and has found that while protection of the coast and other important areas is considered worthy it has low priority behind other national goals.

The principal aim of this dissertation is to examine the policies regarding the utilization of the coastline of Scotland. But before that the development pressures affecting the coastline are outlined in some detail and the administrative system in Britain is described. In the context of brief case studies of coastal planning practices in a number of overseas countries some conclusions are drawn on coastal planning in Scotland and some recommendations for the future improvement of the system are made.

CHAPTER 2.The Historical and Administrative Background.2 : 1 The Origins of the Rush to the Sea.

Historically, the coast was long perceived as a resource of limited utility. Distinctive settlements grew where access was gained to the sea for trade, for fish, for naval warfare or for defence, but for the population as a whole the coast was a remote almost irrelevant place and for those who thought of it at all the sea was fearful and forbidding.

The major change came in the eighteenth century with the emergence and development of the coastal resort. The resorts did not grow up as places of recreation but as spa towns where people came for medical cures by drinking sea water and bathing in the sea. On the advice of their doctors a small but wealthy clientele was attracted to the coast-line - Brighton for instance was one such spa town which benefited from the patronage of royalty and although it soon declined as a spa it continued to prosper and grow as a resort.

It is not the intention of this study to chronicle the rise of the seaside resort. However certain themes deserve emphasis if the present character of coastal use for recreation is to be fully understood. As we have seen the initial growth of the resorts was rooted in medical practise and while the attraction of sea water drinking declined, the belief in sea bathing as an aid to health remained. Even though the resorts gained a social rather than a medical focus, throughout Victorian times and beyond medical justification in the health giving properties of the sea continued. Patmore and Glyptis (1979) note that to health for the body there was soon added inspiration for the mind. There was a new perception of nature and of the sea as one of its grandest yet most mysterious phenoma. In modern times familiarity has lessened the mystical appeal of the sea, but in the nineteenth century it was a fundamental factor in bringing people to the coast. If the sea was the attraction the industrial revolution through the railways and increased wealth provided the means.

The railways had two roles to play in the increased development of the coast. Firstly they provided the necessary transport links between the inland industries and the ports. With the growth of Empire and colonial trade all the major British ports round the country expanded rapidly. The railway provided industry with access to those markets via the ports. Secondly it opened up the seaside as a holiday destination for ordinary people.

The growth of the resort was stimulated both by growing opportunity, as the concept of the holiday and day excursion penetrated through society and as higher standards of living gave the means to a wider spectrum of the population, and by the fundamental changes in mobility brought by the railways. From the 1850's onward the excursion train brought growing crowds to the water's edge. The industrial revolution brought about five major consequences for tourism.

- 1) the working environment of the industrial cities led to a demand to escape the filthy conditions;
- 2) work was monotonous, much more so than work on the land;
- 3) a growing number of people received holidays with pay;
- 4) wealth accrued to the middle classes; and
- 5) the railway provided mass transport.

It is worth pointing out that the movement to the seaside was urban origin and urban in expression. The impact on the coast was dramatic but strongly limited in sportial extent. The seaside resort provided accommodation and little else; the central focus of recreation provision was the beach and its promenade. The pier was perhaps the greatest symbol of the resort, a sign that the resort had come of age.

"By the First World War, the British people had come to love the coast whether for annual diversion or the day by the sea".

(Patmore and Glyptis, 1979).

However as we have said the impact was concentrated, the railway by its nature was responsible for this, though it brought greatly increased freedom of movement the channels of movement were still relatively constrained.

2 : 2 Developments in the Twentieth Century.

The period since 1918 has been one of marked change. The .relative importance of the resort in coastal recreation has declined. The main emphasis of the last sixty years (the last thirty in particular) has been the growing diversity of recreation at the coast and its widening spacial impact. This has been coupled with totally new land use pressures on the coastal resource and has given new and more serious dimensions to the development pressures on the coast.

In the first place the sheer volume of recreational travel to the coast has increased substantially. The widespread advent of holidays with pay between the wars, the growth of holiday entitlement and the rise of/

of holidaymakers. Sheail (1976b) estimates that an aggregate 13 million people may have taken one weeks holiday away from home in 1937. This has grown to 35 millions by 1960 and has fluctuated between 40 and 48 million in the seventies. Despite the growth in the numbers of holidays taken abroad these still account for fewer than one holiday in five and the nett result is a major increase in pressure on British resources. Two further factors make this doubly important in coastal terms. Firstly, holiday pressure is still intensely seasonal, in 1977 for example some 60 per cent of main holidays were taken in July and August (Duffield and Walker, 1979). Secondly it is still dominated by the lure of the coast, with some 75 per cent of all main holidays taken in Britain including a stay by the seaside.

The pattern of course is not just a simple one of overall growth. Until the advent of the motor car the coastline outside the immediate sphere of the resorts remained as remote and undeveloped as ever. As in so many facets of recreation rising levels of car ownership have brought a new dimension to mobility, not only the ability to travel but the ability to choose time and destination free from the fixed schedules and fixed routes of public transport. Over the last 30 years there has been a seven fold increase in the number of motor cars on the road. The natural corollary of this growth has been the use of the car for holiday travel. In 1951 public transport (bus and train) accounted for 74 per cent of holiday journeys and the car 26 per cent while for 1977 the figures were 25 per cent and 71 per cent respectively *. (Patmore and Glyptis, 1979).

The change has been not only of degree but of kind, for the car is far more than a simple and more convenient substitute for other forms of transport. It has opened up the remote coastal areas both on a regional scale as in the Highlands of Scotland and, even more significantly, in the rural hinterlands of the resorts. The length of coastline subjected to pressure has increased dramatically. In Scotland it would be wrong to over emphasise the problem. In acute form it remains spacially restricted, even on individual beaches. Mather and Ritchie (1977) in a report on Highland beaches to the Countryside Commission for Scotland stated that of 466 beaches surveyed approximately 90 per cent had fewer

* The 1977 figures do not total 100 per cent due to the growth of other forms of transport such as air travel.

than 100 users a day in the peak season. However many of these beaches are on uninhabited islands or are inaccessible by road transport. This example does serve to point out that crowding is a relative term.

The second component of the recreation boom is the day visitor. Near many of the bigger conurbations such as Glasgow or London, the day visitor has a greater impact on the coastline than the annual holiday-maker. Objective data on the number of day visitors is not obtainable. However it is clear that the coast retains a fundamental attraction for informal recreation. The National Survey of Countryside Recreation (quoted by Duffield and Walker, 1979) showed that 35 per cent of all respondents had visited a seaside resort in the previous month and to this must be added visitors to the less urbanised parts of the coast. In the latter context "the sea coast and cliff tops" were not only the most important single "countryside destination" but also accounted for half of all visits to countryside sites not managed specifically for recreation.

The pressure of movement, with its varied temporal rhythms, has had a more lasting impact on the landscape than the ephemeral passage of the tourists and trippers themselves. Most marked has been the expansion of holiday accommodation away from the tight nuclear patterns of the resorts. The first trend was the growth of the holiday camp, essentially self-contained resorts established on new sites. Though visually intrusive and unattractive their total space demand was small and they played a major role in easing the demand on the urban resorts in the immediate post 1945 period. Far more serious was the pressure between the wars for individual space on the coastal frontage and the spread along some coasts, particularly the south coast of England of a fringing band of flimsy structures and huts many of which soon degenerated into serious visual eyesores.

The sixties and seventies have seen an intensification of pressure for more informal accommodation away from the traditional resorts prompted partly by the desire for mobility and flexibility, and partly because of the spiralling cost of serviced accommodation which forced many to look for an alternative. Slowly the accommodation structure in the resorts has been altering with a growth of self catering flats at the expense of the traditional guest houses and hotels. The real changes however have occurred outside the resort boundaries with the expansion of caravanning and camping. Caravans have posed particularly acute problems. Static sites are visually intrusive and space demanding. Such /

Such problems are not confined to a few major concentrations but are felt to a greater or lesser extent all round the coast.

The rapid increase in mobility coupled with an expanding population, a rapidly increasing standard of living and longer holidays produced a wave of recreationists escaping from the towns and cities to find leisure in the countryside. The phenomenon and the link between growing levels of mobility and the implications for the countryside has been widely recognised.

"Three great waves have broken across the face of Britain since 1800. First, the sudden growth of the industrial towns. Second the thrusting movement along far flung railways. Third the sprawl of car based suburbs. Now we see, under the guise of a modest word, the surge of a fourth wave which could be more powerful than all the others. The modest word is leisure". (Dower, 1965).

It would be true to say that the reaction to the "Fourth Wave" has dominated the policy responses of coastal planners over the last decade, and more. Equally, it has been the conventional wisdom that the seaside (or more particularly the seaside resort) has declined as a holiday destination over the recent past. This appears to be far from the truth. Duffield and Walker (1979) report that resort traffic although declining in relative terms is showing signs of growth in absolute numbers.

In considering the likely future patterns of recreational use of the coast, Duffield and Walker identify three major factors as being the primary determinants of future activity. These factors are available leisure time, particularly changes in hours worked and holidays; patterns of mobility including consideration of likely trends in car ownership in relation to rising energy costs; and the pattern of social change in Britain with the accompanying development of taste and recreational aspirations.

It is holiday related trips to the coast and countryside which have and will continue to be the fastest growing sector of the demand for recreation. Duffield and Walker make this assertion because trends in the seventies show only a slow reduction in the length of the average working week but a dramatic rise in the availability of paid holiday time for the British population. This trend is likely to continue given the attitude of past and present governments to significant reductions in paid overtime working and the preference for increased leisure/

time to take the form of increased holiday entitlements. If such projections prove correct then the implications for countryside trips in general and trips to the coast in particular are very significant. The impact will not be confined to the volume of recreational visits but will strongly influence the geography of rural recreation especially in England and Wales where the coastal resource dominates the pattern of holiday related trips. In such a scenario the coast will continue to play a major role in absorbing additional recreational trips. The impact of unemployment and short-time working on recreational demand is difficult to assess. However in all probability demand for coast based holiday trips would fall if high unemployment persisted.

Evidence on the continued increase in mobility is contradictory, if past trends continue the proportion of car owning households in the United Kingdom would rise from 56 percent in 1977 to between 65 and 69 percent by 1990. However clearly the impact of energy costs and recession in the economy as a whole are likely to curtail predicted rates of growth. Studies since 1973 by the Tourist Boards have shown that if the real price of petrol continues to rise its major impact will be in the curtailment of the length of recreational journeys. In England this could result in a switch away from the coast to areas of the countryside closer to the major towns and cities. In Scotland the closer proximity of the coast to the main cities would probably prevent a similar displacement occurring.

Contemporary pressures are not only those generated by recreation and the holiday industry. In earlier years most major resource development conflicts were land based, as with coal or mineral exploitation, urban expansion or the siting of power stations. However increasingly the coast has become the focus of such conflicts. (Davies and Hall, 1978). Five main resource use pressures other than recreation have been identified (Countryside Commission, 1970a) industry, utilities, transportation, defence and nature conservation.

The main industries to be considered are oil refining and associated petrochemicals, steel making, aluminium smelting and chemical processing. These all depend on the bulk import of raw materials for processing, respectively crude petroleum and feedstock, iron ore, bauxite and phosphates. The cost to most of these industries of transporting large quantities of raw materials over land practically rules out processing anywhere but at a coastal location. In terms of economics they have to be located as close as possible to ports capable of handling the large bulk carriers bringing in the raw materials or alternatively adjacent to/

deep water where single purpose cargo terminals can be established. Another characteristic these industries share is that their installations require large areas of fairly level ground. For example, the Grangemouth, Milford Haven and Fawley refineries each occupy between 500 and 800 hectares in the coastal belt. The coastal steel works of South Wales occupy sites of similar magnitude. In addition these large installations have characteristically low job per acre ratios and despite their national importance are not large employers of labour (Preston and Rees, 1970). Britain's major estuaries have become major foci of industrial development, for here the major requirements of cheap flat land and deep water are met. The scale of investment and scale of operation are without previous parallel, but there is inevitable conflict with established land uses and with conservation bodies anxious to protect important estuarine wetlands.

The discovery of North Sea oil and gas has had a major impact on the east coast. The major finds have been concentrated in two areas, the southern North Sea off East Anglia and the area to the east of Scotland. The impact on the coast from service bases, construction sites for production platforms and pipeline terminals has been considerable. It has proved difficult to plan effectively for oil, due to the unpredictability of the industry and the necessity to deal with a number of companies each seeking to develop the oil fields for their own commercial advantage. (See Chapter 4)

The electricity generating industry has also been attracted to the coast for similar reasons to the industries mentioned above, principally for bulk importation of fuel. However two other factors are important. Firstly the huge supplies of cooling water needed by power stations is available from the sea on a "once through" basis negating the need for visually intrusive cooling towers which are necessary at inland sites; thereby reducing the inevitable conflicts involved in achieving consent for such projects. Secondly the coast provides relatively remote locations in relation to the major population-centres without intruding into the more sensitive national park areas. The generating boards* location criteria for nuclear power stations include limits on the size of the population within designated safety zones so it makes sense to locate close to the sea. See Table 1.

* Central Electricity Generating Board (C.E.G.B.) and the South of Scotland Electricity Board (S.S.E.B.)

Table 1. Nuclear Power Station Safety Zones.

<u>Distance from power station (km.)</u>	<u>2.5</u>	<u>8</u>	<u>16</u>
Maximum population in a 10° sector	500	10,000	100,000
Maximum population all round	3000	60,000	600,000

(Source - Craig Smith, 1978)

Increasingly in the U.K. there is a lack of suitable coastal land for industrial development. The proposal to order one nuclear power station in each of the next ten years from 1982, recently announced by the C.E.G.B., gives ample evidence of the problems liable to be encountered. The C.E.G.B. have been unable to give details of the sites for these plants. It is anticipated that some will be constructed adjacent to existing nuclear power stations, all of which but one have coastal locations. However it is reported that of a further ten sites surveyed in the south of England, all were suspect to criticism on the grounds of nature conservation and four were adjacent to grade 1 or grade 2 sites designated by the Nature Conservancy Council (Caufield, 1981).

In addition to the electricity industry the major utilities to use the coastline are the local sewerage authorities. The sea provides a ready method of disposing of domestic sewerage and industrial effluent. In certain areas (mainly estuaries such as the Clyde and the Mersey) pollution from such sources causes major problems conflicting with the recreational use of beaches and nature conservation. Major efforts have been made to improve the pollution situation. However in the words of the Royal Commission on Environmental Pollution(1972) there has been a tendency to use estuaries and coastal waters as "a cheap sink for domestic and industrial waste". Pollution from land based sources is probably a greater threat, in the long term, to beaches and shorelines than the much more publicised threat of oil pollution from ship borne sources. However when thinking in terms of the pollution threat to the coast and coastal wildlife oil pollution is much more visible and causes more serious short - term damage. There are approximately 700 oil spill incidents per year round the coasts of Britain, a majority occurring along the east coast. (The Times,29.8.78)

Port development has brought fewer conflicts. The principal threads in the last twenty years have been twofold, the increasing size of individual ships and consequent requirement for new port facilities to handle them. The development of large bulk carriers, especially supertankers/

for carrying oil has necessitated new or revised shore installations with adequate depth of water in approach channels and adequate manoeuvring space. Traditional ports have become difficult to enter forcing terminal construction in areas remote from the main urban centres, for example in the case of oil at Milford Haven, Anglesey and Finnart (Loch Long). The physical characteristics of the port have increasingly become more important than the characteristics of its immediate industrial hinterland with a premium on deep water sites such as Hunterston on the Clyde (Scottish Council, 1970). More general cargo has become containerised. Usually this has necessitated a shift down river from the traditional ports in order to find the extensive areas of land needed for container storage and handling. Once again the Clyde is an excellent example, with the virtual closure of the port of Glasgow in favour of the container port at Greenock, approximately 20 miles down river.

Military use of coastal land and coastal waters for offshore ranges remains extensive. In 1973 it was reported that 198 miles of coastline were used by the military for weapons testing and training. The Countryside Commission (1970a) were highly critical of the amount of coastal land held for defence purposes. While conceding that many coastal sites had the major advantage that firing and bombing can be safely directed out to sea they felt that many coastal defence sites had valuable landscape features, considerable scientific interest and great potential usefulness for recreation. In addition to land still used for military purposes, remnants of former defence installations litter coastal areas, many in derelict condition.

One further impact on the coast should be mentioned. The problem of urban sprawl is usually thought of as affecting the major cities but at least for England and Wales it has been pointed out that

"the coast suffers most with double the average urban development"
(Fairbrother, 1972).

Linear extension of urban settlement along the coastal frontage has exaggerated the effect of the expansion. Coupled with this, though more a socio-economic than a physical problem has been the growing role of coastal towns as favoured retirement centres.

Summary.

The foregoing review of the pressures on the coastal resource is inevitably an oversimplification. It is intended to give a broad national/

overview and does not give much detail for regional variations or description of specific local conflicts. In Chapter four a case study of the Scottish situation is presented and this will look at specific examples of coastal pressures and conflicts. Conflicts are as varied as the coastal resource is varied. Obviously some conflicts are clear cut between uses for example cliff tops for agriculture or recreation; estuarine flats for port and industry development or for wildlife sanctuaries. Others are much more complex and subtle, with conflict between different aspects of the same use. Recreation is notorious for such conflicts, for example between different activities on the same stretch of water or between the need to protect a dune backed shore and yet permit full enjoyment of a sandy beach. The growing level of impact and conflict has through time brought increasing concern and with increasing concern increasing management and regulation.

2 : 3 The Management Response : The Planning and Administrative Structure.

This section will examine the emergence of the present administrative system so that the pressures and processes by which it came about can be analysed. It will also provide an understanding of the origins and traditions of those bodies which now have responsibilities in coastal planning and conservation.

Pressure for government action in those fields originally came from a variety of sources. However there was a gradual acceptance that planning for recreation and for nature conservation required close co-operation. Prior to the early sixties developments in coastal planning in Britain are a reflection of the history and mechanism of land use planning. As such it is intimately linked to the pre World War Two movements which promoted the concepts of national parks and nature conservation in this country. A broad picture of developments will be given pointing out some major differences between Scotland and the rest of the country. A more detailed consideration of policy responses is left to later chapters.

The origins of the conservation movement in this country can be traced back to the nineteenth century. It grew up to combat the growing environmental impact of the industrial revolution and out of concern that rare species of flora and fauna disappearing under an onslaught from sportsmen and scientific collectors. For example the Royal Society for the Protection of Birds was founded in 1889 and the National Trust was founded in 1893 to purchase estates and administer them/

for the nation. It was not until 1931 that the National Trust for Scotland was set up. It has similar powers to those of its sister body in England including the right to acquire land, declare it inalienable and manage it for the benefit of the nation. The work of the Trusts was, and still is, very important in nature conservation but as Sheail (1976a) notes

"the protection that ownership by the Trust has afforded to some of our most important areas of wild vegetation is incidental, rather than deliberate" (Sheail, 1976a).

By the First World War a separate movement spearheaded by the Society for the Promotion of Nature Reserves had been founded to promote the cause of nature conservation. In England, County Naturalist Trusts grew up and in Scotland the Scottish Wildlife Trust (founded in 1964) now owns 24 important reserves.

Pressure on the government to take action to preserve the character of the countryside and the landscape in particular was also mounting with the formation of bodies such as the Council for the Preservation of Rural England (C.P.R.E.) (1926) and the Association for the Protection of Rural Scotland (1927). Secondly growing enthusiasm for countryside recreation gave rise to a powerful lobby pressing for access rights. The major aim of such bodies was to promote the concept of national parks.

Within this wider framework concern for the coast was also evident. During the thirties there was a proliferation of ramshackle holiday homes along the coast.

"Huts, caravans, old railway carriages and bus bodies were often placed along the coast without any consideration for water supply, refuse disposal, access or design. They frequently appeared in the most prominent areas so as to enjoy (and mar) the finest views." (Sheail, 1976b).

In many ways coastal developments highlighted the more general problem of town and country planning. Peacehaven, on the south coast of England, was notorious as a low density, unserviced development created on the cliff tops. Dire warnings were given that the whole frontage of the coastline might become developed. In many places the 1939 was provided a unique opportunity for checking this coastal sprawl.

Many of the shack developments were destroyed by military action and it was soon realised that if local authorities could intervene before the multiplicity of small plot owners returned greater attention could be given to amenity and the efficient layout of beaches.

In 1938 the C.P.R.E., the National Trust and a number of other interested organisations formed a Coastal Preservation Committee which stressed the moral duty of each generation to preserve the "precious heritage of the coast". They emphasised that advocates of coastal preservation "had no wish to shut off the coast from the people of the industrial towns. Their view was let them come but let their coming be regulated and give them an attractive coastline to come to." (Sheail, 1976b).

The most effective way of controlling land use and management was to acquire the property. Indeed the National Trust had been active in acquiring coastal cliff land, for example at Barmouth in Wales. But land was expensive so that only the most outstanding stretches could be bought. Many local authorities shared the concern of the Trust for the future of the coast. Bye laws were adopted to combat the threat to amenity but the authorities often achieved very little unless they took the extreme course of promoting legislation in Parliament. A number, such as Rhyl Urban District Council, did this in order to be able to register camp and caravan sites and impose adequate health standards. So much concern was raised by this issue that the government was persuaded to promote a general measure extending similar powers to all local authorities (Public Health Act, 1936).

Under the 1932 Town and Country Planning Act local councils could resolve to prepare a planning scheme for almost any area. The preparation of schemes was not obligatory and in 1938 a survey by the Coastal Preservation Committee reported an extremely slow rate of progress in drawing up planning schemes and negotiating agreements with landowners to preserve amenity in coastal areas. Rural local authorities frequently had such a low income from the rates that they were deterred from undertaking any scheme which would result in claims for compensation. The Coastal Preservation Committee felt that the compensation issue was the major 'bug bear' of the system but the government believed that local authorities were simply slow in initiating schemes.

During the years of the Second World War planning for post war reconstruction was filled with a tremendous optimism. It would be possible with the aid of comprehensive land use planning and development control to remedy the mistakes of the past and plan positively for the future. It was usual for the voluntary pressure groups to regard coastal preservation as a component part of national park policy and therefore as a task to be devolved to a national park authority. The Scott Committee/

on Land Utilisation (1942) reflected this attitude and recommended that as part of a future national parks scheme

"the coast.....should be treated as a whole with a view to the prevention of further spoilation"

(Quoted by Cherry, 1975)

Even before the war the government had drawn a distinction between the urgency for preserving the coast and protection of the higher inland areas. The coast was already under much greater development pressures. Once detailed studies were made of the future location and administration of individual park areas it became clear that linear and broken coastal parks would have to be treated differently from the large compact areas such as Snowdonia. Following the Scott Committee the Ministry of Works and Planning asked its regional planning officers to prepare surveys of the optimal use of their sections of coast. The main problems were identified as the allocation of sufficient land for holiday camps (seen as a method of concentrating recreation activity on the coastline), the preservation of amenity and the securing of public access to all beaches. In addition to this work J.A. Steers was appointed as adviser to the Ministry on scientific matters connected with the coast. Between 1943 and 1945 Steers visited and reported on each stretch of coastline in England and Wales and made a similar survey of the Scottish coastline for the Secretary of State between 1946 and 1953. The concept was to provide an objective and scientific view of the scenic and ecological value of coastal resources. The government required positive reasons for protecting the coast and Steer's reports were important for stressing that the coast was not only attractive but valuable as an outdoor laboratory and classroom.

Cherry (1975) reports that the National Parks Committee of 1947 did consider the work of Steers and the coastal survey and that they debated whether a separate Coastal Authority of high calibre was necessary. In the end however, they came down in favour of a Coastal Advisory Committee to advise the Minister on coastal planning.

Once the war was over the priorities were to strengthen the role of local government in the planning field and to establish a number of 'ad hoc' bodies.

"The two aims were not entirely compatible: although the 1947 Town and Country Planning Act awarded..(to local authorities).. unprecedented powers of control and guidance of development, the Act made it difficult to grant individual areas of interest, such as coastal preservation , a special

planning procedure. It was politically impossible for the government to transfer planning powers so recently awarded to local government to a non-elected body, and accordingly the National Parks Commission was only given advisory, and not executive, planning powers and a central coastal planning authority was never established". (Sheail, 1976b).

The Town and Country Planning Act 1947 provided the machinery for application of planning control to all land. It provided an excellent system for the control of development through policies and zonings set out in statutory development plans. This was a negative approach which left the emphasis very much on protection of the undeveloped coast rather than on more positive management. Two years later in 1949 the National Parks and Access to the Countryside Act was passed for England and Wales. This established the National Parks Commission which designated ten national parks, five of which have a coastal element. But with the exception of the Pembrokeshire Coast National Park the coastal element is very secondary to other physical features, for example in the Lake District the coastline is little more than a convenient administrative boundary.

Consequently the wartime surveys and debates brought few direct benefits for coastal protection, except in the field of nature conservation where the government established the Nature Conservancy. The Conservancy was founded in March 1949

"to provide scientific advice on conservation and control of the natural flora and fauna of Great Britain, to establish, maintain and manage nature reserves...., including the maintenance of physical features of scientific interest and to organise and develop the research and scientific services related thereto". (Sheail, 1976a).

The Conservancy had power to buy land, by compulsory purchase if necessary, or to enter into management agreements with landowners for the purposes of establishing National Nature Reserves. It was also responsible for informing local authorities of sites of special scientific importance (S.S.S.I.) within their area.

The Conservancy was initially an independent body but after legislation in 1973 it was reconstituted as the Nature Conservancy Council, a body which was responsible to, and financed by the Department of the Environment. The Council has a broadened remit covering the whole country.

- (i) the establishment, maintenance and management of nature reserves;

- (ii) the provision of advice to Ministers on the development and implementation of policies for or affecting nature conservation;
- (iii) the provision of advice and dissemination of knowledge about nature conservation; and
- (iv) the commission or support of research which in the opinion of the council is relevant to matter in paragraphs (i)-(iii) above.

Despite a great deal of work on National Parks for Scotland no legislation was forthcoming. Scotland was only covered by the nature conservation legislation. A number of reasons have been put forward for this including lower levels of development pressure, the weak financial position of Highland local authorities and the strong vested interests of the landowners. (Cherry, 1975).

By the mid sixties Dower's "Fourth Wave" (1965) had been recognised by central government. The rapid changes in the patterns of recreational activity in the fifties and sixties had resulted in greatly increased use of the National Parks and an overloading of recreational pressure on the coast and a limited number of beauty spots. The general lack of outdoor leisure facilities close to the main urban centres was identified. The problems of recreational pressure were back on the political agenda. For example the Labour Party in its manifesto for the 1964 General Election undertook to

"preserve access to the coast and protect it from pollution and unplanned development". (Quoted by Cherry, 1975)

The Countryside (Scotland) Act of 1967 and the Countryside Act 1968 (for England and Wales) established the Countryside Commission for Scotland and the Countryside Commission respectively. The Commission in Scotland was charged to provide

"for the provision of facilities for the enjoyment of the Scottish countryside and for the conservation and enhancement of the natural beauty and amenity thereof."

Their responsibilities include the promotion of interest in the countryside through publicity and consultation with the Secretary of State for Scotland, local authorities and other bodies (public and private) on matters relating to the countryside. The Commission also provides advice to the Secretary of State and local authorities on prospects in the countryside and the allocation of grant. Like the N.C.C. it also has a research function. The aim was to promote the provision of facilities such/

as country parks, picnic sites, caravan sites and car parks. The Commission in England is a reconstituted and expanded form of the old National Parks Commission and in addition to similar powers to those outlined above it retains an advisory role on National Park matters.

A number of other 'ad hoc' bodies have powers in relation to coastal development and recreation planning in Scotland, for example the Highlands and Islands Development Board, the Crofter Commission, the Scottish Tourist Board and the Scottish Sports Council. But it should be remembered that the statutory responsibilities for coastal planning and the promotion of leisure and recreation remain with the relevant local authorities. It is these authorities, not the 'ad hoc' bodies which are responsible for the formulation of planning policies and the implementation of plans. In the post war period central government legislation has dealt only with specific aspects of coastal use (Croft, 1975), for example the construction and maintenance of protective works (Coast Protection Act, 1949) and with those uses which indirectly affect the coast such as caravan siting (Caravan Site and Control of Development Act, 1960).

Summary.

The above discussion has focussed on the development of land use planning and of planning for conservation and recreation in the U.K. situation. In most respects these have been the most important fields in relation to the management of the coastal resource. Nevertheless to understand the full extent of the existing structure of coastal zone administration in Britain, and in Scotland in particular, we must consider the activities of an extremely broad range of government institutions at both central and local government level. A co-ordinated strategy for coastal development requires co-operation and integration between the various policies. Theoretically nearly all agencies of central and local government have responsibilities that influence the use of the coastal zone. Johnstone et al (1975) identify 15 functions, arranged in six general groups which they consider to be the major government activities in the coastal zone. Figure 1 identifies these functions and the principle government agencies responsible for dealing with them. The complexity of the administrative system and the overlaps of responsibility are evident.

2 : 4 General Summary.

This chapter has provided the historical and administrative background to the problems faced to-day by the coastal planner. It has emphasised two major factors relevant to the British situation. Firstly the large number of competing uses seeking space at the coast and the increasing level of conflict between them. Secondly the unwillingness of government to identify the coastline as a resource worthy of special consideration and legislation.

Figure 1 - Functional Responsibilities of the Principal Agencies Operating in the Coastal Zone.

<u>Function</u>	<u>Local Level</u>		<u>National Level</u>	
		<u>Scotland</u>	<u>Scotland</u>	<u>Rest of U.K.</u>
<u>1) Environmental Protection</u>				
Pollution Control - Land -		Region	S.D.D.	D.O.E.
Sea -		Region	- - - - D.O.T.	- - -
Coastal Defence -		Region	S.D.D.	D.O.E.
<u>2) Renewable Resources.</u>				
Water Quality -		R.P.B.	S.D.D.	D.O.E.
Fisheries -		-	D.A.F.S.	M.A.F.F.
Nature Conservation -		District	S.D.D.	D.O.E.
-		- - - - -	N.C.C.	- - - - -
Agriculture -		-	D.A.F.S.	M.A.F.F.
Recreation and Landscape -		Region/ District	S.D.D.	D.O.E.
-		- - - - -	C.C.S./C.C.	- - - - -
<u>3) Non Renewable Resources</u>				
Land Based Minerals -		District	S.D.D.	D.O.E.
Dredge and Fill -		District	S.D.D./ D.O.T.	D.O.E./ D.O.T.
Offshore Minerals -		-	- - - D.O.E.N/D.O.T.	
<u>4) Land-Use Planning</u>				
Land-Use Planning -		District/ Region	S.D.D.	D.O.E.
<u>5) Industrial Development and Transport</u>				
Industrial Development -		H.I.D.B./ Region	S.E.P.D./ S.D.A.	D.O.I.
Tourism -		H.I.D.B./ Region	S.E.P.D./ S.T.B.	E.T.B.
Port Administration and Planning -		Port Authority	S.D.D.	D.O.E.
-		- - - - -	D.O.T.	- - - - -
<u>6) Central Policy Co-ordination</u>				
Policy Co-ordination -		-	Scottish Office	Cabinet

List of Abbreviations in Figure 1.

C.C.	- Countryside Commission.
C.C.S.	- Countryside Commission for Scotland.
D.A.F.S.	- Dept. of Agriculture and Fisheries for Scotland.
D.o.EN.	- Dept. of Energy.
D.o.E.	- Dept. of the Environment.
D.o.I.	- Dept. of Industry.
D.o.T.	- Dept. of Trade.
E.T.B.	- English Tourist Board.
H.I.D.B.	- Highlands and Islands Development Board.
M.A.F.F.	- Ministry of Agriculture, Fisheries and Food.
N.C.C.	- Nature Conservancy Council.
R.P.B.	- River Purification Board.
S.D.A.	- Scottish Development Agency.
S.D.D.	- Scottish Development Dept.
S.E.P.D.	- Scottish Economic Planning Dept.
S.T.B.	- Scottish Tourist Board.

CHAPTER 3.The International Setting for Coastal Planning.3 : 1 Introduction

The intention of this chapter is to outline the international nature of concern for the coastline. Firstly, it examines the work of the various international organisations and bodies concerned with maritime affairs and environmental protection. Secondly, it seeks to outline the coastal planning policies of a number of countries, make some assessment of these and their relevance to the situation in Scotland. The countries were selected because of similarities with Scotland in their planning systems, industrial situation or physical conditions, and on the basis of the information available to the author. Conscious decisions were taken to exclude a number of other countries even though they have advanced systems of planning for coastal areas. For example, the Dutch have long experience of coastal planning but they operate in a totally different physical setting, being generally concerned with reclamation of land from the sea, something which only occurs on a very limited basis in Scotland.

3 : 2 International Concern.

Quite clearly the management of the coastal resource has an international component. The truth of this statement is self evident particularly if the coastal zone is defined in such a way as to include the territorial seas claimed by coastal states. In addition to the necessity to co-operate internationally on the exploitation of offshore minerals, and the establishment of an international fisheries regime, there are a range of issues where international co-operation is of benefit to the coastal planner. The most important of these relate to marine pollution control, definition of what baseline is used to delimit territorial waters and the planners power to interfere with transit rights in territorial seas. In the context of Britain and the management of the North Sea and North Atlantic, the period since 1960 has seen a number of fundamental changes in the basis and substance of political dealings between the states of North-West Europe on maritime issues. Many of these have some direct or indirect impact on how the coastline itself is planned /

planned and managed. Mason (1979) has identified four major changes which are particularly relevant: first, the establishment of coastal state jurisdiction over the continental shelf; secondly, the extension of the area covered by coastal fisheries legislation; thirdly the enlargement of the European Economic Community (E.E.C.) and fourthly, throughout the region a marked rise in political pressure arising from public concern over management of natural resources and the protection of the environment.

In North-West Europe the level of interdependence between states has risen and countries have come to rely on each other. As a result changes in the pattern of economic activity in one can have significant effects (costs and benefits) in the others. This condition of interdependence tends to compel states to discuss and make agreements on matters of mutual concern. In the North Sea the governments rely chiefly on regulations or regimes to achieve their management objectives instead of direct intervention. The regulations are intended to compel or guide market operators to take commercial management decisions which will bring about economic outcomes consistent with government policy.

The process of territorial division of the North Sea was initiated because of commercial pressure. The international oil companies, who had carried out preliminary surveys in the North Sea following an onshore gas find in Holland in 1959, let it be known that they would not undertake more extensive exploration unless there was some political authority which would extend the protection of the law to guarantee their enjoyment of what might turn out to be the product of their investment. The 1958 Law of the Sea Conference had concluded the Continental Shelf Agreement giving coastal states the right to exercise jurisdiction over the sea bed of the adjacent continental shelf. The British Continental Shelf Act of 1964 ratified the agreement and paved the way for a series of bilateral treaties between the United Kingdom (U.K.) and its North Sea neighbours. Between 1965 and 1971 the North Sea was divided on the principle of equidistance * which resulted in

* The principle of equidistance was adopted due to political expediency. It effectively ignored the question of equity. Division on the basis of population size or of a common pooling of resources were rejected.

Cadiz" or "Ekofisk" accidents the new rules on oil pollution control. Increasingly the planner must take careful note of the location of oil and petrochemical terminals in relation not only to land based considerations but also to questions of marine safety and navigation. Other environmental legislation, such as the E.E.C. standards for bathing beaches are also indicative of the general trend to recognise the importance of preventing marine pollution.

Concern for the future development of the coast was one of the key areas identified in the 1976 Declaration on the Environment of the Organisation for Economic Co-operation and Development (O.E.C.D.). It laid down a list of principles concerning coastal management in which the need for coastal protection and pollution control were repeatedly emphasised. However it also recognised that "defensive planning, consisting of restrictions, should be complimented by positive planning indicating where activities may be located provided that due consideration is given to environmental protection". (O.E.C.D. 1976). In addition to setting out a list of measures to be taken at the national level it also set out a series of concerted measures aimed at strengthening co-operation in recreation management, monitoring and regulation of pollution. (See Appendix 1.)

This recognition of the international component of coastal planning has prompted a number of international seminars under the auspices of the E.E.C. The seminars, under the title "Management of the Littoral - Channel and Southern North Sea - the Next 10 Years" dealt with the argument that

"Coastal areas have unique qualities for recreation and nature conservation; they also have economic advantages for ports and related industries, water using industry and the generation of electricity. In particular, in the industrial region of North-West Europe, competition for these coastal resources is growing". (International Seminar 1979).

Local and regional authorities from England, France, Belgium and Holland discussed two major questions, namely how best to manage the fragile and threatened littoral both for the common good and for future generations, and how could development of the coastal zone be brought about while simultaneously protecting and preserving the national heritage. It was not expected that clear answers would emerge. However transport, tourism and industry were identified as key issues. Clearly tangible/

tangible results of such co-operation are likely to be in the long term, however growing co-operation between coastal authorities is indicative of the general level of concern.

Having set the supranational framework, we now look at the situation in a number of specific countries. The most obvious comparison to make with the Scottish administrative and planning environment is the English situation. The background laid out in Chapter Two has already drawn heavily on the English experience and in the past development in the planning system for England and Wales have often foreshadowed similar moves in the Scottish system. The situation in the Irish Republic is also relevant since once again there is a similar pattern of planning control. Additionally similar physical and population characteristics make the comparison valid. This is also true of Norway and Sweden which are among the European leaders in environmental planning. The final country of comparison is the United States. The planning environment is completely unlike that found in Scotland, however the pressures on the coastline of the United States are among the most intense in the world and the Americans have gone furthest in attempting to manage and plan the coastal resource.

3 : 3 England and Wales.

In Chapter Two the planning and administrative structure of coastal planning in Britain as a whole was laid out. By the sixties it had become clear to central government in England and Wales that all was not well in relation to the scale and character of development at the coast. The view expressed during the wartime debates that the new planning legislation* would be adequate to cope with the situation was not being fulfilled in the wake of the recreation explosion and the post war economic boom. This resurgence of fears about the protection of the coastline spurred the Ministry of Housing and Local Government (M.H.L.G.) to circularise all maritime authorities advising them to concentrate new development in existing areas of development rather than allow development to leap frog along the coastline.

* i.e. the Town and Country Planning Act 1947.

The circular (M.H.L.G. 56/63) emphasised the need for "special study and control of the coastline" and asked Local Authorities to consider in particular which parts should be protected and on which development should be concentrated. Response to the circular was patchy and slow (Countryside Commission 1970a).

In 1965 the National Parks Commission ** was asked to hold a series of nine regional coastal conferences with the purpose of providing for
 "longer term and continuing assessment of the existing and potential recreational, industrial, and other pressures on the coast to form a basis for future control policy and review of development plans". (M.H.L.G. 1966)

A second circular in 1966 (M.H.L.G. 7/66) also stressed that more definite and better co-ordinated policies were needed in many areas and each coastal authority was asked to draw up a map and statement demonstrating coastal planning policy. In effect the circular was asking for a holding operation, designed to reinforce protection of the coast as a whole, until the outcome of the conferences could be analysed and acted upon.

The publication of the Conference reports and two summary volumes (Countryside Commission 1970a, 1970b) were a major land mark in coastal planning in England and Wales. Their value was three-fold. They highlighted the importance of the coastal resources to those involved in land use planning; they provided a mass of new and useful data, and they set out basic principles for a more concerted approach to the management and planning of the coastal resource. The regional conferences had made two things abundantly clear, - there were many areas of conflict and secondly each authority tended to treat its coastline in a different way although in many cases the problems at the coast were similar.

It is probably fair to say that in the decade since the reports first appeared achievements have not matched ambitions, though the failures are largely of mechanism and not intent. As in all fields of planning effective management is intimately dependent on effective control of the resource in question and land use planning in particular must endure the frustration of making recommendations for which there are inadequate powers, funds or political will to implement. Where control is adequate, for example through direct ownership much can be achieved. At the time

** Re-named the Countryside Commission after the Countryside Act 1968

of the regional conference 15.1 per cent of the coastal frontage of England and Wales was in some form of protective ownership, the major land holders being the National Trust, the Nature Conservancy and the local authorities themselves. Table 2 gives a breakdown of the position in 1970.

By the mid-sixties the National Trust already owned 300 kilometres (152 miles) of the English and Welsh coastlines. A decade earlier the Trust had adopted the view that the protection of the coast was its most pressing task and had carried out its own survey. It revealed that one third of the coast was 'ruined beyond redemption', one third was of 'no significant recreational value or scenic importance' but the remainder was of 'outstanding natural beauty and worthy of permanent preservation'. As a result the Trust launched the "Enterprise Neptune" campaign. It proved remarkably successful and has more than doubled the length of coastline in Trust protection. (Young 1978). The Trust now has control of one-eighth of the coastline south of the border and some two-fifths of that considered naturally beautiful*.

The theme of conservation through direct control, albeit with different objectives and different parameters for acquisition is also seen in the work of the Nature Conservancy Council (N.C.C.). Almost one in four of existing National Nature Reserves are coastal in location and coast also plays a large part in the designated key sites. (N.C.C. 1977).

However in the British political and social context ownership or direct control via management or covenant agreements can never be universal. Planning designation has been the more usual response to specific conservation needs. The Countryside Commission reports contained a package of recommendations and suggestions which could be adopted by local Government to strengthen development plans and cope with coastal pressures. These rejected the ideas of Heck (1967) and others for a "Coastal Green Belt" which would force major developments inland. Instead a policy of concentrating on key areas was adopted. The two main suggestions put forward were the concept of "Maritime Industrial Development Areas (M.I.D.A.'s) and the designation of Heritage Coasts.

* i.e. within areas designated as Heritage Coasts.

COUNTRY	ENGLAND		WALES		TOTAL	
	km	%	km	%	km	%
Length of Coastline	3210	—	1176	-	4386	-
Length of Developed Coastline	852	26	248	21	1100	25
National Trust Property	196	6	48	4	244	5
Forestry Commission Property	9	0.3	20	1.7	29	0.7
National Nature Reserves	51	1.6	44	3.7	95	2
Local Nature Reserves	38	1.2	0	0	38	0.9
Local Authority Ownership	158	5	18	1.5	176	4
Other Protective Ownership	50	1.6	32	2.7	82	1.9
National Park Coastline	106	3.3	319	27	425	10
Areas of Outstanding Natural Beauty.	917	29	333	28	1250	28
S.S.S.I's	536	17	207	18	743	17
Defence Land	160	5	56	5	216	5
Protective Policies in Dev. Plans	983	31	526	45	1509	34

TABLE 2 - TOTAL COASTLINE - ENGLAND AND WALES

Source - Countryside Commission (1970a).

The Countryside Commission therefore agreed with the National Ports Council that MIDAS would be established (Preston and Rees, 1970). Chapter two outlined the increasingly coast-based requirements of many primary industries and indicated that suitable locations are in short supply. The concept of MIDAS was that a limited number of key estuaries would be developed in the hope of concentrating port and coastal industry and associated downstream industry to take full advantage of the potential of the estuarine lowlands. There was also the belief that by concentrating major development on one or two estuaries considerable scale economies would be achieved. Once established the MIDAS would become a focus for further economic growth. In many ways this was an attempt to emulate the apparently successful experience of the French at Dunkerque and Fos-sur-mer where steel making and oil refining capacity were concentrated. Adoption of the scheme would have allowed the planning authorities to direct this type of development to specific areas rather than allow the sporadic development of most of the major British estuaries. In effect this would have amounted to a strategic plan for industrial land use at the coast. However the government later concluded that there was no justification for the promotion of MIDAS largely for political and environmental reasons. A number of local authorities sought to adopt the scheme, for example Kent County Council proposed a Medway Maritime Industrial Development Area but the plan folded due to lack of government support and nature conservation considerations. Hence in England and Wales industrial planning for the coast never really got off the ground on a national basis.

The other major concept, the Heritage Coast idea, fared considerably better. The Commission argued that the existing development control policies were vague and negative, and therefore failed to make adequate provision for development particularly that generated by recreational activity. Against this background, they proposed that the very best coastal scenery would be accorded special attention. The Heritage Coast designation has twin aims, firstly to afford protection to the undeveloped coast and secondly via positive management to promote access and recreation. The identification of suitable stretches of coast was initially conceived as a national responsibility and it was intended that the areas eventually chosen would be representative of whole/

whole coastline and not be merely of local or regional interest. Appendix two outlines the four categories used by the Countryside Commission in drawing up its lists of possible Heritage Coasts and catalogues the principles thought to be necessary for effective management of the coast.

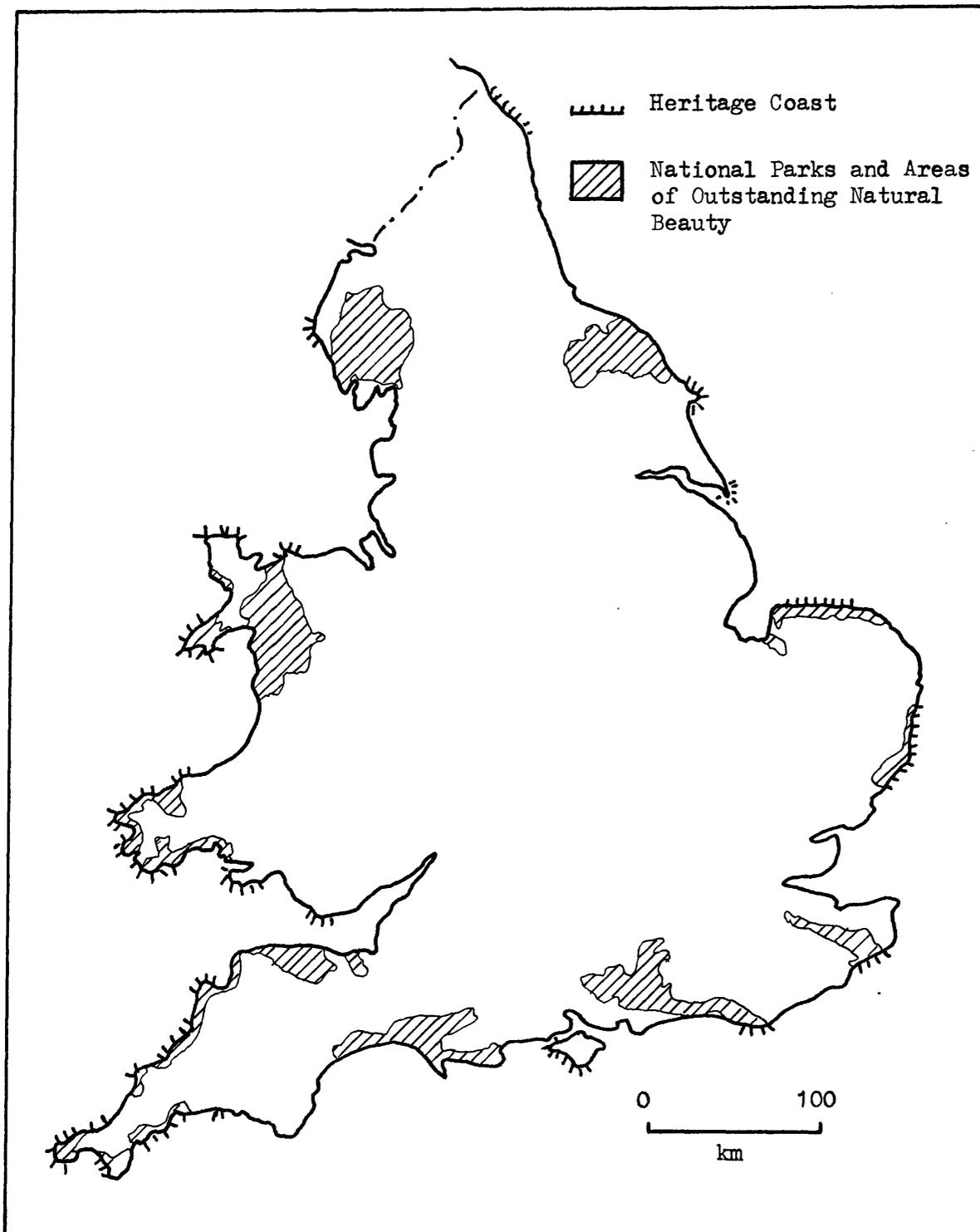
After due consideration the Department of the Environment issued Circular 12/72 (D.O.E. 1972), 'The Planning of the Undeveloped Coast' which welcomed the concept of Heritage Coasts and offered some financial aid to local authorities which prepared Heritage Coast Management Plans and undertook a programme of work. However the government did not consider that there should be any new statutory designation procedure and it was left to local authorities to designate a heritage coast within the structure plan framework in consultation with the Countryside Commission. Map one outlines the progress made up until 1978. There can be no doubt that the Heritage Coast concept has been a success in protecting some of the best coastline of England and Wales. The circular made it clear that designation implied more than a simple planning description and that positive and detailed management for conservation was inherent in the concept. Many of the stretches of coast which were identified as Heritage Coasts already fell under one of the statutory countryside designations either as part of a National Park or Area of Outstanding Natural Beauty (A.O.N.B). A failing of the Heritage Coast designation is its non-statutory nature. Local Authorities have to operate on the basis of voluntary agreement with private landowners to prevent unsympathetic developments and gain adequate public access. As such the designation of a Heritage Coast is not in itself sufficient grounds to refuse planning permission unlike the statutory countryside designations. A recent case in the Glamorgan Heritage Coast for a large caravan site development is evidence of the continued pressure. (Guardian 14/11/80).

SUMMARY

The coastline of England and Wales has been subject to a very wide range of protective policies. Often these have overlapped and to some extent this confusion of designations is a measure of their lack of success. In the words of one commentator -

"much of our coastline is under a planners moratorium".
(Bryer, 1974).

Increasingly/

MAP 1: England and Wales - Planning Designations at the Coast.

Source - Patmore & Glyptis 1979.

Increasingly, bodies such as the National Trust have called for public ownership of all coastal land as the only way to ensure conservation and adequate public access.

Overall planning for the English Coast has lacked co-ordination and has been negative in character. There has never been a national coastal policy despite one of the most thorough studies of the coast carried out anywhere in the world. National decision makers have aimed to conserve the best stretches of coast in the national interest but have never recognised a complimentary need to direct major coastal development to specific locations. The protective devices employed have been essentially static in concept, whereas the real situation is dynamic. The failure to adopt a comprehensive policy has undermined the protective measures. For example the construction of oil installations at Milford Haven adjacent to the Pembrokeshire Coast National Park and the plan to locate a group of nuclear power stations at Orfordness part of the Suffolk Heritage Coast. (Caulfield 1981)

Coastal management and coastal conservation are not synonymous. As has been shown the legitimate demands on the coastal resource are much more wide ranging and inevitably many are detrimental to physical appearance. It has fallen on local authorities to be aware of all these demands, to satisfy the various needs and resolve the conflicts which thereby arise. As in Scotland the principle vehicle for achieving this is the structure plan. Its principal function is to deal with the land use implications arising out of council policy. It gives the chance to co-ordinate policies and to adopt a broad and informed overview. The local plan was conceived as a detailed elaboration of the broad policies as they related to action areas identified in the structure plan. The system, however, has caused some concern with regard to the planning of the coast. Many areas along the coast will have low priority when it comes to local plan formulation and consequently the only development plan will be the structure plan. The value of any policy for development control depends on the clarity with which it is defined and where the policy is vaguely drafted development control is likely to be uncertain and "ad hoc". Hence a gradual accretion of development is a possibility. This situation was foreshadowed at ^{the} coastal conferences which when discussing the then forthcoming structure plans fears were expressed that/

that "by their nature, they will only be an expression of general intentions and will probably give only broad guidance on the correct response to day-to-day questions of development control".

(Countryside Commission 1970).

Another failing is also apparent. It is clear that the coast is normally treated under a series of policy headings rather than in its own right. The inevitable result is a lack of co-ordinated policy for the coast, though Patmore and Glyptis (1979) do indicate that a number of councils will prepare subject plans on coastal issues. The issue approach inhibits a genuine coastal strategy. The development of management plans for Heritage Coasts has increased protection for coasts of scenic value but other coasts could suffer from piecemeal development unless covered by a local plan.

In the absence of a coherent co-ordinated context for strategic coastal planning, say for example in the form of guidelines on topics such as energy, transport and natural resources, structure plans are unable to function as the physical expression of wider policies. This weakness has been identified by a number of bodies. In a wider context calls for increased management of resources based on a balanced and coherent strategy were echoed by the House of Commons Expenditure Committee which in its report on National Parks and the Countryside recommended that

- "(a) the government should give early consideration to the need for streamlining the statutory machine as it affects the countryside; and
- (b) government should attempt to formulate an overall strategy for landuse in the countryside designed to give local authorities and other public bodies clearer guidance as to the relative priorities to be given to agriculture, industry, mineral extraction, forestry and recreation and the extent to which they can be continued".

(House of Commons Expenditure Committee, 1976).

The Countryside Review Committee (1976) expressed very similar sentiments in calling for a national land use strategy.

In conclusion, planning for the coast in England and Wales has singled out recreational pressure as the major area to be dealt with, and has done a great deal to protect the undeveloped coast and to stimulate positive management of recreational resources in those protected areas. However it has generally failed to adopt a wider view of the coastal resource. There has been no development of an industrial strategy or as/

as Duffield and Walker (1979) point out or appreciation of the role of the urban resorts in policies toward the coast.

3 : 4 The Irish Republic.

The Irish situation has several parallels to the position in Scotland, most of the coastline is unaffected by physical development and coastal planning has traditionally been a local government function. In the early seventies a national coastline study was commissioned (An Foras Forbatha, 1972) after concern about the spread of residential development along the coast close to the major cities and the impact of tourism and recreation. In 1970 it was found that some 43 per cent of the population lived in the coastal zone * and this was expected to rise to 54 per cent by 1986.

The aim of the study was to determine the best use of the coastline the ultimate objective being to

"recommend by zones and stretches the limits of conservation and development appropriate to the areas in question". (An Foras Forbartha, 1972)

It was intended that these limits would be incorporated in statutory development plans to provide a framework within which all future public investment would be planned and private investment encouraged. The hope was to provide advice in formulating natural development and investment programmes for coastal areas and to guide local planning authorities in the review of development plans, in the programming of infrastructure investment and in development control duties. Emphasis was placed on the importance of tourism and recreation to the national and local economies hence a major aim of the study was to determine on a comprehensive basis the strength and weaknesses of the coastal strip as a tourist resource taking into account the needs and priorities of existing land uses. To determine best use, it was essential to assess the capability of coastal areas to support a range of different usages when set in the context of current use, social and economic need, and conservation characteristics. Consequently a detailed survey of the coastal areas industrial and recreational potential formed the basis of the analysis of capability.

* Defined for the Irish Context in Chapter 1.

The purpose of assessing capability was to link the physical (supply side) analysis with an evaluation of demand factors, such as projected visitor numbers and predicted day trip volume, and to provide an objective basis for the comparison of regions, counties and local areas in terms of the resources available, their quality and the ease with which they might be developed. Capability also provided the basis for comparing the present use of resources with their distribution and quality in order to identify areas in particular need of development (or protection) to take up excess demand and also to indicate the type of recreational use for which the land was best suited.

Concurrent with the resource/user analysis a study was also made of landscape characteristics and quality relative to the nature of the demand for tourist and recreation development likely to be experienced in a given area. Rating of landscape, whilst a constant in so far as it is concerned with the inherent visual characteristics of the coast can only provide a baseline. When existing or proposed use is taken into account the value of a given landscape may be assessed and its best use determined.

When 'best use' and the requirement of nature conservation in terms of management and control were related it was possible to identify the principles of a development/conservation strategy at a national and regional level. The study formed the basis of coastal planning packages containing inventories of coastal information and strategy guidelines which the state planning department sent to each of the maritime counties in Ireland. The guidelines are not statutory but to date several counties have written the recommendations into their development plans.

SUMMARY

The National Coastline Study did provide a useful inventory of coastal resources and a national strategy for the utilisation of the coastline. However despite the initial aims the strategy only dealt with a single coastal use, tourism and recreation, and therefore failed to provide a genuine overall strategy. Little consideration was given to residential sprawl which had been identified as a key issue, nor to the location of major/

major industrial development on the Irish coast such as the Bantry Bay Oil Terminal. However in 1976 the Local Government (Planning and Development) Act did include provision for environmental impact analysis (E.I.A.) of major development proposals. Given the deficiency that the study was based on a single use and therefore did not examine potential conflicts of use it was valuable in highlighting the capability of the coastal resource to sustain various types of recreational use.

3 : 5 Norway.

When International comparisons with Scotland are being made in the social, political and economic fields Norway is generally among the first nations to be singled out. In the field of coastal planning to, some obvious points of similarity can be identified. The physical nature of the Norwegian coastline is comparable with that of Scotland in terms of the climatic pattern and and fiordic character. Norway has also had to cope with the environmental and social pressures of massive oil related developments located in environmentally fragile and sparsely populated areas.

Concern has risen steadily over the visual and physical impact on fiord areas of oil facilities and Norway's more traditional power-using industries such as aluminium smelting and paper production. Public attention has focussed on the impact of industry but it is indicative of rising concern over environmental issues in general. The use of the coast for recreation is somewhat different from the Scottish pattern. Considerable use of inland lakes has to some extent relieved recreational pressure on the coast. In the absence of extensive beach resources there is also the practice of using smooth rock (Svaberg) coastline for many of the recreational and tourist uses associated in Scotland with beaches (Mather and Ritchie, 1977). In addition many coastal areas have large numbers of second homes which although not seen as a 'problem' in themselves do cause problems by restricting access to the shore.

The planning of the coastal zone is at an early stage under the Ministry for the protection of the Environment set up in 1972. The Ministry gathers under a single roof all the agencies with responsibilities for planning/

planning, conservation and pollution control and thus has been able to issue guidelines on the use of natural resources. These are primarily geared to reconciling the conflict between conservation aims and the needs of industries which are vital to the countries economic well being.

The guidelines are incorporated in the forward plans produced at regional and "Kommum" level in the south and west of the country where most of the more acute coastal pressures are concentrated. However excessive fragmentation of small parcels of land make the process of planning difficult. At the local level there are useful organisational and practical ideas. For example there are several "open areas" where the public has free access to the coast; parking is provided although caravans and camping are forbidden. In the Oslo area a voluntary body known as the 'Open Air Council' has a role in the promotion and co-ordination of a range of recreational activities along the coast. In some respects the governmental and planning framework of Norway is similar to that of Scotland. Most development is controlled by the Building Act and the Neighbouring Act but two specific acts strengthen the role of the "Kommum" and Regional Authorities; these are the Shore Planning Act and the so-called 100-metre Act. The latter is particularly important since it more or less prohibits all forms of development within a zone approximately 100 metres inland from the coastal edge. Special permission is granted for important developments which may, for example, be related to fishing or industry but the Act is an important mechanism of general control. The Shore Planning Act also has some unique features in that it allows either the local authority or private land owners to prepare a Shore Plan. This has legal force once it has been approved at the regional level.

Norway like Scotland has had to deal with the impact onshore of the exploitation of North Sea Oil and Gas. Ray (1975) identifies the major objectives of Norwegian policies towards oil as control, dispersal and the maximisation of benefit for the community. To achieve these objectives a policy of centralising the decision making process has been adopted to ensure adequate control over the major oil companies. A series of Acts has taken away powers of control from local government and transferred them/

them to the Stortings in Oslo. The rate of oil exploitation has been constrained by a 'go slow' policy in an attempt to limit the adverse effects of oil money on the economy and to allow time to develop a strategic land-use plan. Ray, however, considers that this centralisation of decision making in 1973 occurred too late as concentration of development had already occurred at Stavanger. However since then a great deal more control has been exercised. This has enabled the Norwegians to ^{achieve} a pattern of dispersed industrial development along the coast allowing a kind of 'assembly line' process down the coast for rig and production platform construction.

SUMMARY

The major difference between Norway and Scotland appears to be a greater level of involvement at national government level. Although the executive functions rest with the region and the 'Kommun', there is nevertheless a policy and strategic level of decision making which operates at a much higher level and this sets a framework within which all other bodies operate.

3 : 6 Sweden.

In Sweden coastal planning has developed further than in Norway. Knowledge of the resource base is comprehensive. As in Norway, there are strong national guidelines and a macro regional strategy which recognises the coast as being of special national interest. In general the Swedish coast is characterised by tight planning control.

National planning has a long history in Swedish government administration. However, until the seventies this type of planning had been for a limited time period and had covered only certain sectors of public activity such as housing and road construction. The perceived need for national physical planning was a result of the changes taking place in industry and in recreational patterns similar to those experienced elsewhere.

The Nature Conservation Act 1964 gave provincial governments the power to establish a coastal protection zone up to 300 metres from the shoreline along the whole coast except in town and port areas, and set up three national parks which impinge on the coast. Comprehensive investigations were carried out by the Ministry of Physical Planning with/

with the aim of obtaining a unified picture of the claims likely to be made on land and water up to the year 2000 and also of the resources available to satisfy those claims. The studies concentrated on open air recreation, tourist facilities, nature conservation and on those industries likely to be inimical to the environment or to require special natural resources. The location of polluting industry, for example oil and petrochemical, pulp and paper, and steel making, were a focus of particular concern. The 1969 Environmental Protection Act made it compulsory for such industries to obtain a permit from the National Environmental Board prior to development.

During the studies it soon became clear that the coast was the focus of the most severe conflict of interests. In the wake of those studies a number of types of planning guidelines were produced in the early seventies. Two types of guideline are particularly relevant to the coast:-

- "(a) Certain areas are delimited whose value for scientific and recreational purposes on a national scale is so great that environmental changes, for example due to the establishment of polluting industries, must not be permitted. Guidelines of this type are fundamental for the management of land and water and will not be changed unless very pertinent reasons appear.
- (b) Certain guidelines are given for the location of the type of industry investigated. These guidelines are less long term in nature due to the fact that they are dependent on a number of rapidly changing factors, for example of a technical nature, and must accordingly be subject to more frequent revisions. "

(O.E.C.D., 1977).

The Swedish coastline has been divided into three different categories:-

- " (a) The continuous unexploited archipelago coasts where location of heavy polluting industry will not be permitted.
- (b) The heavily exploited coastal areas (that is the west coast) where new establishment of industry inimical to the environment will only be permitted adjacent to areas where this type of industry already exists.
- (c) The remaining coastline, where the relatively small number of highly attractive areas for recreation and nature conservation must be protected."

(O.E.C.D., 1977)

The/

The outcome is that industry is restricted to only seven locations on the coast where completely new investment will be permitted and in three of these along the west coast permission will only be given if there are important socio-economic or physical reasons for doing so.

To ensure that the guidelines drawn up in the National Planning process are adhered to in the course of municipal planning the government has the power to order the compilation of a master plan for a given area. It also reserves the right to ensure compliance with the guidelines through its ability to impose restrictions or incorporate items in certain elements of municipal plans if this is necessary in the national interest.

All planning applications for certain prescribed industries are handled centrally allowing the government to make a comprehensive assessment. The decision made by the government is binding under the Building Act but is not conclusive since the potential developer still has to seek a permit from the Environmental Protection Board. At the local level there is detailed positive planning for leisure and recreation activities.

SUMMARY

Attitudes to coastal planning in Sweden are strongly motivated by the perception of what constitutes public (national) interest. The guidelines to local authorities constitute a national physical plan. Coastal planning has been dominated by conservation interests who have succeeded in restricting new industry to a few specified locations and checked piecemeal development. Recreational use is marked by a high level of public participation in management and facility provision.

3: 7 The United States (California).

The United States (U.S.) was chosen for comparison for several reasons; it shares some important legal and political traditions and institutions with Britain; its involvement in coastal zone management and the level of study devoted to it is the most advanced in the world, and finally there is a tendency for American ideas in environmental protection to be pressed here and in some instances copied in a modified form.

However some important differences should be noted at the outset. The American system of land use planning and local administration is quite unlike that in Scotland or indeed any of the four countries already studied/

studied in this chapter. American local politics tend to conform to a utilitarian model (Meyerson and Banfield, 1955) whereas most European countries (at least those studied) conform to the contrasting unitary model. In the former model local interest and pressure groups organise freely and openly to obtain their objectives while in the latter model decisions are taken centrally according to some pre-supposed concept of general public interest. Meyerson and Banfield concluded that the unitary model favourable to institutionalised groups who can manipulate the centralised power structure where as the utilitarian model is more open and popularist and perhaps more democratic.

The fifties and sixties saw the build up of conflict and pressure on the coast from the familiar sources of industry and recreation. However in a number of states, particularly California, there was also concern at the rapid build up of residential sprawl along the coast with a resultant loss of public access to beaches and cliff tops and an increasingly rapid loss of estuarine and wetland areas due to reclamation and infill for development purposes. The existing planning legislation in which forward planning and policy and development control are poorly integrated, unlike the U.K., was unable to prevent this process.

A series of studies throughout the sixties highlighted the problems and emphasised the value of the coastal resource. The benefits of comprehensive land use planning and development control for the coastal zone were emphasised. There was also a strong build up of public feeling in support of conservation measures and the environmentalist movement. At the federal level this resulted in two important pieces of legislation.

The National Environmental Policy Act of 1970 (NEPA) has been described as "perhaps the most important piece of environmental legislation ever promulgated". (O'Riordan, 1976).

NEPA places environmental quality on the same priority footing as economic growth as a major and permanent national goal. It places on the Federal Government a continuing responsibility to use all practicable means consistent with other essential considerations of national policy to

"fulfill the responsibilities of each generation as trustee of the environment for succeeding generations".

(quoted in O'Riordan 1976).

The/

The Act went on to promote environmentalist ethics pledging that the best conservation principles would be adopted in the use of renewable and non-renewable resources and wherever possible important historic, cultural and natural aspects of the national heritage would be preserved. It also made it a statutory requirement on federal agencies that they prepare an environmental impact statement for all major development proposals. It is probably true that actions, particularly in the field of energy have not lived up to these high ideals but nonetheless they have had a major impact.

The second piece of legislation is the Coastal Zone Management Act of 1972. As chapter one has already pointed out this emphasised the national interest in the effective management of the coastal zone and provided incentives for states to undertake coastal management programmes. As in many areas of government in America, the states have full authority over land use planning hence the Federal government could only recommend that states prepare a coastal management programme. However a federal grant of two thirds of the cost of developing and administering such programmes has ensured a high level of participation.

To receive this financial aid states must put forward for federal approval a comprehensive management programme establishing or nominating a responsible organisation and a plan of action. The programme must clearly define the coastal management area designated by the state and give broad guidelines on the priority accorded to each type of use in each area of the coastal zone. The programme should also give adequate provision for the siting of facilities necessary in the national interest but which might be surplus to local requirements. Only the states themselves have the statutory power to set up coastal zone agencies able to formulate planning policy and to enforce development control.

Outwith the scope of the Coastal Zone Management Act there has been some public acquisition of coastal areas to protect heritage sites and to promote recreation. A number of National Seashore areas are owned and managed by the National Parks service. These are principally concentrated on the east and south coasts.

California. /

*California.

The Californian environmental movement gained momentum more rapidly than elsewhere and has generally been more influential in state affairs. As early as 1967 a California Ocean Area Plan was prepared but no progress was made due to lack of funds. In 1972 the environmentalist groups mobilised and using the initiative process succeeded in gaining popular support for a proposition ** which committed the state to establishing a state policy to promote coastal protection and to the setting up of a commission to prepare a coastal zone plan and control development. The plan was completed in 1976 and formally adopted with federal backing. The plan covered the coastal strip from the limit of state jurisdiction three miles out to sea to an arbitrary limit five miles inland. The completed plan divided into nine major elements - marine resources, geology, coastal land resources, energy, recreation, appearance and design, transportation, intensity of development and government power and funding. In all 162 policies were derived making the plan more of a policy document than a traditional land use plan. Basically there was a three pronged approach which reflected the anti-development stance of the conservationists.

- 1) the plan actively promoted agriculture and the restoration of downgraded coastal environment.
- 2) it sought to achieve balance where there was competition between goals but did not provide a means of resolving conflict and
- 3) it was highly protective in its treatment of areas of unusual natural or historic value.

SUMMARY

The American approach has several important benefits, it recognises the special importance of the coastal zone and ensures a uniformity of approach at least at the state level. In theory at least a single plan should resolve the various conflict between for example urban expansion, utility siting, recreation and industry. An integrated plan should ensure that each use is directed to the best suitable place with the fewest environmental side effects. Where a single agency is given overall control of managing the coastal zone there is clear identification of responsibility and therefore there should be less

* A large number of states have drawn up coastal zone programmes all of which vary greatly in detail both of policy and of the area covered. California therefore is a unique case singled out due to the availability of information.

** Proposition 20.

less conflict between local governments and other agencies. The system also allows the clear integration of ecological principles into the planning system.

Criticism by American authors (Healy, 1978; Scott, 1976) has focussed on the economic impact of comprehensive land use planning or land values and the equity and efficiency of development control decisions, issues which were largely settled in the U.K. context following the 1947 Town and Country Planning Act. A number of shortcomings can be identified. The policies proposed are too broad and therefore difficult to implement. Control by state agencies covering very wide areas means that there is little public consultation and participation. It is also possible that the statutory requirements for environmental impact statements will make the planning process slow and cumbersome. Unlike the U.K. there are also major problems of integration between the coastal zone where detailed land use policies apply and the hinterland where the old pattern of fragmented local government control continues to apply. As has been pointed out

"the coastal zone is not a precious strip of land and water disconnected from the rest of the state. In spite of much testimony before Congress on the separability of the coastal zone the point does not hold up empirically".

(Mogulof, 1975).

3 : 8 GENERAL SUMMARY

This survey of the international situation has revealed a common concern for the use of the coastline throughout the developed world. The factors giving rise to this are also generally applicable, that is the movement of large scale industry to coastal locations, the build up of recreation pressure and an increasing awareness of the need to preserve fragile natural habitat. At the supranational level this has been reflected in a rise in co-operation and in the formulation of co-ordinated approaches to the tackling of marine pollution and in the laying down of a series of common environmental standards and objectives.

At national level there has been a realisation of the value of the coast and a consequent increase in the level of government involvement of central government in coastal planning on area which traditionally has been the preserve of local government. Principally this involvement has involved the/

the reconciliation of conservation aims with the need to sustain economic growth. There has also been a move away from purely protectionist policies toward an acceptance of the need for positive management of coastal areas. Particularly in Europe it is generally felt that private ownership is often unable to provide a full range of recreational opportunity at the coast and at the same time undertake management, on a basis of conservation, of coastal areas used for informal recreation. To achieve the twin aims of conservation and recreation provision some form of public ownership is necessary either in the form of a voluntary body such as the National Trust or by a local authority or department of state. Effective management requires some form of executive power.

The approach adopted has varied in each country in the light of political and administrative circumstances. Countries such as Norway, Sweden and the United States have recognised the value of the coastal zone for a wide spectrum of interests and have created the essential guidelines for national planning of the coastline. Ireland too has adopted a national strategy for coastal use though only in the field of tourism and recreation. England and Wales appear sadly lacking by comparison and decisions on coastal land appear to be taken on an "ad hoc" piecemeal basis. Rather than adopt an overall strategy the aim has been to focus attention, concentrating on a few special areas and issues. The result, the Heritage Coast policy, has been successful within its terms of reference it can be undermined by the lack of strategic policy for the rest of the coast. Mather and Ritchie (1977) claim that the situation in Scotland mirrors that in England and Wales and it is the Scottish case that we now go on to examine.

CHAPTER 4The Coastline of Scotland.4 : 1 Introduction.

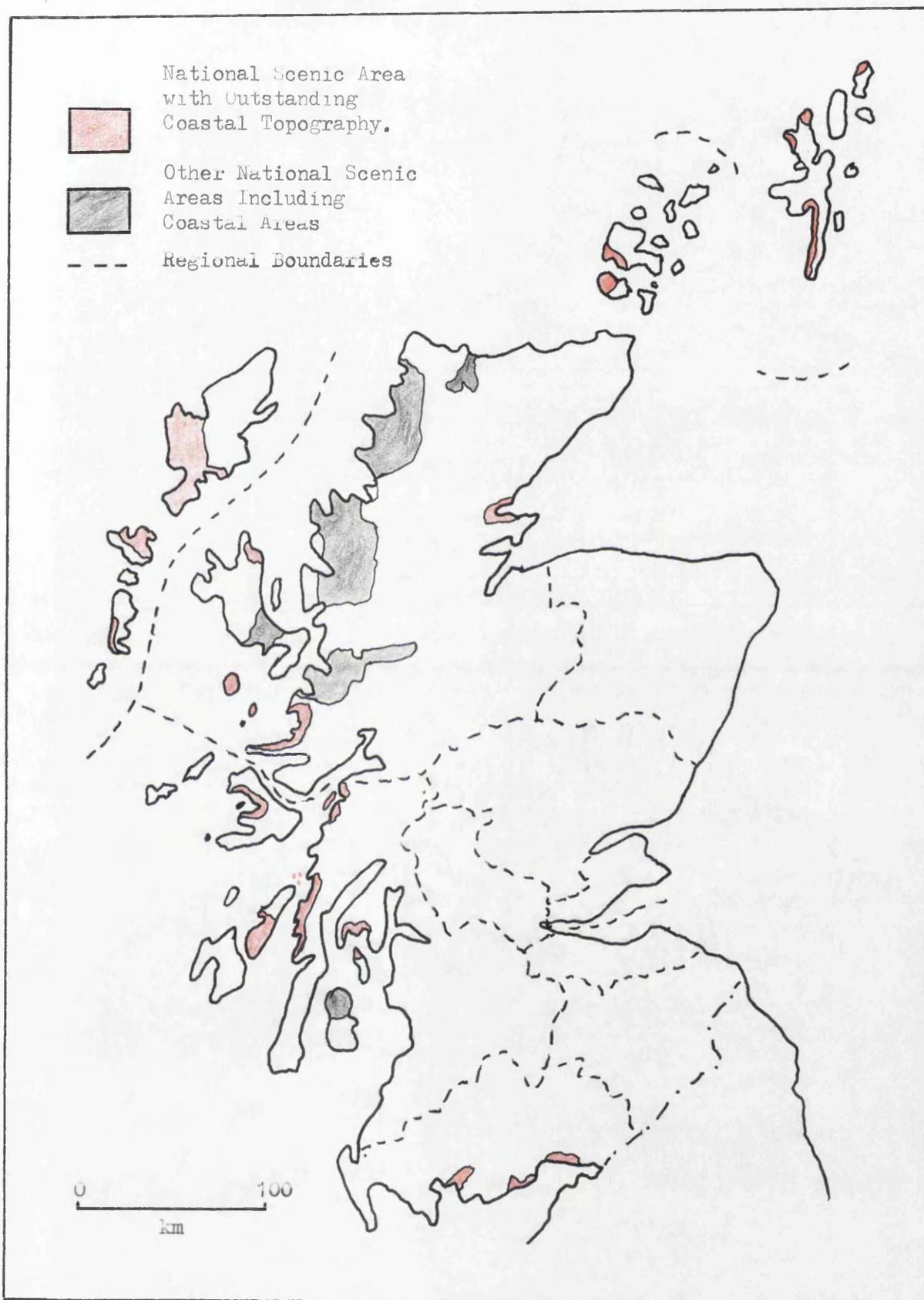
In this chapter the planning of the Scottish coast is examined in much greater detail. The demand for coastal land in Scotland has increased rapidly and often the proposed uses conflict with the physical environment, with pre-existing land uses and with each other. As chapter two set out, until the relatively recent demands for land for oil related developments, coastal planning was carried out at the discretion of the local planning authority with little central government guidance. However the demands of the oil industry and the identification of the more general impact of development and tourist pressure on the Countryside brought a number of responses from central government designed to provide strategic guidance to local authorities. After providing a brief description of the physical characteristics of the coast and the distinctiveness of the development pressures in the Scottish context the nature of the institutional and planning framework is outlined. The study examines the scope of coastal planning at three levels national, regional and district and seeks to evaluate the policies pursued.

4 : 2 The Physical Setting.

The long and varied coastline of Scotland enjoys the inestimable advantage of relative freedom from the urban and industrial developments which characterise the coastline of much of the remainder of Britain and neighbouring parts of Europe. The low coastlines of the English Channel have undergone developments of various types and intensities over a long period of time. The physical and human patterns which produced that situation are not repeated in Scotland. In contrast to these developed coastlines, the beaches and cliffs of Scotland, particularly of the Highlands and Islands, present an image of emptiness and wilderness. As Mather and Ritchie (1977) indicate, on the European scale the coastlines of northern and western Scotland are among the least visited and developed.

It is very difficult to give an adequate description of the Scottish coastline in a concise manner. Its component parts are highly variable and continuously changing. The Scottish Development Department (S.D.D. 1973, 1974) state that the Scottish coast is 6,300 miles in length, 2,400 miles/

MAP 2: - National Scenic Areas on the Coast.



Source - Countryside Commission for Scotland 1978.

miles of which are on the mainland. It is a rugged, rocky coastline with relatively few beaches. Coastal erosion, in the sense of attack from the sea, occurs in only a few places and does not pose the serious problems encountered south of the border.

A number of general features can be identified (Steer, 1973). The most striking of these is the difference between the western and eastern coasts. Not only is the west coast higher, it is also indented by deep and narrow sea lochs, and is fringed for part of its length by two lines of islands, the Inner and Outer Hebrides. The east coast is generally lower, often faced by fine cliffs and is cut by five main inlets the Forth, the Tay, the Inner Moray Firth, the Cromarty Firth and the Dornoch Firth. A third distinctive area is in the south west, between the Solway and the Clyde, where coastal areas are often low or fringed by low cliffs and are penetrated by a number of open bays. As a result of the ruggedness of the coast development is effectively excluded from large sections of the coastline. In addition a significant part of the coastline particularly on the islands, is for all practical purposes inaccessible. There is therefore a general tendency for coastal land uses to be concentrated in a limited number of areas where access and physical conditions permit.

Over the past ten years the Countryside Commission for Scotland carried out a number of studies to assess the scenic value of the Scottish Countryside. Included in this, as part of the input into the designation of National Scenic Areas and the Coastal Planning Guidelines, was an assessment of coastal scenery (S.D.D., 1976; Countryside Commission for Scotland, 1978). The entire coastline was assessed subjectively by a small team of observers. Following broadly on the work of Steers three types of coastal scenery were identified, West Highland type coast, cliff coast and estuarine coast. These were categorised into three grades of appearance outstanding, very fine and attractive. Map two shows the areas concerned. It emphasises the very high proportion of the total coast which are considered scenically attractive. Only in the Central Belt around the Clyde, Forth and Tay estuaries did the coastal scenery not come up to a high standard.

4 : 3 Human Factors Affecting the Coastline.

By comparison with England population densities in Scotland are low. Superficially at least human pressures on the coast should be fewer. However/

ever the small population has a unique distribution being both concentrated and dispersed. Notwithstanding the physical limitations the settlement pattern in both situations shows a strong attraction for coastal locations.

During the nineteenth century the Central belt of Scotland developed as the industrial core of the country with the Clyde becoming the focus of the traditional heavy industries. To a somewhat lesser extent and at a later date the Forth Estuary has also become a favoured industrial location. Well over 70 per cent of the Scottish population is now resident in the Central belt. All of Scotland's four major cities Aberdeen, Dundee, Edinburgh and Glasgow have coastal locations and were at some time dependent on their functions as ports. Pressure on the Scottish coast for industrial sites (other than for oil) and for recreation has been concentrated on the areas immediately surrounding the four cities.

Outside the central belt population is sparse and dispersed. However there is still a tendency for settlement to favour coastal locations. There are two forms of settlement. In the North-East settlement is focussed in series of small coastal towns for example Buckie and Lossiemouth whose livelihood depended on the sea for fishing. In the North-West Highlands and the Islands population is scattered along the coastal fringes. This has come about for both physical and historical reasons. The coast is fringed in many places by Machair (termed links on the east coast) consisting of a relatively flat wind blown sand surface stabilised by a sward of grass (Mather and Ritchie 1977), which provides some of the best cultivable and grazing land in the Highlands and Islands. The historical reasons for the settling of population in these areas are complex and emotive, linked to the long story of Highland landlordism and the clearances. The outcome is that the coastal fringe is settled by a people whose culture (gaelic) is distinct from the rest of the country and who in the crofting system have a unique pattern of land tenure. The crofting system poses a number of problems for the coastal planner not encountered elsewhere. Fragmentation of land holding and the special legislation relating to crofting can make effective planning control difficult.

Many of the fishing and crofting communities are under severe economic pressure. In many areas standards of living are low and unemployment and underemployment is common. This has caused a long period of continuous outmigration to more prosperous areas. This situation is reflected in the attitude of the population towards development and its relationship to the conservation of scenic beauty. In Chapter three the analysis of the various/

various national planning systems showed a heavy bias towards the containment of development in prescribed areas and the preservation of what remains of the undeveloped coast. This theme will also be apparent in the response of central government planners and agencies in Scotland. While in the central belt and around the main cities local authority emphasis is clearly on conservation of the undeveloped coast and the provision of adequate recreation facilities this is not the case in the rural areas. Especially in Highland Region and the Western Isles restrictions on development which are imposed to protect scenery and the environment are viewed as hindering economic investment and the badly needed jobs that might bring. The local attitude is that beautiful scenery is plentiful in the Highlands so why does it matter if a few small areas are spoiled provided there is economic prosperity. Highland Region's structure plan states

"Policy 70 - Although the Council sets the highest value on the importance of the scenery, it does not support the designation of Areas of Scenic Heritage or Areas of Special Planning Control!" (Highland Regional Council, 1979).

Provided strict development control standards were maintained the Council are prepared to sanction new development wherever it is proved that there is no viable alternative site and a pressing need for new jobs. Only nature conservation sites designated by the Nature Conservancy Council will be completely protected. This policy has run into conflict with the Secretary of State for Scotland who recently declared a series of National Scenic Areas (Henderson, 1981) where special planning regulations apply.

Industry.

Until the early seventies only minor land use conflicts occurred at the national scale because urban/industrial/commercial uses were effectively segregated from agricultural/recreational/conservation uses as a result of historical development. However the demand for non-market coastal locations has risen sharply. Two basic types of industrial uses have developed in Scotland: raw material processing industries and oil related industries. Each has had a different type of impact on the coast and has required a different type of planning response.

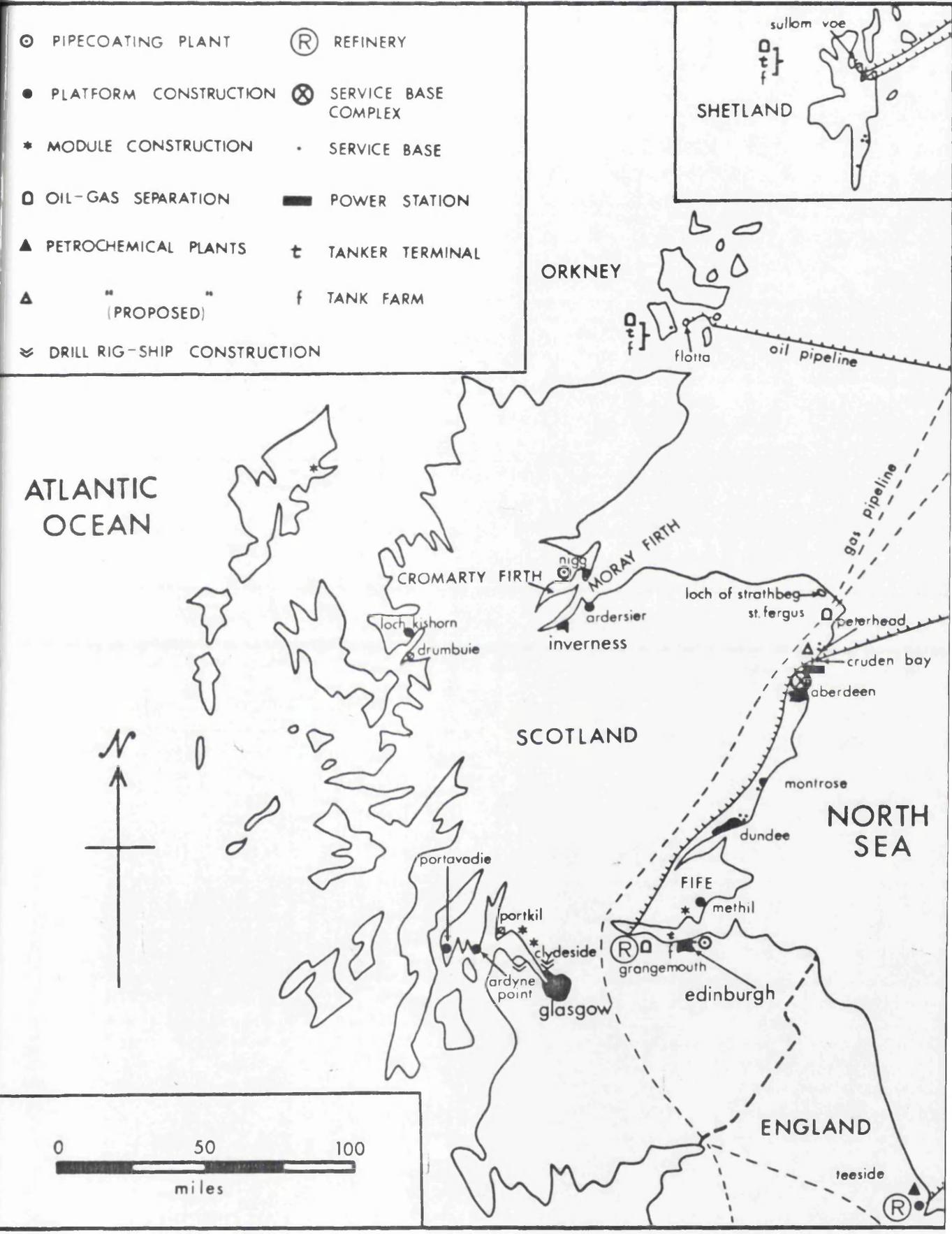
The first wave was composed of the raw material rising industries and the electricity supply industry. Typical examples are the paper mill at Fort William and the aluminium smelter at Invergordon. They show a preference for locations with a labour surplus and developed service infrastructure and therefore have been sited close to existing settlements. A more recent example of the benefits of coastal locations in the iron ore handling/

handling terminal at Hunterston on the Clyde. New power station development has been exclusively at coastal locations, at Dounraey, Hunterston, Peterhead (Bodam.) and Torness. Although all of these are major developments they are widely scattered and do not have significant adverse impact on the environment.

The seventies brought oil. For many it was seen as the answer to Scotland's long term economic ills, for others it heralded a phase of large scale development in remote coastal areas, bringing with it serious damage to the environment and disruption to the social and economic structure of small traditional communities. In 1969 British Petroleum struck oil off Aberdeen in what is now the Forties field. The rest of the development story is now well enough known and will only be discussed within the context of national planning decisions. (See Map 3).

The oil related developments are of three basic types. The first is concerned with the servicing of the rigs and platforms. This requires extensive onshore back-up located adjacent to adequate harbour facilities. The existing port facilities along the east coast at Aberdeen, Dundee, Montrose, Peterhead and Lerwick have all accommodated major service bases. Although there has been some conflict with pre-existing harbour users, principally with the fishing fleet, the impact of service base development has been confined within the already developed area. The major exception to this has been at Peterhead where the Harbour of Refuge designed to give emergency protection to the fishing fleet has been extensively reclaimed, under powers granted by Act of Parliament to provide service bases. Considerable anger arose over this and the site is now frequently referred to as the Harbour of Refuse (Baldwin 1975).

Next comes the exploitation phase requiring the construction of oil production platforms from either steel or concrete. As a general rule platform construction should take place as close as possible to the oil-field to minimise the hazards involved in towing the structure to the site. Platform construction requires a flat coastal site adjacent to very deep water in the case of concrete platforms (Holmes, 1974). It was inevitable that given these requirements Scotland would be in the forefront of the search for sites. Steel fabrication yards were soon located at Nigg, Ardesair and Methil on the east coast. The site requirements for concrete platform production are more demanding and during the mid-seventies both the government and the companies searched the Scottish coast for suitable sites. A host of proposals followed. The names of the/
the/



Source - Baldwin & Baldwin 1975.

the most publicised are familiar - Hunterston, Ardyne Point, Portavadie and Kishorn as the locations where facilities were prepared and others such as Drumbuie and Dunnet Bay where major enquiries were fought out and subsequently work did not go ahead. The scramble for sites encouraged S.D.D. to produce strategic guidelines on coastal development. (discussed below).

The third phase concerns the downstream processing of the oil and gas. S.D.D. have issued further guidelines but it is still unclear whether extensive downstream developments will be constructed. The natural gas liquifaction plant at Moss Morran in Fife and its associated coastal terminal are perhaps a foretaste of future developments.

Pollution

The massive increase in the scale of coastal industry with its particular emphasis on oil has greatly increased the potential impact of marine and coastal pollution. The number of oil pollution incidents has risen markedly. The division of responsibility for dealing with oil pollution is somewhat anomalous. Where as normally local government responsibilities cease at the low water mark, regional councils are responsible for dealing with oil pollution up to one mile from the shore from which point the Department of Trade takes over. Pollution in general is not a major problem except in the Firth of Forth and Clyde. The Clyde was reported to be heavily polluted in 1972 (Royal Commission on Environmental Pollution 1972). However there has been a very marked improvement since then. Moreover it is clear from several reports (N.C.C., 1979, Lothian Regional Council, 1979) that industrial discharges are well under control and that the principle source of pollution is domestic sewage.

Agriculture

Agricultural land uses fall outwith the remit of planning however it is significant in the total management of the coastline. Agricultural use of the shoreline as such is confined to the beaches and machair of the Highlands. Nevertheless much of the east coast and Ayrshire coast is backed by top quality agricultural land which it is government policy to protect from development (S.D.D. 1977b). Such land forms an effective barrier, preventing public access to the coast in many areas. In the Highlands and Islands ^{it} is by far the most wide spread form of land use on beaches. Mather and Ritchie (1977) estimate that over 80 per cent of all beach units are in use for livestock grazing. Considerable concern has/

has been expressed about over-grazing of machair areas which can and does lead to the break up of the vegetation cover and large scale wind erosion of the sand. The value of many Highland machairs has been devalued in this way.

Tourism and Recreation

The major human impact on the coast comes from leisure and recreation activity. In many quarters there has been a tendency to undervalue the importance of coastal resources for this purpose in the light of Scotland's inland scenic attractions of loch, moor, and mountain. The statistical evidence does not support this. In any summer month approximately $1\frac{1}{2}$ million recreational trips to the beach will have been made in Scotland and a further 700,000 visits will have been made to other parts of the coast (Duffield and Walker, 1979). The relative importance of the coastal resource was shown in the Scottish Tourism and Recreation Studies (Duffield and Long, 1977), and is outlined in Tables 3 and 4. Two factors account for this firstly the proximity of the major population centres to the coast and secondly the ability to combine a journey through scenic countryside with a visit to the beach and coast.

In Scotland there are few barriers to access to the coast unlike the situation in many parts of England. Even where cultivated land intervenes access via the foreshore is unrestricted. Deliberate attempts to discourage public access, except in military areas, are rare. Hence whatever the position in law is the public enjoys "de facto" access to most parts of the coast. As a result nearly every section of Scottish coast experiences some degree of recreational pressure.

Percentage of those making trips *

<u>Type of Trip.</u>	<u>On holiday away from home.</u>	<u>On holiday at home.</u>	<u>Not on holiday.</u>
Trip to beach	73	75	60
Trip to coast	39	24	22
Visits to parks and gardens	55	76	78
Visits to museums	55	34	40
Trips to Lochs	39	32	35
Spectating	13	51	51
Trip to hill or mountain	38	18	20
Trip to woodland	22	10	12
Trip to farmland	17	4	10
Towing Caravan	23	*	*

* Figures total more than 100 per cent because respondents made more than one type of trip.

Table 3. Passive Recreation - Participation on Holiday and Non Holiday Trips.

(Source Duffield and Long, 1977)

<u>Type of Resource</u>	<u>Holiday Trips</u>	<u>Non Holiday Trips</u>
	<u>% of total trips.</u>	
Beach only	25	29
Coast only	5	5
Countryside only	24	30
Beach and Coast	9	5
Beach and Countryside	20	20
Coast and Countryside	6	5
Beach, Coast and Countryside	13	7
Beach (Total)	67	61
Coast (Total)	33	22
Countryside (Total)	63	62

Table 4. Destination of Holiday and Non Holiday Trips in Scotland. (Source Duffield and Long, 1977).

The key factors in the distribution and severity of this pressure are location in relation to population centres, the distinction between holiday and non holiday recreation and the physical proximity of beaches and scenic coastline to the major roads. The coasts under the most severe pressure are in the Firth of Clyde, East Lothian and Fife. They bear the brunt of day trips to the coast from the population centres of the central belt. Prior to 1945 these were the only areas of the Scottish coast to experience major recreation and holiday developments. Although a number of small towns did flourish and cater for visitors none of them developed on the scale of the English resorts. Such towns as Ayr, Troon and North Berwick served a double function as small resorts and as residential areas for commuters to Glasgow and Edinburgh. The main reasons for their failure to expand being the lower absolute volume of demand in Scotland and the intricate nature of the coastline. In the post war era the role of these areas as major holiday destinations has declined but they now accommodate a much higher volume of day trip recreation. This has a number of characteristics, firstly the impact is spread over a longer period, even a good weekend in winter will bring out the visitors. Secondly the impact has spread all along the coast and is no longer confined to the towns. Thirdly there has been a strong growth in active recreation pursuits, reflected in the massive increase in the number of leisure craft on the Clyde and the development of back up marina facilities for example at Inverkip and Troon.

Apart from a few local concentrations of day trip activity for example round Aberdeen and Dundee many other parts of Scotland, particularly the Highlands and Islands lie outside the central belt "day trip zone". Recreational use of beaches in these areas is related to the volume of holiday visitors and is strongly peaked over a few weeks in the summer. There are marked variations from place to place in the intensity of use, the key factor being road access. While a few beaches are heavily used the majority are very lightly used indeed. In the Highlands and Islands heavily used beaches are concentrated in East Sutherland, Wester Ross and the Oban area (Mather and Ritchie, 1977). Only a few of these are connected with towns for example Oban, the rest such as Gairloch or Embo (Sutherland) are roadside beaches. The Mather and Ritchie study showed that by and large the most heavily used beaches are close to the major tourist circuits and are near to sizeable concentrations of overnight accommodation. Intensity of recreational use falls off sharply as distance from a road increases.

The more permanent expression of tourist pressure on the coast is the caravan. Caravan use of the coast takes many different forms running from static caravans on well managed and designed sites through touring caravan sites to wild caravanning on beaches where no facilities exist. Outside the Highlands nearly all the major holiday towns have large static caravan parks on their boundaries for example St. Andrews, Ayr and North Berwick. These are generally well managed. Large numbers of caravans are used as weekend and holiday homes by people from the central belt. The coasts of Argyll and of Dumfries and Galloway stand out as areas of major caravan concentrations. In the Highlands approximately 20 per cent of all beach and machair areas are used for caravanning. The key to their distribution is vehicular access. While there are a large number of small recognised sites a large amount of wild caravanning on machair areas occurs. Control of this land is often held in common by the whole crofting township and often land management of such areas is poor. Wild caravanning is a phenomenon of the West coast and is particularly concentrated on the Stoer Peninsula and the Arisaig-Morar coast. Control of caravans is complicated by the "rule of three" which entitles each crofter to have up to three caravans on his land without the need for planning permission or a licence. It was intended that this would give crofters valuable extra income.

Another facet of the growth of the tourist industry has been a marked increase in the number of second homes in coastal areas. The main concentrations are in the North West Highlands in places such as Plockton and Gairloch. Generally the percentage of second homes in the total housing stock is low for example in Argyll it is approximately 3 per cent. In some small villages however the figure can be far higher, in one exceptional case Crovie in Banffshire over 80 per cent of the houses are second homes. Most second homes lie within existing settlements and as a result they have little physical impact on the coastline unlike the situation in Scandanavia.

With such a vast recreational use of the coastline the potential for conflict with other land uses and for causing environmental damage is extensive. One of the characteristics of beach complexes is that a very delicate equilibria exists between landform, soil and vegetation. Changes in any element of the system can destabilise the whole complex and result in severe erosion. Many of the more popular beaches show evidence of such erosion and in a number of areas extensive remedial measures have had to be/

be taken, for example in East Lothian. In the Highlands damage to the machair is extensive for example at Achmelvich and Clachtoll in Wester Ross. As well as being damaging in ecological and aesthetic terms, erosion also downgrades the machair as grazing for croft animals.

The studies by Mather and Ritchie have shown that visitors are very aware of adverse aesthetic factors in an otherwise unspoilt scene. The Locals generally fail to perceive the aesthetic quality of beach resources - tending to treat the beach as an economic resource and thus make use of the shore as for example a source of sand, a dumping ground and a source of animal pasture. However in the Highlands conflict between recreational use and 'local' uses are few since it appears the locals are prepared to tolerate tourist use in the summer.

The environmental impact of the caravan is particularly severe. Firstly caravans have a strong visual impact which detracts from the open unspoilt nature of many coastal areas. Secondly the movement on dune and machair areas and the concentration of underfoot trampling round caravans makes such areas particularly prone to erosion. Once again Achmelvich in Wester Ross provides a typical example of such problems. Unless careful management is undertaken the bigger the site the bigger the problem. Major erosion problems round the dunes at Mairn caravan site forced the closure of part of the dune system while remedial measures were undertaken.

Before moving on one other major recreational use of links land should be mentioned. Many such areas particularly on the east coast are laid out as golf courses. Golf courses have little adverse impact and may in fact have a number of beneficial side effects. (Countryside Commission for Scotland, 1981). Management of the course and surrounding dunes is carried out to a high standard preventing major erosion and the public are given easy access to the beach and foreshore.

Nature Conservation

Many areas of the coast in Scotland are of both scientific interest and of value for nature conservation. In terms of the length of coast actually under protective ownership the National Trust own 96 kilometres of mainland coast and the Nature Conservancy Council 145 kilometres (Bough, 1976). The major reserves are along the Solway coast, in the North West Highlands and at isolated sites on the east coast such as the Sands of Forvie and Tentsmuir.

4 : 4 The Planning Background.

/

4 : 4 The Planning Background

There is no separate landuse planning legislation for the coast. All planning is carried out within the framework of the general development plan system. The present system took effect in May 1975 following the enactment of the Town and Country Planning (Scotland) Act 1972 and the Local Government (Scotland) Act 1975. This brought about a two tier system of development plans. Regional and Island planning authorities are responsible for the preparation of structure plans which require the approval of the Secretary of State for Scotland. The function of the structure plan is to identify key issues and problems within the area concerned and to lay out broad policies and proposals to tackle those problems. The plan should provide a strategic framework within which district and general purpose planning authorities can prepare local plans. These give detailed expression to the broad policies laid out in the structure plan. There are three types of local plan which may be prepared:

- (i) the comprehensive local plan.
- (ii) the subject plan covering a single topic for example coastal recreation.
- (iii) the action area plan.

In addition to these statutory documents there is also the regional report. Under the 1973 Act each region was required to submit a report to the Secretary of State. They provided the basis for the preparation of the structure plans and in the absence of a structure plan provide a guide to district planning authorities and developers in respect of planning policies.

Overall control of the planning process rests with S.D.D. who are responsible for providing strategic guidance on matters of national interest and policy to local planning authorities. Figure 1 has already detailed the other "ad hoc" agencies that have an influence on planning matters.

4 : 5 Planning for the Coast - The National Context.

Direct central government involvement in coastal planning is the result of the impact of oil related projects on the coastline of Scotland. It is also the outcome of a more general trend for central government in Scotland to provide strategic guidance to local authorities. This section examines the background to the National Planning Guidelines that were issued by S.D.D. and seeks to make an assessment of their value firstly as a guide to the location of oil projects and secondly as a guide to coastal development in general.

The Economic and National Political Context.

It is not possible to view the current pattern of oil related developments purely in terms of the land-use planning system. A wide range of different policies made by different governments have impinged on the decision making process. In addition to land use considerations, national economic strategy and energy policy must be included.

The exploitation of the United Kingdoms offshore oil reserves has occurred in a series of linked stages, each giving use to different types of support operation on land. The exploration, extraction and transportation phases outlined in section 4 : 3 are now well advanced and the lessons learned in the siting of platform construction sites and oil are now being applied to the downstream processing phase. From an economic viewpoint this stage is the most vital since in terms of employment and economic benefit it is the most important for the long term prospects of Scotland as a whole. Government policy is to "encourage increased investment by the petrochemical industry to provide greater added value in exports and more jobs". (Forth Estuary Study, 1979).

According to Gaskin and MacKay (1978) the direct benefits of North Sea Oil have been in the form of increased employment and income in certain areas most notably Shetland and Grampian Region. It is very unlikely that these direct benefits will be sufficient to bring about a permanent change in Scotlands economic prospects or those of any of the other Scottish regions. Wright (1980) describes North Sea Oil as a once and for all chance to gain 'breathing space' in which to tackle the long term economic problems of Scotland, particularly those in West Central Scotland.

In terms of oil development policies the indirect benefits to the U.K. national economy have been much more important. The exchequer has benefitted from a number of sources including block licencing fees, royalties, Corporation Tax and petroleum revenue tax. This revenue and the substitution of imported oil with domestic production has ensured a healthy balance of payments at a time when most other sectors of the U.K. economy have been in decline. The Treasury has therefore favoured a rapid build up of oil production.

Central government policy has taken two forms. The implicit policy discussed in the above section has been to maximise revenue from oil production. Explicit government policy is of two kinds covering land use and energy. In general the Department of Energy in Westminster handles the/
the/

the promotional, industrial and energy related policies while land use policy is the responsibility of the Secretary of State and is handled by S.D.D.

National Planning Guidelines.

By the time the new local authorities and new development plan system came into being in 1975 many of the major planning applications relating to oil had been dealt with. Many of the small Highland local authorities with inadequate manpower and financial resources had to deal with major applications for platform sites and oil terminals and take a stance at the subsequent public inquiries without adequate indication of government policy. The strains placed on the planning system were graphically illustrated by the famous Drumbuie inquiry (Taylor, 1974); (Uden, 1975), which examined a proposal to build concrete production platforms at a site in Wester Ross. Though the proposal was finally rejected the inquiry did expose the lack of any strategic guidance on coastal development from central government. The Westminster departments anxious to promote oil production favoured the project but S.D.D. had no firm policy. This unstructured approach to coastal planning contributed to delays felt to be inherent in the planning system. Uden (1975) infers that at the time of the inquiry the government favoured a policy of flexibility and dispersal permitting contractors to apply for any site round the coast which suited their technical requirements. As the number of applications for platform yards rose the government came under increasing pressure from environmentally conscious bodies such as the National Trust and Countryside Commission. They felt that this approach was not allowing proper consideration of the environmental issues arising from unco-ordinated development of a variety of coastal sites. Under pressure S.D.D. made the first tentative steps towards the introduction of national planning guidelines.

The guidelines are designed to fulfill the following purposes -

- "(i) Identify and define the kinds of development and location which may raise national issues relevant to land use planning.
- (ii) Set out national aspects of land use which should be taken into account by local planning authorities in their regional reports, structure and local plans.
- (iii) Suggest where there might be a need for interim development control policies in relation to national issues.
- (iv) Explain the criteria which form the basis for directions requiring certain planning applications to be notified to the Secretary of State."

(S.D.D., 1977a)

Guidelines have now been issued articulating national land use policy with respect to coastal and industrial development, rural conservation and aggregates. (S.D.D., 1974; 1977 b-e). The guidelines put forward relate to

"some of the kinds of developments which are likely to raise national issuesthese issues on which planning authorities, other agencies and developers might feel the need for guidance on where, on balance, the national interest lies".

(Diamond, 1979).

However the guidelines merely give advice on the matters of national interest taken into account by the Secretary of State. They do not override the provisions of existing development plans nor do they prejudice the decisions of local authorities or the Secretary of State on individual planning applications.

Coastal Planning Guidelines.

The original guidelines issued in 1974 concentrated on the accommodation of oil development pressures. They were designed to indicate the broad policies which planning authorities should pursue and to identify a system of "Preferred Development Zones" and "Preferred Conservation Zones" (See Map 4). Broadly a policy of concentration was adopted.

"to minimise environmental impact of schemes on the coast and to facilitate economic provision of supporting infrastructure and services". (S.D.D. 1973)

This system of concentration is seen as having four principle advantages:

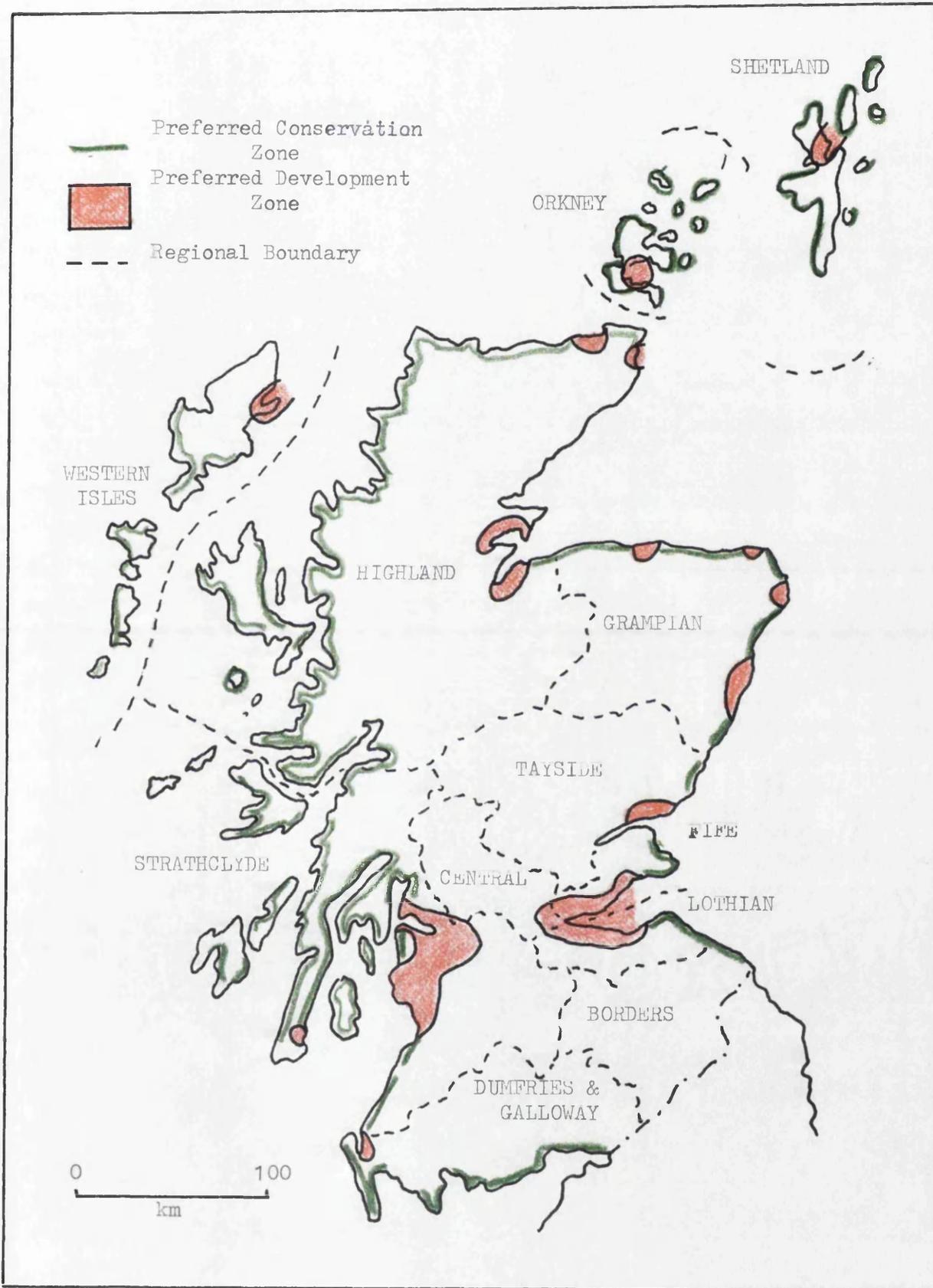
- 1) It avoided industrial scatter which would have severe impact on small rural communities and environmentally sensitive stretches of coast.
- 2) It would enable the use of existing labour pools and infrastructure.
- 3) It would facilitate more economic provision of new services.
- 4) It would prevent small communities becoming over dependent on a single transitory industry.

The main focus of preferred development areas was therefore in areas which already had suitable infrastructure and services. Inevitably for these and economic reasons the Central Belt was favoured. Preferred conservation zones tend to be areas of environmental and ecological significance.

Industrial and Rural Conservation Guidelines.

This guideline identified a number of types of development which require consideration of the national interest, included were developments affecting/

MAP 4: Scotland - Coastal Planning Guidelines.



Source - S.M.D. 1977b.

affecting high grade agricultural land, grade 1 and 2 nature conservation sites or that were located in National Scenic Areas or Preferred Coastal Conservation Zones. The guideline concluded that the supply of major industrial sites (in excess of 100 hectares) was inadequate and identified six possible search areas, three of which were coastal. It was recognised that coastal industrial sites on this scale were feasible at only a very few places on the Scottish Coastline. The three areas suggested were all estuarine locations which already had major industrial development; the Clyde, the Forth and the Cromarty Firth.

The coastal planning guidelines identified preferred development zones for major oil related industry. However with their incorporation in the wider guidelines they were implicitly extended to cover all major industry seeking coastal sites. Within the search areas all three regional authorities involved have now identified major sites and these are included in the relevant structure plans. (Central Region, 1980; Highland, 1979; Strathclyde, 1981) (See Figure 2).

Further guidelines on petrochemicals have been issued but these are not site specific. With the likely development of a gas gathering pipeline it is possible that some further development of petrochemicals will occur without specific site guidance. The guideline on aggregates included proposals for one or two major coastal exporting quarries. However due to pressure from conservation groups a proposal for such a quarry at Longhaven in Buchan was refused (Glasgow Herald 15.12.80).

National planning guidelines are an attempt to satisfy the need for mutually consistent regional and national planning. The 1972 report on Land Resource Use in Scotland by the Select Committee on Scottish Affairs called for a national indicative plan for Scotland. They thought this essential if the new development plans were to take account of national policies in a competent manner. One of the key issues identified by the committee was the question of planning for the coastline at the Scottish level.

The report referred to the need

"to strike a balance between on the one hand, too specific guidelines which produce an over rigid system in an age of fluctuating population trends, rapidly changing technology and surprising discoveries of national resources and on the other hand an insufficiency of national policy guidelines which result in excessively overlapping claims being embodied in development plans and an insufficiency of information being available to entrepreneurs anxious to exploit some new opportunity".
(Scottish Select Committee, 1972).

The government rejected the idea of a rigid national structure plan on the grounds that it would be inflexible and therefore impractical. There response was to introduce the national planning guidelines which they believed to be better suited to rapidly changing requirements of the oil industry. (Lyddon 1976). The principal aim was to allow local authorities to be adequately prepared to deal with planning applications and to have suitable sites ready for use.

In the U.K. context strategic planning is concerned with providing a framework or guideline, a broad frame of reference giving direction to lower level activities. The assumption is that each level of planning performs a strategic function for the level below and is conversely constrained by the strategic planning of the level above. Strategic planning achieves this objective by performing two roles (Diamond, 1979) firstly a co-ordinating function which seeks to secure and allocate resources of different types, administered by diverse organisations in an integrative manner. Secondly it has the policy orientated function of managing change.

However,

"the ultimate test for any form of planning must be its influence on the executive decisions that shape the real world".

(Solesbury, 1979).

By this test strategic planning for the coastline of Scotland has failed, since many if not most executive decisions by both the public and private sectors remain largely uninfluenced by it responding rather to political and economic considerations.

Before discussing this in more detail it is necessary to consider the impact of three Acts of Parliament which to some extent under cut the validity of the coastal planning guidelines. The first of these the Harbour Development (Scotland) Act was rushed through in order to facilitate the commercial development of Peterhead's Harbour of Refuge. Commercial pressure dictated that this port was the best suited for service bases and the government responded without a more detailed consideration.

The Petroleum and Submarine Pipeline Act introduced control on submarine pipelines and refinery development. The Department of Energy now has to authorise all new developments of pipelines and oil refineries. From the viewpoint of coastal planning this Act is beneficial since it prevents a proliferation of pipeline landfalls along the coast. It removes the responsibility from local authorities of having to evaluate pipeline proposals and facilitates a land use policy which makes the best use of the land available for industrial development and which conserves areas which/

which are of ecological or environmental importance. The main intent of the Act was to ensure the maximum economic utilisation of existing pipelines. The authorisation certificate for an oil refinery lays down the type, capacity and general location of the facility but does not negate the necessity to obtain planning permission.

The most important piece of legislation is the Offshore Petroleum Development (Scotland) Act 1975. During 1974 the government came to the view that production platform building capacity in the U.K. was inadequate in the light of projected requirements and that planning procedures were delaying the provision of the necessary facilities viz. the Drumbuie Inquiry. The Act speeds up the planning process and enables the Secretary of State for Scotland to take into public ownership by accelerated compulsory purchase sites for the construction of oil related facilities. The Secretary of State used his powers to sponsor two concrete platform yards at Portavadie and Hunterston. The Act contains provisions concerning the reinstatement or after use of production platform sites.

Evaluation of Strategic Planning for the Coast.

The seventies were a period of turbulent change in the field of strategic planners (Wright, 1980). It had to deal with new planning legislation, re-organisation of local government and a profound change in the resource pattern of the country. Undoubtedly the speed of onshore developments did overtake the planner's ability to deal with it adequately.

It has proved very difficult to reconcile government economic and energy policies for oil with the requirement for adequate strategic land use planning. Co-ordination between "Westminster" policy and S.D.D. policy appears to have been poor. However in general wider economic consideration dictated by London have overridden the land use planners at S.D.D. The publication of the Coastal Planning Guidelines was very slow in coming despite the promptings of the Scottish Select Committee. By 1974 many of the major decisions on the location of major facilities had already been made. In a number of cases to the detriment of areas of environmental and ecological importance for example Ardyne Point and Nigg Bay. When they were published the preferred development zones did indeed reflect a bias in favour of the central belt in line with regional economic policy. But also included were all the areas where developments had taken place and a number of sites where planning permissions or proposals for platform sites were outstanding. It is evident that S.D.D. conferred preferred development zone status on any area which showed promise as a possible/

possible platform site, for example Dunnet Bay, Buckie, Stranraer and Campbeltown. Despite protestations that the guidelines were the outcome of a major coastal survey it appears that they were another expedient to facilitate platform production. No attempt was made to rationalise the pattern when the national planning guidelines were published in 1977.* When the guidelines were put to the test they were ignored when convenient. In 1975 permission was given for a platform site at Kishorn in the West Coast Conservation Zone and the government itself was responsible for the site at Portavadie also in a conservation zone. In this case the error of judgement has been compounded by the failure of the Portavadie Yard to gain a single order and the murky tale of its subsequent sale (Glasgow Herald, Jan/Feb. 1981). The guidelines were designed to facilitate forward planning and clearly they cannot do this if all applications are treated on their own merits.

The platform building industry also highlighted a further inadequency in the planning legislation, namely that there is no planning control below the low water mark. The latter stages of platform construction requires work offshore and under powers contained in the 1975 Petroleum Development Act the Secretary of State has designated two Special Sea Areas for this purpose; Lower Loch Fyne and the Inner Sound of Raasay. While the Secretary of State can attach conditions to the work the local planning authority has no power to regulate visual, noise or onshore impact. In the case of Loch Fyne, Argyll and Bute District Council sought to exercise planning control but were defeated in the courts. (Himsworth, 1977).

Having now escaped from the platform site paranoia, strategic planning for the coast can now be placed on a sounder footing. Clearly there are a number of benefits that can be gained from local planning authorities making full use of the national planning guidelines in the formulation of development plans. It will be possible, to a much greater extent, for structure and local plans to explain what account has been taken of national policies. Secondly a higher degree of co-ordination and compatability should emerge between the sections of central government. Finally it should be easier to distinguish between national issues and purely local matters.

* The only modification made was the exclusion of the south side of the Tay estuary from a preferred development zone in response to a request in the Fife Regional Report. Whether more major modifications suggested by local would be accepted has yet to be tested.

However in the current debate over the development and location of downstream oil and petrochemical facilities there still appears to be some confusion between central government and local authorities. This is important from the coastal planning viewpoint since most plants of this type require a coastal location or easy access to coastal tanker terminals. The Secretary of State is -

"anxious that no opportunity for desirable petrochemical development which arises should be lost through lack of preparedness and equally that individual projects should be considered in more than a narrowly local context".

(S.D.D. 1977c).

Lyddon (1976) also emphasised the need for an intelligent and sensitive response to be mounted quickly. Forward planning has first to guide development to an appropriate place and secondly to provide the back-cloth against which the consequences of each proposal can be assessed. Within Scotland recent trends in the location of petrochemical developments have favoured the east coast especially Buchan and the Forth Estuary. The Forth already has major developments at Grangemouth and at Moss Morran/Braefoot Bay. Interest currently centres on the long awaited decision of the government on a North Sea gas gathering pipeline which would provide feedstock for future developments. A major study of the Forth Estuary in regard to future developments identified a further four possible locations for petrochemicals (Forth Estuary Study, 1979). Planning permission has already been granted for a petrochemical complex on the Cromarty Firth at Nigg (McKee and Greaves, 1981). Since the proposed pipeline will only support one petrochemical development on the east coast guidance is necessary to avoid duplication of effort and confusion over the real merits and demerits of the respective sites. This merely serves to prove how difficult it is to provide adequate strategic planning when dealing with an industry in which so many factors are uncertain.

Summary.

This section has outlined the present strategic planning guidance for the coast of Scotland. Despite laudable aims the guidelines were issued in a rush without adequate consideration and in the time that has elapsed since have not been amended. Considerable confusion still exists over government policy towards downstream processing of oil and the location of such developments.

4 : 6 Planning for the Coast - The Regional Context.

Within the context of the national framework regional authorities should identify types and intensities of pre-existing uses, predict the decline or growth of these uses and anticipate new uses so that sections of the coast can be allocated a preferred use. The vehicle for laying out council strategy at regional level is the structure plan. Many of the use conflicts experienced at the coast can best be dealt with at this scale for example the conflict between traditional agriculture based on grazing and increasing recreational use, and between the latter and the ecological and aesthetic quality of an area. Planners should be able to control the intensity of recreational use in a coastal zone in relation to other uses and environmental quality. Regional authorities should devise coastal planning strategies with respect to land use so that they can act positively rather than being wholly concerned with negative policies to central development. Such a framework would delimit areas of the coast in terms of a preferred use or combination of uses for example agriculture/tourism/recreation, residential/recreation, commercial/industrial etc. The basis of coastal planning at this level should be the regulation of the type and intensity of use.

The first round of Scottish structure plans is almost complete. A survey of the available documents was carried out to assess commitment accorded to planning for the coast. (Figure 2 gives an outline of the main points). On the question of industrial location all the regions have followed the national guidelines and all the major sites identified on the coast are within the preferred coastal development zones. Within the three coastal search areas identified by S.D.D. major sites (larger than 100 hectares) are designated thus safeguarding them for future development by major industry - at Hunterston on the Clyde, Kinneil Kerse on the Forth and Nigg on the Cromarty Firth. Tayside have also identified a major site on the coast at Barry Buddon despite ownership problems.

In all but one of the plans reviewed the major coastal uses dealt with are recreation and environmental protection. In both these areas the major responsibilities lie with the local authorities. However a variety of 'ad hoc' bodies - the Countryside Commission for Scotland, the Scottish Tourist Board, the Scottish Sports Council and the Nature Conservancy Council - also have powers in these fields. (See Chapter Two). As a result/

FIGURE 2. Review of Structure Plan Coastal Policies.

<u>REGION</u>	<u>THE COAST</u>	<u>TOURISM</u>	<u>RECREATION</u>
Borders	1. No new caravan sites in coastal strip.	1. Promote Tourism	1. Improve facilities 2. Improve Interpretive Services.
Lothian	1. Reduce Recreation Pressure 2. Major Recreational and Ecological Asset.	1. Encourage Tourism	1. Promote Inland facilities. 2. Concentrate on Local Authority owned Areas.
Tayside	-	1. Promote Tourism outside designated areas.	-
Grampian	1. Scenic and Environmental quality vulnerable.	-	1. Promote interpretive Services.
Highland	1. Bulk of Settlement has Central Orientation.	1. Promote 'active' Tourism	-

FIGURE 2 (Contd)

<u>REGION</u>	<u>ZONING/DESIGNATED AREAS</u>	<u>ENVIRONMENTAL PROTECTION</u>	<u>INDUSTRY</u>
Borders	<ol style="list-style-type: none"> 1. Coastal strip designated A.C.I.V. 2. Intention to prepare management plan. 	-	-
Lothian	<ol style="list-style-type: none"> 1. Conservation Coast 2. Management Plan 3. 60% in Public Ownership. 	<ol style="list-style-type: none"> 1. Resist mineral working 2. Guard against coastal pollution and tipping 3. Local Mature Reserve. 	<ol style="list-style-type: none"> 1. Torness Power Station
Tayside	<ol style="list-style-type: none"> 1. Coast Designated A.C.I.V. 	--	<ol style="list-style-type: none"> 1. Major site - Barry Buddon.
Grampian	<ol style="list-style-type: none"> 1. Countryside management zone along coastal strip. 2. Intention to prepare Plan. 	--	--
Highland	<ol style="list-style-type: none"> 1. Does not support blanket designations. 	<ol style="list-style-type: none"> 1. Will only deal with the N.C.C. 	<ol style="list-style-type: none"> 1. Major site - Nigg.

FIGURE 2 (Contd)

<u>REGION</u>	<u>THE COAST</u>	<u>TOURING</u>	<u>RECREATION</u>
Dumfries & Galloway	1. No major holiday development. in coastal area.	-	1. Strict control on development.
Strathclyde	1. Many scenic stretches	1. No mention	1. No mention
	<u>ZONING/DESIGNATED AREAS</u>	<u>ENVIRONMENTAL PROTECTION</u>	<u>INDUSTRY</u>
Dumfries & Galloway	1. 80% of coast of scenic value. 2. A.G.L.V.	1. Protect N.N.R.'s and S.S.S.I.'s.	-
Strathclyde	-	-	1. Major site - Hunterston.

result of the anomalous position of these bodies outside the normal government hierarchy democratic accountability is weak. These agencies usually, therefore, have very limited executive powers and generally have to operate in co-operation with the local authorities.

In 1972 the Scottish Select Committee stressed the need for regional recreation plans to form a basis for the planning of communication improvements and the provision of recreational facilities in such a manner as to protect the wilderness value of other areas. The lack of such planning at that time was blamed on poor co-ordination between the 'ad hoc' agencies. Since then a major effort in co-operation has produced the Scottish Tourism and Recreation Planning Studies. (S.T.A.R.P.S.) (Scottish Tourist Board, 1976).

The S.T.A.R.P.S. programme was devised to assist the regions in the formulation of a strategy for recreation and tourism and at the same time ensure that the agencies over policies would be (a) co-ordinated and (b) given physical expression in the regional structure plans.

The fundamental aims are

"... assistance to regional economies, enhancement of the quality of life and protection of the environment".

(Scottish Tourist Board 1976).

This approach recognises that policy formulation must be closely integrated with the physical planning activity of the local authorities. Although also intended to form a national strategy the S.T.A.R.P.S. programme is basically designed to provide the information necessary to allow each region to develop its own recreation strategy.

The recent designation of National Scenic Areas (Henderson 1981) also has to be considered in this context. (Map 2 shows the National Scenic Areas which include outstanding coastal scenery). A considerable number of coastal areas are included. National Scenic Areas are subject to special development control procedures. If a local authority intends to give planning permission for certain categories of development (See Appendix 3) they must consult the Countryside Commission. If the two authorities disagree the Secretary of State must be notified and he will decide whether to call in the applications.

Despite this considerable back up the level of detailed consideration given to tourism and recreation at the coast in the structure plans varies greatly. Broadly four different responses can be identified. Firstly Strathclyde/

Strathclyde which has no leisure and recreation input to its structure plan. The region recognises the recreational potential and environmental quality of its coastline, particularly in the Firth of Clyde but due to the urgency of other issues detailed consideration was omitted.

Secondly the approach of Highland Region which as we have already noted is opposed to Statutory designations which might curtail vital economic development. The Region has no overt recreation strategy merely seeking to promote tourism wherever the opportunity arises. Beaches under heavy recreation pressure are identified along with those which could absorb additional pressure but no detailed plans to actively manage the distribution of pressure are proposed.

Thirdly a group of regions Borders, Dumfries and Galloway, Grampian and Tayside which all recognise the designation of large stretches of their coastline as preferred conservation zones and have backed this up with protective designations at the local level. In all except Grampian the coastal strip has been designated as an Area of Great Landscape Value (A.G.L.V.) In the Aberdeen Area Structure Plan Grampian identify countryside management zones along the coast North and South of Aberdeen. Within all these zones strict control of development is proposed particularly of caravan sites. All four structure plans express the hope that local subject plans on coastal recreation and countryside will be prepared but in all cases this is accorded low priority after the preparation of local area plans. Positive recreation planning is limited to expressing hope that district authorities will continue to improve recreation facilities and interpretative services.

The most comprehensive approach is adopted by Lothian. The coastline is recognised as a major recreational, ecological and landscape asset for East Central Scotland and the need to continue the process of coastal management started prior to re-organisation is recognised and heartily endorsed. The Lothian situation is unique in that some 40 miles (60 per cent) of the coastal frontage is owned by the Local Authority. Statutory protection has been extended to cover the whole coastline east of Edinburgh. The structure plan includes a recreation strategy for the whole region in which the key issue is to reduce pressure on the undeveloped coast. The key policies are those to promote inland facilities and to concentrate coastal recreation in the local authority owned areas where recreation management to protect ecologically sensitive areas is most easily achieved.

Summary.

At the regional level in Scotland there is very wide variation in the value placed on the coastal resource. In general there is uniformity on the need to protect the undeveloped coast from sporadic piecemeal development but a general failure with the honourable exception of Lothian to implement comprehensive positive recreation management.

4 : 7 Planning for the Coast - The District Context

The district planning authorities have three major responsibilities in coastal planning - the exercise of development control; the preparation of local plans; and the provision of leisure and recreation facilities. Most district councils adhere to the same protectionist policies outlined in the structure plans. Very few local plans have so far been prepared for areas outside the main settlements. In their absence of approved local plan most authorities operate strict control policies in coastal areas particularly over caravans. Outside the Highlands and Islands these policies are operated with a high degree of success.

It is in the more positive side of district activity that failure is evident. Only three Councils have carried out comprehensive surveys of the recreational and ecological value of their coasts and gone on to prepare detailed policies. These are East Lothian, Gordon (Don-Ythan Coastal Study, 1977) and Kyle and Carrick (Ayrshire Coast Management Plan). In all three the principle aims are to reconcile recreational use with the requirements of nature conservation and the environment. The East Lothian scheme has gone furthest. The centre piece is the designation of a country park and local nature reserve at Aberlady Bay. Elsewhere the intensity of recreation use is related to the physical capacity of the coastal environment. Control is achieved by car parking fees and limits on the number of cars at each site. Where erosion problems do arise remedial measures are taken. The other two plans have not yet been implemented due to financial reductions.

Elsewhere only specific problems on individual beaches have been tackled under the guidance of the Countryside Commission for Scotland's Beach Management Project (C.C.S. 1981). Essentially this project involves the provision of detailed advice on dune management and the rehabilitation of areas subject to heavy erosion. The most ambitious scheme to date has been at Achmelvich and Clachtoll in Wester Ross where in co-operation with Highland Regional Council the problem of erosion of the machair caused by /

by wild caravanning has been tackled. This involved the laying out of a proper caravan site on a stable area of machair and instigating comprehensive programmes to restore the condition of the machair.

Summary

The survey of District Council policies shows that in general councils have been slow to move away from purely restrictive development control policies. In the absence of more positive policies to enhance recreational use of the coastal resource they have tended to undervalue the potential scope for recreational activity, which provision of facilities and well marked access would stimulate. Problems have been tackled piecemeal rather than on a comprehensive basis.

4 : 8 General Summary.

This chapter has endeavoured to outline the character of the Scottish coastal resource and the pressures made upon it. Two key impacts have been identified. Firstly the impact of North Sea oil development and the recognition that major industrial developments on remote sections of coast have an impact on the environment that far outweighs the actual physical extent of the site itself. Secondly the ubiquitous nature of recreational use of the coast and its impact in terms of beach erosion, litter and disturbance. Then the response of the planners at national, regional and district level was discussed. Although good intention abounded at all levels some of the policies pursued and the enthusiasm with which they were applied were seen to be deficient. In the light of this and the wider international experience discussed in Chapter 3, some conclusions are drawn and recommendations are made for the improvement coastal planning in Scotland in the next chapter.

CHAPTER 5.Conclusions.

As Zimmerman summed it up

"Resources are not; they become."

(Quoted in Davies and Hall, 1978).

Only changing human wants and capabilities can transform "earth stuff" into resources. Thus a good becomes a resource by a two-fold process. Rising standards of living, changes in social pattern and an expanding population provide the motivation for extending exploitation of the earth's resources. Better knowledge, better organisation and investment in technology bring that motivation to fruition. Consequently a material or attribute of the earth not regarded as a resource at one stage of development may become one later. For the same reason the vital resource in one period may be superseded in the next. The impact of human activity on the coastline amply illustrates the validity of Zimmerman's statement. The beaches and cliffs of the coastline, often described as the developed world's playground, require a wider spreading of wealth in the new Victorian urban/industrial regions, the development of the railways and the gradual acceptance of the idea of the seaside holiday as part of the structure of the year to make them into the foundations of the present day tourist industry. Similarly but at a later date industry in the face of improving technology and changing resource patterns saw the benefit of the coast as an economic location. What were valueless estuarine wetlands, except from the viewpoint of the ecologist become prime industrial sites essential to the economic success of the nation's key industries. More recently the discovery of North Sea oil and gas represent the quite exceptional case of prime national resources whose existence was not even suspected a few years ago. Now this resource is vital to the economic wealth of the nation. Once again the coast is important, the base from which Britain is able to exploit its offshore resources.

The coast is now one of the country's most valuable land resources. However the given resources of the coastal areas are known to be strictly limited and to be totally insufficient for unrestricted use. The preceeding chapters have amply illustrated the pressures which must be accomadated. The two dominating uses industry and recreation both extract a heavy price in terms of environmental quality. Industry in terms of pollution, noise and visual intrusion and recreation in terms of coastal erosion, environmental degradation and/

reduced amenity.

These recreation pressures, superimposed upon pressures from other directions have led increasingly to a realisation of the national value of the coastline in many parts of Europe and North America. Until recently decision making relating to the use and development of the coastline was invariably set at the local scale. However over the past decade national involvement has grown at an accelerating pace. This involvement has taken several forms. For example the setting up of special coastal zone agencies in the United States; the comprehensive coastal national plan in Sweden; and the more selective policy in England and Wales where attention has focussed on a few special areas of the total coastline and on a few special issues.

In Scotland it cannot be claimed that the level of pressure on the coastline is as severe as in other parts of Europe. There is little chance that if all planning control ceased tomorrow the coastline of Scotland would overnight be subject to the level of development encountered on the Mediterranean coast of France and Spain. Climatic factors alone dictate that the plethora of high rise hotels, apartment blocks and marinas set up for the mass tourist market will not materialise on the Scottish coast. We are unlikely to see the same scale of impact which ruined much of the Mediterranean littoral beyond recall. However complacency should not be allowed to set in, the coastal areas of Scotland are unique in Europe for their unspoilt character and freedom from the mass recreation pressure experienced elsewhere. The pressures that do occur are real enough, from oil related development, from industry in general and more ubiquitously from the tourist and leisure seeker. Some 282 miles or 12 per cent of the mainland coast of Scotland is developed for some purpose compared with a figure of under 5 per cent for the country as a whole (S.D.D., 1973) while a comparison between length and area is only of limited value, the figures do suggest that there is greater pressure upon the coast than upon the countryside at large.

The recurring theme for the planner at all levels of government is resolving conflicting demands on coastal use at the present time and in the immediate future: preservation for aesthetic and agricultural purposes, conservation of scientific interest, development of recreational provision and tourist infrastructure, seasonal and permanent urban expansion, industrialisation and military use. Faced with these rapid social/

and industrial changes posing new problems and demanding new solutions the planner at all levels requires flexible guidelines to embrace both zoning and procedures for evaluating development proposals and monitoring their impact. Three basic principles should influence the content of structure and local plan policies for the coast as well as national policies. These principles are:-

- (a) identifying and protecting valued resources of landscape wildlife;
- (b) identifying areas where properly controlled development will be acceptable; and
- (c) providing positive management as well as effective development control along the undeveloped coast.

The keynote is conservation of the coastal resource. Conservation should not be interpreted to mean preservation or restriction of use, but use and management in such a way as to avoid diminution of the value and usefulness of the resource. Although in the short term some of the means and principles of conservation may seem restrictive, the planner's long term aim is the fullest use of the resource on a sustained basis.

On the basis of the three principles some possible improvements in the Scottish coastal planning system are considered for each level of government.

The district and general purpose authorities nearly all operate some form of restrictive policy with respect to development on the coast. Control of development as defined in the planning acts is on the whole highly successful. However the powers of the development control in relation to some of the main potential uses of the coastline are limited: in relation to the widespread uses of agriculture and informal day recreation they are almost completely absent and in relation to caravanning subject to severe limitation.

District authorities can only tackle the problems created by these uses by becoming more closely involved in the day to day management of land and recreation than they have in the past. They should adopt a policy of dispersing informal day recreation along the coast as widely as possible thus ensuring that the attractiveness and usefulness of the coast is maintained. If this is to be achieved visitors to the coast will require a great deal more information on where the beaches are and more interpretative services to educate them on the aims of beach and coastal management.

The complement of an improved information system is the provision of car parking and other basic facilities at access points. Careful siting and design must be employed to minimise visual intrusion and erosion. To adequately assess the degree of management input required to offset environmental damage the councils need to have a detailed monitoring system to assess the recreational use being made of each section of the coast.

Where the level of use is more intensive a more comprehensive system of management is required. While some of the potential use can be diverted to areas at present lightly used, some areas especially those located close to the main cities and busy tourist routes will continue to be heavily used and thresholds of environmental deterioration will be exceeded. Where a more comprehensive coastal recreation plan is needed for a wider area the local subject plan is the ideal vehicle. While some authorities have adopted this technique many others have lagged behind. While most of the local authorities whose coast does cater for large scale recreation do accept the need for such plans they have been accorded very low priority status. This should be remedied. The exemplary work done in East Lothian should be copied elsewhere particularly on the Clyde coast where many beaches have been allowed to deteriorate and are now unattractive to visitors. A major drawback is that much of the work carried out on the Lothian coastline is only possible due to local authority ownership. In the present economic climate it is unrealistic to expect district authorities to spend money on acquiring coastal land. As we have seen private investment in informal recreation is not a commercial proposition. In some cases Access Agreements with private landowners may be useful in opening up secluded areas. But perhaps a more promising avenue would be to adopt the Countryside Commission's (1974) proposal that some form of management agreement for conservation and recreation analogous with the agreements reached by the Nature Conservancy Council in respect of nature reserves could be reached. Where district authorities are prepared to this kind of management effort it would be necessary to employ wardens to supervise and monitor the general use of the facilities and coast and to undertake minor works necessary to prevent erosion. The Beach Management Project run by the Countryside Commission for Scotland already provides the necessary technical back up. The experience in Lothian shows that visitors are prepared to pay for parking facilities and revenue from this source would offset the cost of employing personnel and providing the facilities.

Although advocating a policy of dispersal from the most heavily used areas and an improvement in facilities generally it is not implied that access should be opened up to all parts of the coast. Where access already exists it should be improved but where there is no vehicle access this should be maintained to preserve solitude and tranquillity for those who wish to seek it out.

A final point on the district level. The Scandanavian concept of narrow zones along the coast where all development is excluded could have application in Scotland particularly in respect to caravan use of the coast. An exclusive zone of approximately 100 metres from the shoreline where no caravan was allowed would greatly enhance visual amenity and reduce erosion.

At the regional level the structure plan is designed to anticipate future development and accordingly be able to direct any development pressure which actually occurs to the optimum location. By undertaking detailed strategic (forward) planning for large industrial sites the structure plans have merely followed the National Planning Guidelines which require that planning authorities adopt policies of anticipation rather than reaction. The strategies and major sites identified on the coast, in line with the Scottish Development Department directives, seem perfectly adequate. Three major sites on the Scottish coast should be quite sufficient to cope with any demand from large scale industry. From the review of structure plans it is clear that the status of the Preferred Coastal Development Zones, other than those in which major sites have been identified, is uncertain. While most authorities, in line with S.D.D. guidance, do make note that sections of the coast are in such zones it is apparent that they regard the chances of major development occurring as remote. Now that the platform building boom is over there are no likely development projects in the foreseeable future hence time and effort has not been expended on identifying specific sites within each zone. Due to the flexibility of the guidelines and unlikelihood of development occurring the designation of most of the preferred development zones is of no value for the regions.

Most regions do recognise the natural value of the coast but as at the district level there is a tendency to adopt broad protective policies rather than to produce a constructive strategy for nature conservation and recreation. The recreational use of the coast should be seen within a broad leisure and recreation strategy for the region as a whole. Once again Lothian provides an ideal model of the type of work/

that should be carried out. Each region should prepare a similar strategy which identifies the level of recreational pressure that the coast can sustain without causing serious environmental damage and identifies the areas which can sustain intensive recreation and those where careful management are required. By utilising a region wide strategy the advantages of providing inland sites and parks to draw off visitors from the coast can be assessed. The broad protectionist policies which currently apply allow no scope for regional conservation and recreation zones to be designated on the coast.

The S.T.A.R.P.S. policy does offer an opportunity for systematic policy co-ordination between the central agencies and the local authorities on recreation matters. Through this system the role of the Countryside Commission in co-ordinating coastal recreation provision can be improved. Rather than merely provide a framework for regions to develop their own strategies it could be developed to provide the type of guidance given in the Irish National Coastline Study. That is national evaluation of the relative capabilities of sections of coast to cater for tourism and recreation. The evidence from Ireland is that local planning authorities are prepared to adopt such guidance. The success of such a national scheme in Scotland depends on:-

- (1) its incorporation into the regional structure so that guidelines are given physical expression.
- (2) district authorities paying adequate attention to the structure plan proposals.
- (3) adequate financial resources.

With this type of guidance the regions could also take a more strategic view of the caravan problem in Scotland. This is most relevant in the Highlands and Islands. Matter and Ritchie (1977) have argued that caravanning along the coastline of the West Highlands should be concentrated at a few key locations. It would thus be possible to protect fragile beach areas and prevent visual intrusion along some coast. Caravan demand should be directed to those areas suitable for large numbers of caravans and coastal sites should not be used piecemeal simply because they are available. Indeed through use of the road traffic regulations caravans could be banned from certain roads and areas. Such a policy should be adopted.

At the national level it seems clear that much more effort could have been expected from the S.D.D. in the preparation of the coastal planning guidelines for North Sea oil development. Despite the protestations of the Department the guidelines were a rushed job

and the identification of preferred development zones was done largely on a physical basis, that is, was the site physically capable of supporting oil platform construction or other oil facilities. The terms of the guidelines were very "pro" development, while stating that projects in preferred development zones should be given approval there was no corresponding negative statement for preferred conservation zones. In the light of events the guidelines have not been overly useful to the local authorities. Planning authorities were still in the position of being unable

"to predict the scale, nature and timing of development and consequently the demands that will be made upon an area."

(Begg and Newton, 1980).

Though there are advantages in earmarking sites for development in statutory plans, such as influencing developers in their initial site selection and in speeding up subsequent applications there are also significant disadvantages since the impact of development is difficult to quantify in advance. Also designation may cause blight and is unlikely to result in material time savings in processing applications.

A complete review of the coastal planning guidelines is now necessary. Apart from the major industrial sites on estuarine locations (Clyde, Forth, Cromarty and Tay) the current value of preferred development zone status is limited. The likelihood of further major oil related development is almost zero except in the petrochemical and downstream processing phases which are known to favour estuarine locations with easy access to established infrastructure and labour markets.

Future national coastal strategy should follow the example of Sweden that it should be firmly based on a comprehensive survey of coastal resources. This was not done previously. Secondly there should be clear identification of those areas which are to be completely protected from large scale industrial development, to conserve for all time scenic and ecological value. Thirdly greater recognition should be given to the suitability of proposed development sites, in socio-economic terms as well as environmental terms. Fourthly as Begg and Newton point out "it is difficult to envisage an adequate system of strategic planning for major industry which does not involve greater input from industry itself" (Begg and Newton, 1980). It would be beneficial if the major industries likely to require coastal sites would sit down with the planning agencies and discuss the options which/

exist for future development, and the local planning implications of these options. Fifthly, following on from this it is obvious that National Planning Guidelines should be refined so that sites should only be included if there is a possibility that they may be needed. Following on from the American experience some form of environmental impact statement or project appraisal* should be mandatory for all major coastal industrial development.

The nature of the coastline in some parts of Scotland is so outstanding that it merits a more directly national component in their planning. This has already been recognised to some extent with the designation of a number of National Scenic Areas along the coast. This has been done to allow the national dimension to play a greater role in the determination of planning applications emanating from such areas. Within the Highlands and Islands the National Scenic Area designation effectively covers all the most spectacular coastline, however outside that region the national interest is slight. There are many other stretches of coastline and specific sites, for example John O' Groats, which require national recognition. Extension of the National Scenic Heritage designation or the declaration of Areas of Special Planning Control would be appropriate and would help to conserve both the aesthetic value and physical nature of the coastal resource. Even the most stringent control of development will not ensure that the goal of optimising both the enjoyment and conservation of the coastal resources is achieved but some method of introducing a national dimension is essential. In many ways the concept is similar to the Heritage Coasts in England and Wales. However the objectives can be attained without the heavy emphasis on recreation promotion and encouragement. This form of protection will be adequate provided management input at the local level is sufficient.

The coastline of Scotland is a valuable resource for industry, tourism, agriculture and for other purposes. For this reason as well as its intrinsic scenic and scientific value it merits careful husbanding and conservation. Until now the Scottish coast has escaped relatively unspoilt however the pressures on the coast over the last two decades have developed more rapidly than has the planning and management system. Complacency should not be allowed to overtake the coastal planner.

* See Department of the Environment 1976. Assessment of Major Industrial Applications : A Manual, Research Report No.13 H.M.S.O. London.

At a more general level for the United Kingdom as a whole the next step for the coastal planner should be to extend planning powers below the low water mark. In inshore waters there is an increasing amount of activity especially in recreation (sailing and diving), industrial construction, dredging and in the near future national marine nature reserves. The Americans have already shown the way in this field with comprehensive offshore planning and over sixty countries now have some form of offshore reserves. Central government is worried that designation of nature reserves out to the three mile limit would interfere with land reclamation, offshore oil exploration, fishing, transit rights and waste disposal at sea. At present planners have little say in offshore development but their skill and knowledge make them ideal people to tackle such problems.

Approximately 27,000 words.

APPENDIX 1.O.E.C.D. Declaration 1976Principles Concerning Coastal Management.A. NATIONAL MEASURES

1. The development, redevelopment or realignment of coastal areas should be controlled. Consideration should be given to the special problems arising from existing dense industrialization and urbanization in certain coastal areas. Plans should thus be comprehensive and take due account of the complementary nature of the activities which can be located in coastal zones according to national and regional priorities. To this end, the use of techniques such as zoning, i.e. the specification of permissible land use, is desirable. Prior to development of coastal policies, it would be useful to draw up inventories, i.e. descriptions of the significant physical and biological characteristics of potential uses of the coastline.
2. Defensive planning, consisting of restrictions, should be complemented by positive planning indicating where activities may be located provided that due consideration is given to environmental protection.
3. The potential impact on the coastline of significant public and private projects should be assessed prior to their development.
4. The public should be informed of facts and plans relating to coastal development and involved in the planning process at the earliest possible stage.
5. The protection of the most esthetic, culturally and/or environmentally vulnerable areas should be given special care and kept for those activities which, by their kind and scale, are compatible with the preservation of the characteristics of these areas. In addition areas representative of particular natural systems should be preserved for future study and to serve as regenerative centres.
6. The siting of industrial activities which have to be located in coastal areas should be such as to guarantee a maximum of environmental protection.
7. In certain coastal zones, pending evidence on environmental impacts of proposed projects, it may be necessary to take conservation steps by temporarily preventing certain types of development which could possibly/

possibly have irreversible adverse effects on the environment. Such a moratorium could be lifted when evidence is available that the project can be developed in harmony with environmental protection.

8. Wherever possible, the adjacent inland should be developed so as to relieve the coastline proper - in particular, inland transport infrastructure should preferably not be developed along this coastline.

9. In coastal zones, public transportation and public transport systems should be organised and used wherever possible in such a way as to guarantee a maximum of environmental protection.

10. Stringent action should be taken to avoid environmentally detrimental construction in the coastal zone, for example, to prevent building developments which through height and/or density, spoil the landscape, lead to environmental deterioration or interface with natural processes of land and sea interaction.

11. Free access by the public to the sea front in areas of tourist interest should be ensured.

12. Adequate financial resources should be available within the framework of national regulations to be used for the alleviation of problems related to the implementation of measures designed to protect and conserve the coastal environment.

13. Coastal development projects should take due account of the need to protect fishing grounds, oyster and shell fish production.

14. Coastal development projects should not jeopardize coastal ecosystems as such, e.g. estuaries, wetlands, barrier reefs, archipelagos and areas for the protection of flora and fauna, etc.

15. Efforts should be made to manage industrial and urban wastes by requiring pre-treatment and/or prohibiting and/or restricting discharges into the sea. Sewage treatment and disposal policies should be strengthened by various means such as recycling and making beneficial uses of effluent and sewage sludge.

16. Consideration should be given to the fact that congestion in coastal areas can be greatly relieved if measures are taken in the public and private sectors to stagger holidays.

17. In order to arrive at a comprehensive approach to environmental protection, ecological, technical and economic studies should be undertaken/

undertaken of the possible transfer of pollution between land, sea and air as a result of policies to deal with only one of these media.

18. Every effort should be made to ratify, where necessary, and to implement as soon as possible, existing international conventions which Member countries have signed on coastal protection, marine discharges, oil spills and pollution of the sea from land-based sources and to give effect to appropriate programmes to be developed under these conventions.

B. CONCERTED MEASURES.

19. Work in international organisations should be strengthened on co-ordinated programmes to monitor the quality of marine waters, based on standardized or comparable methodology with the aim of classifying, interpreting and conserving the data.

20. Methodology should be developed in co-operation between Member countries for evaluation of the state of the environment, in various types of coastal zones, together with the definition of parameters to be considered in decision-making related to coastal development.

21. Member countries should co-operate with a view to promoting the protection of touristic sites of special interest, and in particular to developing a code of conduct for tourists in order to protect such sites.

22. Co-operation between interested Member countries should be developed regarding coastal development in border areas and mutual exchange of information should take place; where mutual interests are concerned, consultations should take place at the request of one of the Member countries concerned. *

Whenever significant public and private projects have environmental consequences in coastal areas within other countries, active co-operation between Member countries concerned should be developed in the analysis of the environmental consequences of such projects. The results of such analyses should be taken into due account by Member countries concerned in the implementation of their policy measures.

24. Neighbouring Member countries should give mutual help in the event of major accidental coastal pollution by establishing emergency procedures to enable a given country to make use of the services of neighbouring countries to combat, as quickly as possible, the effects of such pollution.

* Spain is unable to accept the second part of paragraph 22.

APPENDIX 2.Designation of Heritage Coasts in England and Wales.

The Countryside Commission identified four separate categories of coast of high quality scenery which called for different management techniques.

- 1) Areas in early stages of defacement. As a result of insensative planning in the past there was a danger that their scenery would be down graded unless action was taken. Minimal management required, mainly consisting of attention to small points of detail, some simple form of traffic management and removal of eyesores.
- 2) Unspoilt and relatively unknown stretches with limited road access. Vulnerable to increased usage. Management should provide special protective measures to ensure that they may be enjoyed in their natural state. Interpretative services should be provided.
- 3) Coastal heritage features of outstanding national significance, for example Land's End Category includes both natural and man made attractions. The immediate surroundings of many national monuments around the coast require satisfactory management. The attraction of these areas can be enhanced by greater attention to their surroundings, better management of visitor movements and the removal of clutter, advertisements and poor quality development.
- 4) Areas already in some form of public or quasi-public ownership. Such areas offer the greatest scope for creative management, since the ownership of the land itself is a key factor in determining permitted uses. With enlightened management, many fine stretches of coastline are capable of providing enjoyment for large numbers of visitors without destroying the environment.

Principles of Management.

To ensure the effective management of each area of Heritage Coast a number of fundamental principles and policies must be applied. Seven main principles were suggested to achieve this.

- 1) Determination of intensity of use. - The scale of recreational activities, and of facilities that are provided, should be related to an optimum level of use.

2) /

2) Determination of management zones based on different intensities of use. - For management purposes the coast should be divided into zones, each with an agreed level of use.

e.g. (i) The management policy for an intensive zone should ensure that the facilities are adequate and designed to minimise adverse effects on the landscape.

(ii) The management policy for a remote zone should keep it free of vehicles.

(iii) The management policy for a transitional zone should group facilities in selected places, and retain the stretches between them as unspoilt coast with reasonable degree of road access.

3) Control of Development - Rigorous control should be exercised over unsuitable development.

4) Regulation of Access - Access should be regulated to avoid concentration of people or vehicles at points liable to damage.

5) Landscape improvement - Schemes should be initiated to enhance the appearance of the landscape and remove eyesores.

6) Diversification of activities - The opportunities for different of recreation should be emphasised, so as to permit a greater use of existing resources without the need for new facilities.

7) Provision of interpretative services - Information services and interpretative techniques should be introduced to encourage greater interest in the environment.

The overall planning objectives for a Heritage Coast should be to conserve the natural coastal scenery and to facilitate and enhance its enjoyment by the public. The aim should be to facilitate the enjoyment of the natural qualities of the coast without introducing artificial attractions. With careful management some parts of Heritage Coasts should continue to accommodate large numbers of visitors.

(Source - Countryside Commission 1970b)

APPENDIX 3.Development Control in National Scenic Areas.S.D.D. Circular 20 / 1980.

Within National Scenic Areas the following categories of development are notifiable to the Secretary of State for Scotland, should the planning authority, after consulting the Countryside Commission for Scotland, propose to give planning permission against the Commission's advice:

- (a) Schemes for 5 or more houses, flats or chalets except for those within towns and villages for which specific proposals have been made in an adopted local plan;
- (b) sites for 5 or more mobile dwellings or caravans;
- (c) all non-residential developments requiring more than 0.5 hectares of land;
- (d) all buildings and structures over 12 metres high (including agricultural and forestry developments);
- (e) Vehicle tracks over 300 metres altitude, except where these form part of an afforestation proposal which has been agreed by the planning authority;
- (f) all local authority roadworks outside present road boundaries costing more than £100,000.

(Source: Henderson, 1981).

BIBLIOGRAPHY

- ABERCROMBIE, P. (1946) Introductory Note II in J.A. Steers
The Coastline of England and Wales. Cambridge University
Press, London.
- AN FORAS FORBATHA / BARD FAILTE EIREANN (1972)
National Coastline Study Vo. 1 Dublin.
- BEGG, H.M. and NEWTON K. (1980)
Policy Forum. Strategic Planning for Oil and Gas related
development. Town Planning Review Vol. 51 (1) pp. 76 - 97.
- BRAHTZ, J.F.P. (1972)
Coastal Zone Management : John Wiley & Sons, New York.
- BAUGH, I.D.H. (1976)
The Formulation of and Methodology for the Examination of
the Impact of Planning Decisions on the Coastal Environment
of Highland Scotland.
Unpublished Ph.D. Thesis University of Aberdeen.
- BEGG, H.M. and NEWTON K. (1980)
Policy Forum. Strategic Planning for Oil and Gas related
development. Town Planning Review Vol. 51 (1) pp. 76 - 97.
- BRYER, R. (1974)
Priorities in Coastal Development. The Planner Vol. 60 (3)
pp. 588 - 595.
- BRYER, R. (1976)
Conflict in the Firth of Clyde? The Planner. Vol. 62 (3) pp.82
- CALIFORNIA COASTAL ZONE CONSERVATION COMMISSION (1976)
California Coastal Plan (Summary) San Francisco.
- CAUFIELD, C. (1981)
Can Britain find room for nuclear power? New Scientist Vol.89
(No. 1241) pp. 264 - 265.
- CERRY, G.E. (1975) Peacetime History. Environmental Planning
Volume II. H.M.S.O. London
- CERRY, G.E. (Ed) (1976) Rural Planning Problems. Leonard
Hill, London.

BIBLIOGRAPHY (Contd)

- CLARK, R.J. (1974) Conflict on the Coast. Geography
Vol. 59 pp. 93 - 103.
- COOPER A.W. (1971) Ecological Considerations in Hite, J.C.
and Stepp, J.M. Coastal Zone Resources Management. New York.
- COPPOCK, J.T. and DUFFIELD, B.S. (1975) Recreation in the
Countryside MacMillan, London.
- COUNTRYSIDE COMMISSION (1970a) The Planning of the Coastline.
H.M.S.O. London.
- COUNTRYSIDE COMMISSION (1970b) The Coastal Heritage. H.M.S.O. London.
- COUNTRYSIDE COMMISSION FOR SCOTLAND (1974) : A Park System for
Scotland. Countryside Commission for Scotland. Perth.
- COUNTRYSIDE COMMISSION FOR SCOTLAND (1978)
Scotland's Scenic Heritage. Countryside Commission for Scotland.
Perth.
- COUNTRYSIDE COMMISSION FOR SCOTLAND (1981) Beach Management Project:
First Interim Report 1980. Countryside Commission for Scotland,
Perth.
- CRAIG-SMITH, S.J. (1978) Coastal Zone Management : An Anglo
American Comparison. Unpublished Dissertation. Leeds University.
- CRAIG-SMITH, S.J. (1980) Coastal Planning : Where Next?
The Planner. Vol. 66 (6) pp. 143 - 145.
- CROFTS, R. (1975) Planning for the Coast of Scotland.
Town and Country Planning Vol. 43 pp. 264 -268.
- DAVIS, R. and HALL, P. (1978) Issues in Urban Society : Penguin
Books. Harmondsworth.
- DEPARTMENT OF THE ENVIRONMENT (1972)
The planning of the undeveloped coast. D.O.E. circular 12/72.
H.M.S.O., London.
- DIAMOND, D. (1979) : Policy Forum : The uses of Strategic Planning:
The Example of the National Planning Guidelines in Scotland.
Town Planning Review Vol. 50 pp. 18 - 25.
- DUFFIELD B.S. and LONG J. (1977) STARS Series No. 5 Pattern of
Outdoor Recreation in Scotland. Tourism and Recreation Research
Unit, University of Edinburgh. Edinburgh.

BIBLIOGRAPHY (Contd).

- DUFFIELD, B.S. and WALKER, S.E. (1979) People and the Coast - Current Demands and Future Aspirations for Coastal Recreation. In proceedings of CRRAG Conference 1979. Countryside Commission (C.C.P. 127) pp. 62 - 94.
- ELDER J.M. and KELLAS J.G. (1980) The Legal Administrative and Financial Impact on Local Government in Scotland, Outside Orkney and Shetland, of North Sea Oil Developments. Report to the S.S.R.C's North Sea Oil Panel. Dept. of Politics, University of Glasgow.
- ESSEX COUNTY COUNCIL. (1977) Essex Structure Plan : Essex Coast Technical Report. Essex County Council.
- FAIRBROTHER, N. (1972) New Lines New Landscapes. Penguin Books. Harmondsworth.
- FORTH ESTUARY STUDY (1979)
A Report prepared by Central Region, Fife Region and Lothian Region in association with S.D.D. Planning Services.
- FRANCIS J. and SWAN N. (1975) Scottish Oil Shakedown Church of Scotland Home Board, Edinburgh.
- GASKIN, M. and MACKAY D.I. (1978) The Economic Impact of North Sea Oil on Scotland. H.M.S.O. Edinburgh.
- GIBSON, J. (1980) Coastal Zone Management : A case study of the Severn Estuary and the Bristol Channel. Journal of Planning and Environmental Law. March 1980. pp. 153 - 65.
- GORDON DISTRICT COUNCIL. (1978) Don Ythan Coastal Area Study. Aberdeen.
- GREGORY, R. (1971) The Price of Amenity. : MacMillan, London.
- JOHNSTONE, D.M. PROSS, A.P. and McDOUGALL, I. (1975) Coastal Zone : Framework for Management in Atlantic, Canada. Dalhousie University, Halifax.
- HEALY, R.G. (1978) Protecting the Golden Shore. Conservation Foundation : Washington D.C.
- HECK, H.W.J. (1967) : Strategic Planning for the Coast, The example of Cornwall. Journal of the Royal Town Planning Institute Vol. 53 (a) pp. 393-397.

BIBLIOGRAPHY (Contd)

- HENDERSON M. McN. (1981) Development Control in National Scenic Areas. Scottish Planning : Law and Practice No. 2 pp. 20-21.
- HIMSWORTH, C.M.G. (1977) The Limits of the Planning Realm. Journal of Planning and Environmental Law. January 1977 pp.21-24
- HOLMES, J. (1974) Examination of Sites for Gravity Platform Construction on the Clyde Estuary. Jack Holmes Planning Group, Glasgow.
- HUNTERSTON DEVELOPMENT CORPORATION (1972) Hunterston : Potential for industrial development. Final report.
- INTERNATIONAL SEMINAR (1979) : Management of the Littoral - Channel and Southern North Sea - The Next Ten Years, Vol. I,II,III. Kent County Council. Maidstone.
- KYLE & CARRICK DISTRICT COUNCIL (1977) : Ayrshire Coast Management Plan. Kyle and Carrick District Council. Ayr.
- LYDDON, W.C.D. (1976) North Sea Oil and the consequences for housing and planning The Scottish experience. Planning and Administration : Vol. 3 - pp. 71 - 84.
- McAULEY, J. (1975) : Land-use conflict in the Firth of Clyde. The Planner Vol. 61 (10) pp. 372-374.
- MACKAY D.I. and MACKAY, G.A. (1975) : The Political Economy of North Sea Oil. Martin Robertson & Co. London.
- McRAE, M. and GREAVES, J. (1981) : Nigg Bay Petrochemical Developments : a successful alternative to a public enquiry. Scottish Planning : Law and Practice. No. 2 pp. 8-10.
- MARTIN, A. SHIPMAN, P., BRADY, H., HYDE, N. (1974) A Conservation Strategy for the Irish Coastline. Ekistics Vol. 37 pp. 74 - 80.
- MASON, C.M. (1979) The Effective Management of Resources. Frances Pinter, London.
- MATHER, A.S. (1979) : Beaches of South West Scotland Vols. I & II University of Aberdeen. Aberdeen.
- MATHER A.S. and RITCHIE, W. (1977) : The Beaches of the Highlands and Islands of Scotland. : Countryside Commission for Scotland. Perth.

BIBLIOGRAPHY (Contd)

- MEYERSON, M. and BANFIELD, E.C. (1955) : Politics, Planning and the Public Interest. Free Press. New York.
- MOGULOF, M.B. (1975) : Saving the Coast. D.C. Heath & Co. Lexington, Mass.
- NATIONAL PARKS COMMISSION (1967) : The Coasts of Kent & Sussex. H.M.S.O., London.
- NATIONAL PARKS POLICY REVIEW COMMITTEE (1974) Report (Sandford Report) H.M.S.O. London.
- NATURE CONSERVANCY COUNCIL (1977) : A Nature Conservation Review Natural Environment Research Council, London.
- NATURE CONSERVANCY COUNCIL (1979) Nature Conservation and the Clyde Estuary. Nature Conservancy Council Balloch.
- OIL DEVELOPMENT COUNCIL FOR SCOTLAND (1974) : North Sea Oil and the Environment. H.M.S.O. Edinburgh.
- O.E.C.D. (1976) : O.E.C.D. and the Environment. O.E.C.D., Paris.
- O.E.C.D. (1977) : Environmental Policy in Sweden. O.E.C.D., Paris.
- O'RIORDAN (1976) Environmentalism Pion. London
- PAITMORE, A and GLYSTIS, S. (1979) : The Coastal Resource. The proceedings of CRRAG Conference 1979 : Countryside Commission (C.C.P. '27) pp. 5-57.
- PHILLIPS, A.A.C. (1973) : Development and Conservation : The Coastal Context. Town and Country Planning Vo. 41 pp. 359 - 362.
- PRESTON, M.H. and REES, R. (1970) : Maritime Industrial Development Areas. National Ports Council, London.
- RAY, J. (1975) : Norwegian Guidelines on North Sea Oil. The Planner Vol. 61 pp. 180-183.
- ROYAL COMMISSION ON ENVIRONMENTAL POLLUTION (1972) : Third Report: Pollution in Some British Estuaries and Coastal Waters Cmd. 5054 H.M.S.O. London.
- SCOTT, S. (1975) : Governing California's Coast University of California. Berkeley, Calif.

BIBLIOGRAPHY (Contd)

SCOTTISH COUNCIL (DEVELOPMENT AND INDUSTRY) (1970):

Oceanspan Vol. 1 : A Maritime Board Development Strategy for
European Scotland 1970 - 2000

SCOTTISH DEVELOPMENT DEPARTMENT (1973) : Interim Coastal Planning
Framework (North Sea Oil and Gas) A Discussion Paper. H.M.S.O.
Edinburgh.

SCOTTISH DEVELOPMENT DEPARTMENT (1974a)

The Coast of Scotland : Some recently collected Survey Material.
H.M.S.O., Edinburgh.

SCOTTISH DEVELOPMENT DEPARTMENT (1974b) : North Sea Oil and Gas -
Coastal Planning Guidelines. S.D.D., Edinburgh.

SCOTTISH DEVELOPMENT DEPARTMENT (1975) : North Sea Oil and Gas
Development in Scotland. Oil Terminals : Implications for Planning
H.M.S.O., Edinburgh.

SCOTTISH DEVELOPMENT DEPARTMENT (1976) : National Planning Guidelines
Land - use Summary Sheets. No.1 - Agriculture, No.3 - Nature
conservation, No.4 - Recreation and Landscape Conservation,
No.5 - land for industry. S.D.D. Edinburgh.

SCOTTISH DEVELOPMENT DEPARTMENT (1977a) : National Planning Series -
General Introduction. S.D.D. Circular 19/1977. S.D.D. Edinburgh.

SCOTTISH DEVELOPMENT DEPARTMENT (1977b)

National Planning Guidelines for large Industrial Sites and Rural
Conservation. S.D.D. Circular 19/1977 S.D.D. Edinburgh.

SCOTTISH DEVELOPMENT DEPARTMENT (1977c) : National Planning Guide-
lines for Petrochemical Development. S.D.D. Circular 19/1977.
S.D.D. Edinburgh.

SCOTTISH DEVELOPMENT DEPARTMENT 1977d : National Planning Guidelines
for Aggregates. S.D.D. Circular 51/1977. S.D.D. Edinburgh.

BIBLIOGRAPHY (Contd)

SCOTTISH TOURIST BOARD/ COUNTRYSIDE COMMISSION 1976

Scottish Tourism and Recreation Planning Studies Vol. 1 -
Strategic Issues. H.M.S.O. Edinburgh.

SELECT COMMITTEE ON SCOTTISH AFFAIRS (1972) : Land Resource use
in Scotland (5 vol) HC 511 H.M.S.O., London.

SHEAIL, J. (1976a) : Nature in trust : A history of nature
conservation in Britain. Blackie, Glasgow.

SHEAIL, J. (1976b) : Coasts and Planning in Great Britain before 1950
Geographical Journal : Vol. 142 pp. 257-273.

SMITH, D.J. (1976) : Environmental Planning in Norway - Innovations.
International Journal of Environmental Studies: Vol. 6 pp. 173-180.

SOLESBURY, W. (1979)

Comment in Policy Forum. The uses of Strategic Planning: The
Example of the National Planning Guidelines in Scotland.

Town Planning Review Vol. 50 pp. 25-27

SPROTT, T.F. (1979)

Grampian: The Impact of Oil. The Planner vol. 65 (6) pp. 169-172

STIMMER, J.A. (1973): The Coastline of Scotland: Cambridge University
Press, London.

STIMMER, J.A. (1974): Protection of Coastal Areas. Council of Europe
European Information Centre for Nature Conservation. Strasbourg.

TAYLOR, D.W. ANGUS, D., NIVEN R. (1974) : Offshore Oil - A cause
for regret. Architects Journal Vol. 159 pp. 1416-1471.

THORBURN, A. (1978) : EIA - The Role of the Planning Authority.
Built Environment Vol 4 (2) pp. 122-128

TRAVIS, A.S. 1970 : Recreation Planning for the Clyde. Scottish
Tourist Board. Edinburgh.

TURNOCK, D. (1977) : The Oil Industry in Scotland. Geo Journal
vol. 1 pp. 55-70.

UDEN, J. (1976) : Public Inquiries and the Planning Decision Making
Process (with reference to the Drumbuie Inquiry): University
of Glasgow. Discussion Paper in Planning No. 6.

WEST CENTRAL SCOTLAND PLAN (1974) : Supplementary Report 5 B.
Landscape: West Central Scotland Plan Team Glasgow.

BIBLIOGRAPHY (Contd)

WHEELER, N. (1980) : Our Coastline: The Last Frontier.

The Planner Vol. 66 (6) pp. 154 - 156.

WRIGHT, S. (1980) : Large Scale Development and the Planning Process.

University of Glasgow. Unpublished M. Phil. Thesis.

YOUNG, J. (1978) : The Coast under Threat, 4. Success of Operation

Neptune. The Times 31/8/78 , London.

In addition articles from the following newspapers were used - The Glasgow Herald, The Guardian, and The Times.

The following structure plan documents were examined in the preparation of Figure 1:

Border Regional Council 1980	<u>Border Regional Structure Plan</u> <u>Written Statement.</u> Borders Region Newton St. Boswells.
Central Regional Council 1980	<u>Falkirk District Draft Structure Plan</u> Central Region, Stirling.
Dumfries & Galloway Regional Council 1979.	<u>Interim Policy Statement.</u> Dumfries and Galloway Region, Dumfries.
Grampian Regional Council 1979	<u>Aberdeen Area Draft Structure Plan</u> Grampian Region, Aberdeen.
Highland Regional Council 1979	<u>Highland Region Structure Plan Written</u> <u>Statement.</u> Highland Region, Inverness.
Lothian Regional Council 1979	<u>Lothian Region Structure Plan Written</u> <u>Statement.</u> Lothian Region, Edinburgh.
Strathclyde Regional Council 1981.	<u>Strathclyde Region Structure Plan Written</u> <u>Statement.</u> Strathclyde Region, Glasgow.
Tayside Regional Council 1980	<u>Tayside Region Draft Structure Plan</u> Tayside Region, Dundee.