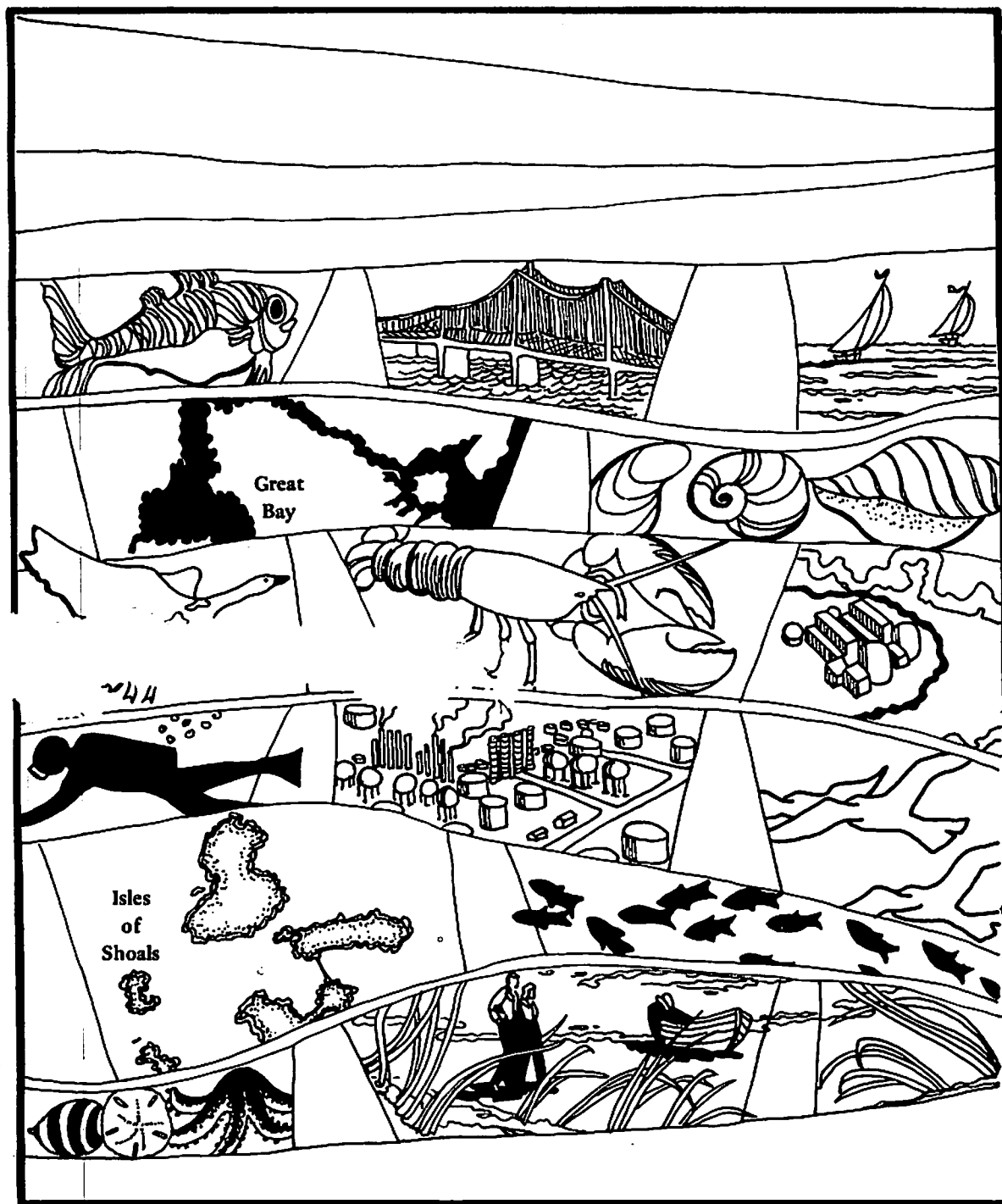


Public Attitudes and Coastal Resources in New Hampshire



by David W. Moore

PUBLIC ATTITUDES AND COASTAL RESOURCES
IN NEW HAMPSHIRE

by

David W. Moore

with assistance from
Christopher W. Herrick

Report No. UNH-SG-152

This publication is a result of research sponsored by NOAA Office of Sea Grant,
Department of Commerce, under Grant No. 04-5-158-50 (SGR/CZ-2).

The U. S. Government is authorized to produce and distribute reprints for
governmental purposes notwithstanding any copyright notation that may appear hereon.

University of New Hampshire
Department of Political Science

June 1976

This report is available, at \$.50 per copy, from the University of New Hampshire Marine Advisory Program, Kingsbury Hall, Durham, NH 03824. Cover design by Maura Jacunski.

TABLE OF CONTENTS

	Page
Introduction: Purpose and Data Sources	v
Summary	vi
REPORT	
1. Desirability of a Coastal Zone Management Plan	1
2. Possible Responsibilities and Limitations of a Coastal Zone Management Agency.	7
a. Establishing a CZM agency	7
b. Operation of the Agency	10
3. Development in the Seacoast Area	21
Appendices	35

LIST OF TABLES

1. Knowledge about CZM Plan	2
2. Support for CZM Plan	3
3. Reasons for Nonsupport of CZM Agency	4
4. Reasons for Support of CZM Agency	4
5. Primary Responsibility for CZM Plan at State, Regional or Local Level	8
6. Selection of CZM Agency Officials	9
7. Role of Regional Planning Commissions in CZM Agency	11
8. Role of Regional Planning Commissions in CZM Agency--Clarified	12
9. Authority of CZM Agency to Override Local Communities	13
10. Authority of CZM Agency to Veto Local Communities	15
11. Authority of CZM Agency to Veto Local Communities: Environmental Standards vs. Regional Planning Goals	16
12. Regulation of Land Use of CZM Agency	17
13. Appeal of CZM Agency to Governor and Executive Council	19
14. Appeal of CZM Agency to State Legislature	20
15. The Most Important Problem Facing the Seacoast Region	22
16. Economic vs. Environmental Emphasis	23
17. Support for Industrial Development	24
18. Support for Recreational Development	25
19. Industrial vs. Recreational Development	26
20. Seabrook Nuclear Power Plant	28
21. Oil Refinery in the Seacoast Area	29
22. General Public and the Oil Refinery Issue: Weighted and Unweighted Samples	30
23. Supertanker Port Facilities Off the Portsmouth Coast	32
24. Preservation of the Isles of Shoals	33

INTRODUCTION: PURPOSE AND DATA SOURCES

In the summer of 1974, the State of New Hampshire began what has become a three-year effort to develop a comprehensive plan for the management of marine and land resources in the seacoast area. This planning effort is the state's response to the Coastal Zone Management Act of 1972 (Public Law 92-583, 86 Stat. 1280), enacted to encourage all states bordered by salt water to develop their own plans for rational use of coastal zone resources.

As a part of New Hampshire's planning effort, a federally-funded survey was taken in the spring of 1975 to discover the attitudes of various groups in New Hampshire toward issues related to coastal zone management. The groups surveyed included a random sample of the general public of the seacoast area; seacoast political leaders (selectmen, city council members, mayors and town and city managers); selected business and environmental group representatives from the seacoast; the New Hampshire General Court (both House and Senate) and selected members of the Executive Branch, including members of the Bulk Power Site Evaluation Committee and the Special Board, plus all five members of the Governor's Executive Council. The study was funded through the University of New Hampshire Sea Grant Program, which is supported by the Sea Grant Office of the National Oceanic and Atmospheric Administration (NOAA) of the Department of Commerce, Washington, DC.

This report is divided into three sections. Section 1 reports respondents' attitudes toward the establishment of a coastal zone management (CZM) agency which would plan for the use of resources in the coastal area. Section 2 analyzes respondents' attitudes on the possible responsibilities and limitations of such an agency. Section 3 discusses the respondents' attitudes toward a variety of issues that a CZM agency might face in planning for the use of coastal resources.

SUMMARY

The political climate in New Hampshire at the time of this survey clearly favored development of a coastal zone management plan for the seacoast area of the state, with strong support expressed at every level of government. The general public in the seacoast; local political leaders (including the town managers and selectmen, city mayors and managers, plus the city councils); and representatives of business and environmental interest groups concerned with seacoast issues all expressed strong support of a CZM plan. So, also, did the New Hampshire General Court, i.e., the State Legislature, including both the House and Senate; selected members of the Executive Branch, (including officials directly concerned with economic development in the state, and the five members of the Governor's Executive Council.

Various other aspects of a CZM plan, however, did not elicit the same consensus. Seacoast political leaders, for example, expressed intense concern over the possible erosion of home rule, or local autonomy, that a CZM plan might entail. Therefore, although a majority of this group supported a CZM plan, their support was the weakest among all groups. Even among those who expressed support, almost one-third also expressed concern for the maintenance of home rule. As a consequence, seacoast political leaders were much more in favor of placing major responsibility for implementing a CZM plan at the local level than at either the seacoast regional or state levels, while the general public, seacoast interest group leaders, and the House were more in favor of placing that responsibility at the seacoast regional level.

The importance of the home rule tradition is reflected also in opinions concerning selection of CZM agency officials. Seacoast leaders expressed strong preference for local selection--either through appointment or election--of these agency officials. Even those groups who wanted major responsibility for implementing the plan to be at the regional level nevertheless expressed strong support for selection of agency officials at the local level.

The three regional planning commissions operating in the seacoast area received a collective vote of confidence. More than two-thirds of political, business and environmental leaders indicated that these commissions should play a major role, an advisory role or both in a CZM agency. It is clear, however, that these leaders envisioned some new agency, rather than an amalgam of the three existing commissions, since they did not give much support to the proposal that the three existing planning commissions should actually constitute the CZM agency.

Among the various levels of government, from the general public in the seacoast to the Executive Branch representatives, a consensus was found regarding some of the possible responsibilities and limitations of a CZM agency. Respondents felt the agency should be able to veto local acceptance of new industry into the seacoast, for example, if the industry failed to meet acceptable environmental standards or did not fit into regional planning goals, but the agency should not be able to approve an industry rejected by a local community. This latter "override" authority was overwhelmingly opposed at all levels of government. General land-use regulation by a CZM authority did not receive majority support among any of the groups of seacoast leaders, although a plan to allow a more limited authority within a specified distance from tidal waters (such as 500 feet) received substantially greater support and even majority support, among some of the groups of respondents.

The survey investigated two possible appeal procedures, one allowing appeal of agency decisions to the Governor and Executive Council, the other allowing an appeal to the State Legislature. Both proposals were controversial, although the consensus of seacoast leaders appeared to be against either "political" appeal procedure.

Finally, the survey explored attitudes about various development proposals that would have to be faced by a CZM agency. At all levels of government, respondents expressed strong support for encouraging both industrial and recreational development in the seacoast area, although they did not agree on the relative emphasis that each type of development should receive.

With respect to specific proposals, the survey investigated attitudes toward the construction of a nuclear power plant in Seabrook (in the seacoast area) and toward issues related to the construction of an oil refinery somewhere in the seacoast region. Several oil refinery proposals have already been made by various companies, but no definite plans now exist to build an oil refinery. A specific proposal to construct a nuclear power plant at Seabrook, however, is currently being reviewed by appropriate federal agencies. Reactions to these proposals were elicited in the survey, and the results revealed strong support among all respondents, except the environmental leaders, for the nuclear power plant. The oil refinery issue, however, was much more controversial, as was the related issue of whether to build an oil supertanker off the coast of Portsmouth. Most seacoast leaders were opposed to these issues, though other groups of respondents were more in favor. Strong support emerged among all groups of respondents, however, in favor of the proposal to make the Isles of Shoals, nine miles off the coast of Portsmouth, a natural preserve by forbidding all development of them.

SECTION 1

DESIRABILITY OF A COASTAL ZONE MANAGEMENT PLAN

As might be expected in the early stages of planning, knowledge about the Coastal Zone Management Act of 1972 and about New Hampshire's planning efforts was not very extensive at the time the survey was taken. All respondents were first told that "the federal government recently passed a law encouraging states to establish a coastal zone management (CZM) plan which would provide comprehensive planning for the use of resources in the seacoast area." Each respondent was then asked, "Have you heard a great deal, some or not much about this plan?" As the results in Table 1 reveal, only a small percentage of the various groups (except for environmental leaders, who show over 80 percent) had heard a "great deal" about a CZM plan.

Though knowledge about CZM planning is not yet widely shared, the survey results indicate significant support at all levels of government for the development of a CZM plan. Respondents were asked, "Would you favor or oppose the establishment of a management agency to plan for the use of resources in the seacoast area?" A majority of each group expressed support (Table 2). The Senate and general public were most in favor (92 percent and 71 percent, respectively), while seacoast political leaders were least in favor (51 percent).

To explore these results further, selected seacoast respondents¹ were asked why they opposed or supported the establishment of such an agency. Responses were grouped into categories given in Tables 3 and 4.

Of the 29 political leaders included as non-supporters, over two-thirds expressed opposition to a CZM agency because of fear that home rule would thereby be eroded (Table 3). Even among the political leaders who expressed support, 28 percent did so only with the understanding that home rule would be maintained (Table 4). Taken together, these figures mean that almost one-half (48 percent) of the political leaders expressed concern about the possible loss or erosion of home rule due to the establishment of a CZM agency. (These composite figures are not shown in a table.)

While the concern for maintenance of home rule did limit the support of local political leaders for a CZM agency, it should be re-emphasized that this support still exceeded nonsupport by a substantial margin. These attitudes, of course, were general in nature and not related to a

¹See Appendix A for a description of sampling procedure.

TABLE 1

KNOWLEDGE ABOUT CZM PLAN

Question: The Federal Government recently passed a law encouraging states to set up a Coastal Zone Management Plan which would provide comprehensive planning for the use of resources in the seacoast area. Have you heard a great deal, some or not much about this plan?

	General Public	Seacoast Political Leaders	Business Leaders	Environ. Leaders	Senate	House of Representatives		Executive Branch	
						Overall	Seacoast		Other
Great deal	3%	33%	33%	83%	33%	20%	46%	14%	32%
Some	10	21	42	8	50	35	31	35	32
Not much	79	44	25	8	17	39	23	42	36
DK/NA	9	1	0	0	0	7	0	9	0
TOTAL	101%*	99%*	100%	99%*	100%	101%*	100%	100%	100%
(Number of respondents)	(893)	(75)	(12)	(12)	(12)	(254)	(48)	(206)	(28)

*Figures do not always total 100% because of rounding error.

TABLE 2

SUPPORT FOR CZM PLAN

Question: Would you favor or oppose the establishment of a management agency to plan for the use of resources in the seacoast area?

	General Public	Political Leaders	Business Leaders	Environ. Leaders	Senate	House of Representatives Overall	Seacoast	Other	Executive Branch
Favor	71%	51%	58%	67%	92%	62%	56%	64%	61%
Oppose	11	43	25	25	8	21	29	19	32
DK/NA	18	7	17	8	0	17	15	17	7
TOTAL	100%	101%*	100%	100%	100%	100%	100%	100%	100%
(Number of respondents)	(895)	(75)	(12)	(12)	(12)	(254)	(48)	(206)	(28)

*Figures do not always total 100% because of rounding error.

TABLE 3
REASONS FOR NONSUPPORT OF CZM AGENCY*

	<u>Political Leaders</u>	<u>Business and Environmental Leaders</u>
Local autonomy/home rule	69%	25%
Sufficient (or too many) agencies already available	17	38
DK/NA	14	38
TOTAL	100%	101%
(Number of respondents)	(29)	(8)

*All Respondents who either opposed or were divided about establishing a CZM agency. Environmental and business leaders are combined because of their small number.

TABLE 4
REASONS FOR SUPPORT OF CZM AGENCY*

	<u>Political Leaders</u>	<u>Business and Environmental Leaders</u>
Need coordination/planning	31%	47%
CZM agency OK if home rule maintained	28	20
CZM agency would serve as arbitrator	10	0
Other	14	13
DK/NA	17	20
TOTAL	100%	100%
(Number of respondents)	(29)	(15)

*All respondents who favored establishment of a CZM agency.

specific proposal. It is likely that the final alignment for or against a CZM plan will shift somewhat, depending on the detailed provisions of such a plan. Section 2 examines attitudes toward some of those detailed responsibilities and limitations that could characterize a CZM agency.

SECTION 2

POSSIBLE RESPONSIBILITIES AND LIMITATIONS OF A
COASTAL ZONE MANAGEMENT AGENCY

Each respondent was asked questions about several specific provisions that might be included in a CZM plan. The questions were grouped under two categories: a) procedures for establishing a CZM agency (the level at which major responsibility will be exercised, the role of regional planning groups in the agency, and selection of agency officials) and b) rules governing the agency's operation (specific responsibilities and appeal mechanisms).

a. Establishing a CZM agency

After being asked whether the state should establish a CZM plan, respondents were asked at what level primary responsibility for carrying out the plan should be assigned, if a CZM plan were adopted. The choices were state level, seacoast region level or local level. Some respondents did combine two of the levels. The results are shown in Table 5.

Although differences among the groups' responses can be noted, in each group a substantial majority preferred that major responsibility for carrying out a CZM plan be at the seacoast regional level or lower, except for the Executive Branch respondents who favored the state level. On the other hand, at least a majority of each group preferred that major responsibility be at the seacoast regional level or higher. A plurality of the seacoast general public, the environmental leaders, and the House (both seacoast representatives and the rest of the state representatives) favored the regional level. A plurality of the Senate and Executive Branch favored the state level. A plurality of the seacoast political leaders favored the local level. Business leaders were evenly split between the state and regional levels.

Related to the question of the level at which major responsibility for a CZM plan should be exercised is the question of selecting CZM agency officials. All those respondents who were interviewed in person were asked the open-ended question, "How should officials of such a coastal zone management agency be selected?" Answers were coded into one of six categories (Table 6). Note that a majority of seacoast political, business and environmental leaders preferred selection--whether appointed or elected--by local government. A plurality of the members of the Executive Branch, however, opted for either state appointment or appointment through the State Civil Service.

Because the seacoast regional planning commissions (RPCs) already have a responsibility to help

TABLE 5

PRIMARY RESPONSIBILITY FOR CZM PLAN
AT STATE, REGIONAL OR LOCAL LEVEL

Question: If there is going to be such a Resources Management Plan for the seacoast, should primary responsibility for carrying out the plan be at the state level, seacoast regional level or the local level?

	General Public	Seacoast Political Leaders	Business Leaders	Environ. Leaders	Senate	House of Representatives Overall	Seacoast	Other	Executive Branch
	29%	9%	53%	0%	42%	50%	10%	54%	57%
State level									
Regional-									
State level	0	5	8	8	0	0	0	0	4
Regional level	33	35	33	58	25	41	60	36	11
Regional-									
Local level	0	1	0	8	0	0	0	0	0
Local level	27	44	25	17	25	20	25	19	18
DK/NA	12	5	0	8	8	10	6	11	11
TOTAL.	101%*	99%*	99%*	99%*	100%	101%*	99%*	100%	101%*
(Number of respondents)	(893)	(75)	(12)	(12)	(12)	(254)	(48)	(206)	(12)

*Figures do not always total 100% because of rounding error.

TABLE 6
SELECTION OF CZM AGENCY OFFICIALS

Question: How should officials of such a CZM agency be selected?

	<u>Seacoast Political Leaders</u>		<u>Business Leaders</u>		<u>Environ. Leaders</u>		<u>Executive Branch</u>	
Local election	13%		0%		33%		7%	
Local appointment	28	56%	42	67%	25	58%	11	36%
Local election or appointment	15		25		0		18	
Local or State appointment	11		17		33		18	
State appointment	5		17		8		14	43%
State Civil Service	0		0		0		29	
DK/NA	28		0		0		4	
TOTAL	100%		101%*		99%*		101%*	
(Number of respondents)	(75)	(12)	(12)		(12)		(28)	

*Figures do not always total 100% because of rounding error.

towns prepare for future development, respondents interviewed on a personal basis were asked about the role of RPCs in a CZM agency (Table 7). Only a small percentage of the respondents felt that the RPCs should either constitute a CZM agency or play no role at all. Between these two extremes the majority felt that the RPCs should have some role, although whether the role should be major or minor was somewhat controversial.

Because the terms "major" and "minor" are nebulous, these respondents were asked to explain why they chose one category over the other. Over one-half of the political leaders, two-thirds of the business and environmental leaders and almost three-quarters of the Executive Branch representatives who chose a "minor" role for the RPCs stated that the RPCs should, nevertheless, have an informational or advisory function. Many were careful to distinguish between an advisory or planning role, which they felt is appropriate to the RPCs, and a management or decision-making role, which they felt is appropriate to only a political body.

Recalculation of percentages based on this analysis shows that a substantial majority of all four groups of leaders wanted the RPCs to have at least an advisory role in the management agency. This position was taken by 67 percent of political and business leaders, 84 percent of environmental leaders and 86 percent of Executive Branch representatives (see Table 8). Only 19 percent of all political leaders, eight percent of all interest group leaders and four percent of the Executive Branch opposed the RPCs because the latter were seen as incompetent.

In summary, there was much disagreement over the level at which major responsibility for carrying out a CZM plan should be exercised, although the seacoast regional level would appear to be the most likely area of compromise. Selection of agency officials by local governments was strongly preferred by seacoast leaders, even when they also preferred a regional authority. The officials would in this case act as representatives of the local governments but, under the regional concept, they would also have some autonomous authority. Executive Branch representatives were more inclined to support state appointment of agency officials, but their strong support for the RPCs playing a major role in a CZM agency reflected their concern for local participation. Finally, most seacoast leaders felt the regional planning commissions should have at least an advisory role in a CZM agency (as do the Executive Branch members), but not the final authority.

It should be noted that the two questions about selection of agency officials and the role of the RPCs were open-ended questions, asked only in the personal interviews and not on the mail questionnaires. Therefore, the attitudes of the General Court on these matters cannot be analyzed.

b. Operation of the agency

Several questions were asked about the general responsibilities and authority that a CZM agency might have. Two questions dealt specifically with the authoritative relationship between a CZM agency and local government.

The first of these questions asked whether "the management agency should have the authority

TABLE 7

ROLE OF REGIONAL PLANNING COMMISSIONS IN CZM AGENCY

Question: What role, if any, should the regional planning commissions
in the seacoast area play in such an agency?

	<u>Seacoast Political Leaders</u>	<u>Business Leaders</u>	<u>Environ. Leaders</u>	<u>Executive Branch</u>
Should constitute agency	21%	17%	17%	4%
Major role	12	33	42	61
Minor role	27	25	25	25
No role	12	25	8	7
DK/NA	28	0	8	4
TOTAL	100%	100%	100%	101%*
(Number of respondents)	(75)	(12)	(12)	(28)

*Figures do not always total 100% because of rounding error.

TABLE 8

ROLE OF REGIONAL PLANNING COMMISSIONS IN CZM AGENCY--CLARIFIED

Question: What role, if any, should the regional planning commissions in the seacoast area play in such an agency?

	<u>Seacoast Political Leaders</u>	<u>Business Leaders</u>	<u>Environ. Leaders</u>	<u>Executive Leaders</u>
RPCs constitute agency	30%	17%	17%	4%
RPCs play major and/or advisory role	67%	67%	84%	86%
RPCs play minor or no role because of incompetence	37	50	67	82
Other	15	25	8	11
TOTAL	101%*	100%	100%	101%*
(Number of respondents)	(54)	(12)	(12)	(28)

*Figures do not always total 100% because of rounding error.

TABLE 9

AUTHORITY OF CZM AGENCY TO OVERRIDE LOCAL COMMUNITIES

Statement: The management agency should have the authority to approve an industry rejected by local townspeople.

	General Public	Seacoast Political Leaders	Business Leaders	Environ. Leaders	Senate	House of Representatives Overall	Seacoast	Other	Executive Branch
Agree	28%	5%	25%	0%	25%	26%	19%	27%	36%
Divided	4	3	0	0	0	0	2	0	0
Disagree	61	91	75	100	75	66	75	64	61
DK/NA	7	1	0	0	0	8	4	9	4
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	101%*
(Number of Respondents)	(893)	(75)	(12)	(12)	(12)	(245)	(48)	(206)	(28)

*Figures do not always total 100% because of rounding error.

to approve an industry rejected by local townspeople." As Table 9 reveals, respondents at all levels of government opposed such a strong "override" authority. This distinct concurrence of opinion reflects the very strong commitment that exists in New Hampshire to the home rule tradition.

Responses to the second question, however, reveal the limitations of this tradition. In the personal interviews with selectmen and business and environmental leaders, respondents were asked whether "the management agency should have the authority to reject an industry approved by local townspeople if it does not meet environmental standards." The percentage in agreement was so high, it seemed that perhaps the question was unnecessarily narrow. Respondents of all the other groups, plus the city council members who received the mail questionnaire, were therefore asked whether "the management agency should have the authority to reject an industry approved by local townspeople if the industry conflicted with regional planning goals." This question suggests more authority for the agency than the previous one.

As Table 10 reveals, the consensus of the groups would clearly allow a CZM agency veto authority in certain cases. Among the general public, the House and Senate and the Executive Branch, respondents favored a veto authority to foster regional planning goals. The seacoast political leaders, however, were much less willing to allow a CZM agency to put regional priorities over local preferences, except in cases where environmental standards were involved.

In Table 11, seacoast political leaders' responses were separated according to the two questions asked: whether they would support CZM authority to reject local acceptance of industry for environmental reasons or for regional planning goals. Of the 13 local political leaders who were asked the second question, five supported the veto authority (39 percent), while seven opposed that authority (54 percent). It would be questionable to generally apply these specific results to the rest of the political leaders because 13 is such a small number. The results to suggest, however, that opposition among seacoast political leaders would probably be greater to a veto authority that is used to foster regional goals than to one that is used to protect environmental standards.

Another possible responsibility for a CZM agency is land-use regulation. Respondents were first asked whether "the management agency should regulate land use with the seacoast area." Those who disagreed were then asked whether the agency should regulate land use at least "in areas within 500 feet from tidal waters." As Table 12 shows, some who opposed a general authority to regulate land use were nevertheless supportive of a more restricted authority.

Adding the first two response categories together reveals that a majority of environmental leaders, Executive Branch members, and the House of Representatives supported land-use regulation authority for a CZM agency within at least 500 feet of tidal waters. A plurality of general public, business leaders, and Senate supported that authority. A plurality of the seacoast political leaders opposed that authority. Again, the strongest opposition to the diminution of local power

TABLE 10

AUTHORITY OF CZM AGENCY TO VETO LOCAL COMMUNITIES

Statement: The management agency should have the authority to reject an industry approved by local townspeople if the industry conflicted with regional planning goals.*

	General Public	Seacoast Political Leaders	Business Leaders	Environ. Leaders	Senate	House of Representatives Overall	Seacoast	Other	Executive Branch
Agree	58%	61%	75%	92%	50%	55%	65%	53%	61%
Divided	3	1	0	0	17	0	2	0	0
Disagree	29	35	8	8	33	35	34	35	36
DK/NA	10	3	17	0	0	10	0	12	4
TOTAL	100%	100%	100%	100%	100%	100%	101%**	100%	101%**
(Number of Respondents)	(893)	(75)	(12)	(12)	(12)	(254)	(48)	(206)	(28)

*For seacoast leaders and business and environmental leaders, question was worded differently: After the word townspeople, the question continued "if the industry does not meet environmental standards." See text for fuller explanation.

**Figures do not always total 100% because of rounding error.

TABLE II

AUTHORITY OF CZM AGENCY TO VETO LOCAL COMMUNITIES:
 ENVIRONMENTAL STANDARDS VS. REGIONAL PLANNING GOALS

	Seacoast Political Leaders	
	<u>Veto in case of low Environmental Standards</u>	<u>Veto in case of conflict with Regional Planning Goals</u>
Agree	66%	39%
Disagree	31	54
DK/NA	3	8
	-----	-----
TOTAL	100%	101%*
(Number of respondents)	(62)	(13)

*Figures do not always total 100% because of rounding error.

TABLE 12
REGULATIONS OF LAND USE BY CZM AGENCY

	<u>General Public</u>	<u>Seacoast Political Leaders</u>	<u>Business Leaders</u>	<u>Environ. Leaders</u>	<u>Senate</u>	<u>House of Representatives Overall</u>	<u>Seacoast</u>	<u>Other</u>	<u>Executive Branch</u>
Agree with regulation of land use in general	49%	27%	25%	50%	42%	48%	44%	49%	46%
Agree with regulation of land use within 500' of tidal marshes only *	13	17	17	17	0	7	10	6	18
Disagree with regulation of land use at all by CZM agency	36	49	33	33	33	33	31	33	32
DK/NA	15	11	25	0	25	13	15	12	4
TOTAL	100%	100%	100%	100%	100%	101%**	100%	100%	100%
(Number of respondents)	(895)	(75)	(12)	(12)	(12)	(254)	(48)	(206)	(28)

* The general public was asked only the first question (whether the management agency should regulate land use in the seacoast area) and not the subsequent question of whether the regulation would be acceptable if limited to within 500' of tidal marshes.

**Figures do not always total 100% because of rounding error.

came from local representatives, while respondents from the other groups were generally more willing to invest a CZM agency with some centralized authority.

An important element of the authority of a CZM agency is the appeal process. How final should the decision of a CZM agency be? If the agency's decision is not final, to whom should an appeal be directed? No questions were asked in the survey about the desirability of allowing court appeals, because legal action of that sort is always possible. Two questions were asked, however, about the possibility of political appeals.

The first question asked whether "decision of the management agency to reject an industry should be subject to appeal to the Governor and Executive Council." The second asked whether "decisions of the management agency to reject an industry should be subject to appeal to the State Legislature." The results of responses to these two questions are shown in Tables 13 and 14.

Only the general public was supportive of both appeals procedures (and more supportive of an appeal to the State Legislature than to the Governor and Executive Council). On the other hand, seacoast political leaders, environmental leaders, House members from the seacoast, and members of the Executive Branch were opposed to either appeal process. The House, overall, favored an appeal mechanism to the Legislature but not to the Governor and Executive Council, while the Senate, curiously enough, favored appeal to the Governor and Executive Council but was divided over appeal to the Legislature.

In summary, survey results indicate substantial agreement on the outer limits of a CZM agency's authority. It should not be allowed, for example, to override local preferences about rejecting new industries. On the other hand, the consensus (with strongest reservations from the seacoast political leaders) is that the CZM agency should be able to veto new industries that fail to meet regional planning goals. Substantial opposition to this authority did decline somewhat if that authority were limited to within 500 feet from tidal waters.

Although the responses to these questions give a general indication of the authoritative limits respondents felt should be imposed on a CZM agency, the attitudes may shift somewhat, depending on the actual agency that is proposed. The greater the participation of local government in the decision-making process of the agency, the greater the authority of the CZM agency that will be favored by the seacoast leaders and the public.

With respect to the appeals process, no consensus among the various groups was evident. Clearly, any political appeal mechanism of the type examined in this study will create substantial political conflict.

TABLE 13

APPEAL OF CZM AGENCY DECISION

TO GOVERNOR AND EXECUTIVE COUNCIL

Statement: Decisions of the management agency to reject an industry should be subject to appeal to the Governor and Executive Council.

	General Public	Seacoast Political Leaders	Business Leaders	Environ. Leaders	Senate	House of Representatives Overall	Seacoast	Other	Executive Branch
Agree	59%	31%	50%	0%	58%	40%	53%	41%	59%
Divided	2	1	8	0	8	0	0	0	0
Disagree	30	61	42	100	33	52	65	49	54
DK/NA	8	7	0	0	0	9	2	10	7
TOTAL	99%*	100%	100%	100%	99%*	101%*	100%	100%	100%
(Number of Respondents)	(893)	(75)	(12)	(12)	(12)	(254)	(48)	(206)	(28)

*Figures do not always total 100% because of rounding error.

TABLE 14
 APPEAL OF CZM AGENCY DECISION
 TO STATE LEGISLATURE

Statement: Decisions of the management agency to reject an industry
 should be subject to appeal to the State Legislature.

	General Public	Seacoast Political Leaders	Business Leaders	Environ. Leaders	Senate	House of Representatives Overall	Seacoast	Other	Executive Branch
Agree	68%	35%	8%	17%	42%	52%	44%	53%	36%
Divided	4	1	8	8	17	0	0	0	0
Disagree	20	59	83	75	42	40	46	38	54
DK/NA	9	5	0	0	0	9	10	8	11
TOTAL	101%*	100%	99%*	100%	101%*	101%*	100%	99%*	101%*
(Number of Respondents)	(893)	(75)	(12)	(12)	(12)	(254)	(48)	(206)	(28)

*Figures do not always total 100% because of rounding error.

SECTION 3

DEVELOPMENT IN THE SEACOAST AREA

In the spring of 1975, the New Hampshire seacoast, along with the rest of the state and the country, was suffering from an economic recession. In spite of this trying situation, the residents of the New Hampshire seacoast--at all levels of the community, including seacoast representatives in the General Court, local political leaders, selected business and environmental interest groups, and the general public--identified various aspects of development above economic conditions as the most important problems facing the seacoast area. As Table 15 indicates, 38 percent of the general public identified development issues among the most important issues, compared to 26 percent who specified economic problems among the most important. Political and interest group leaders were even more emphatic, with a majority in each group identifying development problems as the most important in the seacoast.

Although development was identified as the major problem area facing the seacoast, this does not mean that an anti-development consensus has emerged in the seacoast. When asked, for example, whether "the management agency should place greater emphasis upon economic development or environmental concerns, or about equal emphasis on both," seacoast respondents--along with respondents from the General Court and the Executive Branch--overwhelmingly chose equal emphasis (see Table 16). Those who did indicate a preference were divided about equally between an emphasis on the economy and on environmental concerns.

Responses to two additional questions indicate even further the absence of an anti-development consensus in the seacoast area. In fact, contrary to an anti-development position, Tables 17 and 18 reveal very strong support among all groups of seacoast respondents for development--both industrial and recreational.

Whether industrial or recreational development should receive greater or equal emphasis, however, was more controversial. As Table 19 reveals, business and environmental leaders expressed strongly opposed points of view--business leaders strongly preferred industrial development, environmental leaders strongly preferred recreational development. Except for these two groups, both at the seacoast level, there is a distinctive trend from emphasis on industrial to emphasis on recreational development as one moves from the seacoast to the state level of government. The general public slightly favored industrial development; seacoast political leaders were divided;

TABLE 15
THE MOST IMPORTANT PROBLEM
FACING THE SEACOAST REGION

<u>PROBLEMS</u>	<u>General Public</u>	<u>Political Leaders</u>	<u>Business Leaders</u>	<u>Environmental Leaders</u>
<u>Development</u>				
1. General	7%	31%	50%	50%
2. Energy Industries (oil refinery, nuclear power plant, etc.)	15	8	0	0
3. Land use	2	3	8	17
4. Overpopulation	4	9	0	0
5. Pollution	5	4	0	17
6. Environment	5	0	0	8
7. Water supply	0	0	0	8
	-----	-----	-----	-----
Subtotal	38%	55%	58%	100%
<u>Economy</u>				
8. General (inflation, unemploy- ment, etc.)	14%	19%	42%	0%
9. Energy problems	9	15	0	0
10. Taxes	3	0	0	0
	-----	-----	-----	-----
Subtotal	26%	34%	42%	0%
<u>Other</u>	13%	8%	0%	0%
No answer	23%	4%	0%	0%
	-----	-----	-----	-----
TOTAL	100%	100%	100%	100%
(Number of respondents)	(893)	(75)	(12)	(12)

TABLE 16

ECONOMIC VS. ENVIRONMENTAL EMPHASIS

Question: Should the management agency place greater emphasis upon economic development or environmental concerns or about equal emphasis on both?

	General Public	Seacoast Political Leaders	Business Leaders	Environ. Leaders	Senate	House of Representatives Overall	House of Representatives Seacoast	House of Representatives Other	Executive Branch
Economic	15%	12%	17%	0%	17%	17%	19%	17%	3%
Equal emphasis	62	73	75	75	67	54	48	56	82
Environmental	16	13	0	16	17	21	25	20	7
DK/NA	6	1	8	8	0	7	8	7	7
TOTAL	99%*	99%*	100%	99%*	101%*	99%*	100%	100%	99%*
(Number of respondents)	(893)	(75)	(12)	(12)	(12)	(254)	(48)	(206)	(28)

*Figures do not always total 100% because of rounding error.

TABLE 17

SUPPORT FOR INDUSTRIAL DEVELOPMENT

Statement: In general, industrial development should be encouraged in the seacoast area.

	General Public	Seacoast Political Leaders	Business Leaders	Environ. Leaders	Senate	House of Representatives Overall	Seacoast	Other	Executive Branch
Agree	76%	72%	92%	25%	58%	51%	67%	48%	82%
Divided	3	12	0	50	0	0	0	0	7
Disagree	20	16	8	25	42	37	29	38	11
DK/NA	1	0	0	0	0	12	4	14	0
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%
(Number of respondents)	(893)	(75)	(12)	(12)	(254)	(48)	(206)	(28)	

TABLE 18
SUPPORT FOR RECREATIONAL DEVELOPMENT

Statement: In general, recreational development should be encouraged in the seacoast area.

	General Public	Seacoast Political Leaders	Business Leaders	Environ. Leaders	Senate	House of Representatives		Executive Branch
						Overall	Seacoast	
Agree	84%	84%	75%	83%	92%	85%	85%	89%
Divided	2	0	0	0	0	0	0	0
Disagree	13	16	8	17	8	9	10	7
DK/NA	1	0	17	0	0	8	6	4
TOTAL	100%	100%	100%	100%	100%	100%	99%*	100%
(Number of respondents)	(893)	(75)	(12)	(12)	(12)	(254)	(48)	(28)

*Figures do not always total 100% because of rounding error.

TABLE 19

INDUSTRIAL VS. RECREATIONAL DEVELOPMENT

Question: If development were going to occur in the seacoast area, do you think that industrial or recreational development should receive greater emphasis or that both should receive equal emphasis?

	General Public	Seacoast			Environ. Leaders	Senate	House of Representatives			Executive Branch
		Political Leaders	Business Leaders	8%			Overall	Seacoast	Other	
Industrial	55%	29%	50%	8%	8%	12%	25%	9%	11%	
Equal	38	40	33	33	50	40	33	42	46	
Recreational	23	28	8	58	42	40	35	41	39	
DK/NA	4	3	8	0	0	8	6	9	4	
TOTAL	100%	100%	99%*	99%*	100%	100%	99%*	101%*	100%	
(Number of respondents)	(893)	(75)	(12)	(12)	(12)	(254)	(48)	(206)	(28)	

*figures do not always total 100% because of rounding error.

seacoast representatives to the House were slightly in favor of recreational development; and the other House representatives, the Senate, and the Executive Branch all strongly preferred the recreational emphasis.

The foregoing responses indicate a general view about development in the seacoast, but they do not reveal attitudes about two of the most controversial development issues currently facing the seacoast: the nuclear power plant proposed for Seabrook, and various oil refinery proposals for different towns in the seacoast area.

Table 20 reveals strong support at every level of government for a nuclear power plant to be located at Seabrook. Majority opposition to the power plant came only from environmental leaders. Seacoast representatives in the House were just slightly in favor of the issue, while the general public, seacoast political and business leaders, the rest of the General Court and the Executive Branch members all strongly favored the issue by a two-to-one margin, or greater.

The issue of whether "an oil refinery should be built in the seacoast area" was much more controversial than the nuclear power plant issue. As shown in Table 21, political leaders, environmental leaders, and seacoast members in the House were strongly opposed, while the general public slightly favored and business leaders strongly favored building an oil refinery. The rest of the state representatives slightly favored the issue, while the Senate and Executive Branch were generally opposed to it.

It should be noted at this point that the slight preference of the general public for an oil refinery is strongly affected by whether the weighted or unweighted sample is used. The original (unweighted) sample of 893 respondents was over-representative of women and of people with higher education. Thus, a weighting procedure was used to correct for this misrepresentation². For all results thus far reported the weighted sample was used, although the results of the unweighted sample are virtually the same as the weighted sample. In the responses to the question of building an oil refinery, however, substantial differences do exist between the two samples. As shown in Table 22, the unweighted sample shows 39 percent who agree and 49 percent who disagree with the oil refinery, while the weighted sample shows almost the reverse: 49 percent who agree and 40 percent who disagree.

Which sample is the most accurate reflection of the seacoast population? At first, it might be concluded that the weighted sample is more accurate because it corrects for a known bias (over-representation of higher educated people and women) in the sample. When the results from two samples are similar, as they have been thus far, such validity questions do not arise. When the results differ, only an estimate can be made about which results should be accepted.

One additional factor is relevant here. Statistical tables show that for a sample size of

²See Appendix B for a fuller discussion of the weighting procedure.

TABLE 20

SEABROOK NUCLEAR POWER PLANT

Statement: The state government should support efforts to locate the nuclear power plant at Seabrook.

	General Public	Seacoast Political Leaders	Business Leaders	Environ. Leaders	Senate	House of Representatives Overall	Seacoast	Other	Executive Branch
Agree	59%	68%	83%	17%	58%	57%	50%	58%	75%
Divided	4	0	0	0	0	0	0	0	0
Disagree	24	29	17	83	25	33	42	32	14
DK/NA	13	3	0	0	17	10	8	10	11
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%
(Number of respondents)	(893)	(75)	(12)	(12)	(12)	(254)	(48)	(206)	(28)

TABLE 21
OIL REFINERY IN THE SEACOAST AREA

Statement: An oil refinery should be built in the seacoast area.

	General Public	Seacoast Political Leaders	Business Leaders	Environ. Leaders	Senate	House of Representatives Overall	House of Representatives Seacoast	Other	Executive Branch
Agree	49%	33%	50%	0%	35%	42%	25%	46%	36%
Divided	6	9	17	0	0	0	0	0	7
Disagree	40	56	25	100	58	46	67	41	46
DK/NA	5	1	8	0	8	12	8	13	11
TOTAL	100%	100%	100%	100%	99%*	100%	100%	100%	100%
(Number of respondents)	(893)	(75)	(12)	(12)	(12)	(254)	(48)	(206)	(28)

*Figures do not always total 100% because of rounding error.

TABLE 22
 GENERAL PUBLIC AND THE OIL REFINERY ISSUE:
 WEIGHTED AND UNWEIGHTED SAMPLES

Statement: An oil refinery should be built in the seacoast area.

	<u>Weighted Sample</u>	<u>Unweighted Sample</u>
Agree	49%	39%
Disagree	40	49
DK/NA	11	12
	-----	-----
TOTAL	100%	100%
(Number of		
respondents)	(893)	(893)

about 900, the maximum probable error is plus or minus three percent. This means that for the unweighted sample, the true figures could be as high as 42 percent who agree and 46 who disagree, while the weighted sample could show 46 percent agree and 43 percent who disagree. On an issue as volatile as the oil refinery question, such differences are minimal.

In light of the foregoing discussion, it is reasonable to conclude that the general issue of building an oil refinery in the seacoast area is not one on which the people in the seacoast have expressed a clear position. Furthermore, this general question would be complicated by a specific oil refinery proposal for a designated town or city, and the results of this questionnaire cannot predict whether any given, specific proposal would eventually be rejected or accepted by the general public. That there would be significant political conflict is revealed not only by the survey, but by recent political history.

Two additional questions related to the oil refinery issue were asked. The first asked whether "port facilities able to service supertankers should be built off the Portsmouth coast." As shown in Table 23, this question elicited conflicting responses.

Seacoast political leaders and environmental leaders were firmly opposed to such port facilities as were the seacoast representatives to the House. The general public, however, favored the issue, as did the rest of the state representatives. The Senate slightly favored the issue, while business leaders and Executive Branch members were evenly split. In short, except for the general public, seacoast respondents were either against or divided about the supertanker port, while the strongest support came from House members outside the seacoast area.

With respect to the general public, the results are again affected by whether the weighted or unweighted sample is used. The unweighted sample shows that the general public was divided on the issue, with 41 percent who agreed and 43 percent who disagreed. Compare these figures with 49 percent and 36 percent respectively from the weighted sample.

During the debate over one of the oil refinery proposals for the seacoast, some reports indicated that a supertanker port might be linked to, or operated in conjunction with, facilities located on the Isles of Shoals. Reaction to these reports focused on the historical importance of the Isles, and proposals were made to protect the Isles from any development. Thus, a second question related to the oil refinery issue asked whether "the Isles of Shoals should be made a natural preserve, thus forbidding all development of them."

As shown in Table 24, strong support for this proposal was found at all levels of government, except the Executive Branch, which was almost evenly divided on the issue (showing a little more support than opposition). Thus, although the issue seemed to be related to the oil refinery question, it is clear that even those groups of respondents who favored the oil refinery were still in favor of making the Isles of Shoals into a natural preserve.

In summary, development was seen as the greatest problem area facing the seacoast. While all

TABLE 23

SUPERTANKER PORT FACILITIES
OFF THE PORTSMOUTH COAST

Statement: Port facilities able to service supertankers
should be built off the Portsmouth coast.

	General Public	Seacoast Political Leaders	Business Leaders	Environ. Leaders	Senate	House of Representatives Overall	Seacoast	Other	Executive Branch
Agree	49%	39%	42%	0%	50%	48%	29%	53%	43%
Divided	5	1	0	8	0	0	0	0	4
Disagree	36	57	42	92	42	41	63	36	43
DK/NA	10	3	17	0	8	10	8	11	11
TOTAL	100%	100%	100%	100%	100%	99%*	100%	100%	100%
(Number of respondents)	(895)	(75)	(12)	(12)	(12)	(254)	(48)	(206)	(28)

*Figures do not always total 100% because of rounding error.

TABLE 24
 PRESERVATION OF ISLES OF SHOALS

Question: The Isles of Shoals should be made a natural preserve, thus forbidding all development of them.

	General Public	Seacoast Political Leaders	Business Leaders	Environ. Leaders	Senate	House of Representatives Overall	Seacoast	Other	Executive Branch
Agree	69%	63%	67%	83%	50%	56%	73%	52%	43%
Divided	3	3	0	0	0	0	0	0	11
Disagree	17	32	17	8	25	29	21	31	39
DK/NA	10	3	17	8	25	15	6	17	8
TOTAL	99%*	101%*	101%*	99%*	100%	100%	100%	100%	101%*
(Number of respondents)	(893)	(75)	(12)	(12)	(12)	(254)	(48)	(206)	(28)

*Figures do not always total 100% because of rounding error.

groups of respondents favored both industrial and recreational development, the relative emphasis that should be given these two types of development was a controversial point. With respect to specific development proposals, strong support was found at all levels of government for locating a nuclear power plant at Seabrook, although environmental leaders were strongly opposed to the idea. The proposal to build an oil refinery in the seacoast, however, met with much greater resistance--the public was generally divided over the issue, while seacoast political leaders and House members from the seacoast, along with environmental leaders, were strongly opposed. Reaction to the proposal to build a supertanker port off the Portsmouth coast generally followed group opinions on the oil refinery--the general public and business leaders were slightly in favor to divided, while local political leaders, seacoast House members, and environmental leaders were all firmly opposed. The proposal to make the Isles of Shoals a natural preserve received support at all levels of government, with all seacoast groups favoring the proposal by a margin of two-to-one or more.

APPENDIX A
SURVEY AND SAMPLING METHODS

This appendix outlines methods that were used in this project to select respondents and to administer the survey questionnaire. Six groups of respondents were identified for surveying: 1) the general public, 2) local political leaders, 3) business leaders and 4) environmental leaders (all from the seacoast), 5) the General Court (both the House and Senate) and 6) selected members of the Executive Branch. The survey and sampling methods for each group are outlined below.

Seacoast General Public

The cities and towns included in the coastal zone were specified by the New Hampshire State Office of Comprehensive Planning, based on each community's distance from tidal waters. The area includes two cities, Portsmouth and Dover, and 15 towns, all shown on the map in Figure A-1.

A random sample of residential telephone numbers in the seacoast area was selected from the most recently published telephone directories. Of those contacted, 62.5 percent, or 893, agreed to be interviewed. Interviews were conducted by telephone. Up to four call-backs for each number were made when the designated respondent could not be reached on the first try, or when nobody answered the telephone.

A pilot sample of 160 respondents was surveyed in March-April, 1975 and a larger sample of 733 respondents was surveyed in May-June, 1975. The two groups were combined into one large sample in this report because response patterns of the two were not significantly different.

The demographic characteristics of the sample regarding income and age do not differ substantially from the characteristics reported in the 1970 census, but significant differences do exist with regard to sex and education. A weighting factor was therefore employed to correct for this difference. (See Appendix B.)

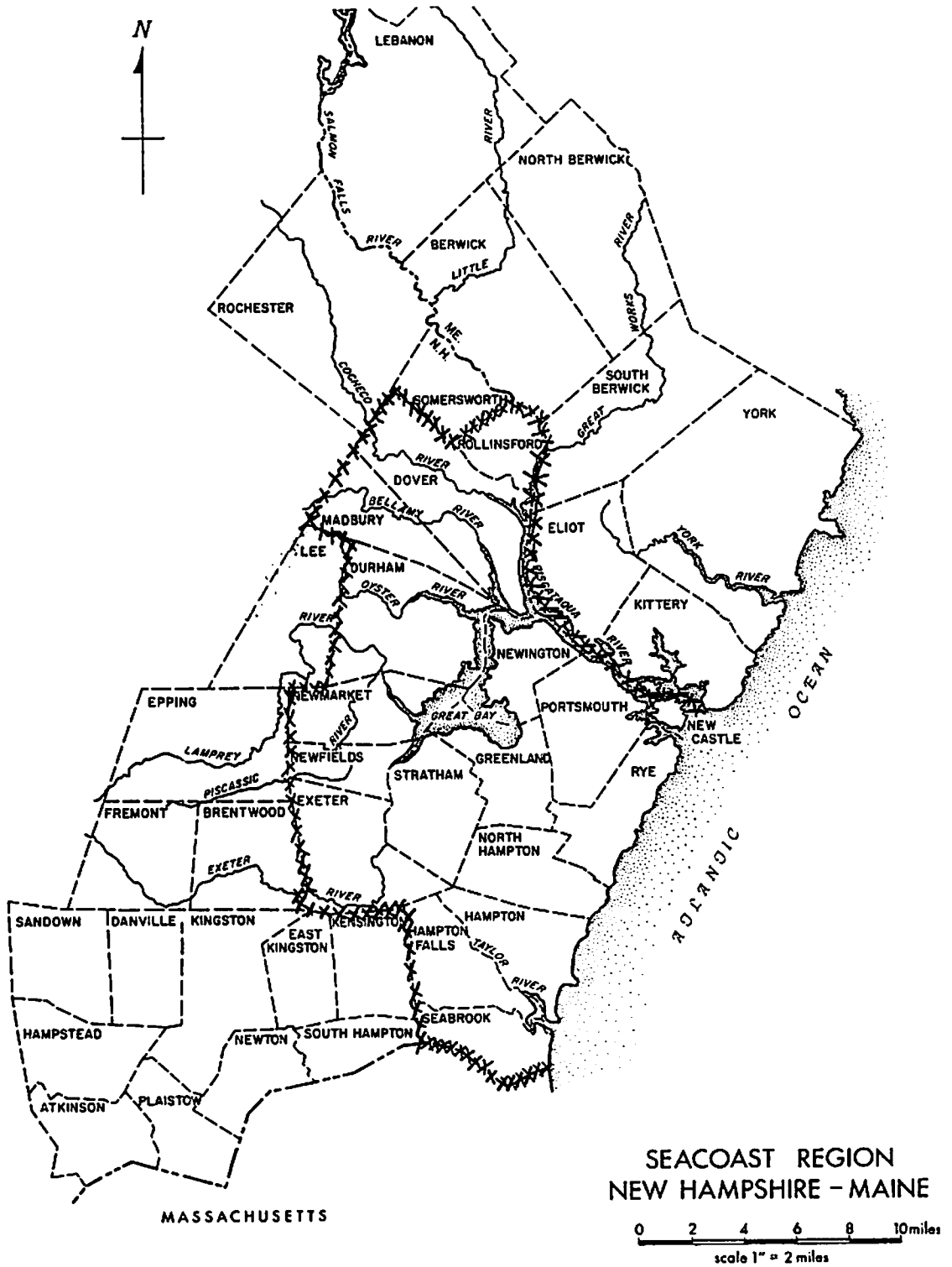
Seacoast Political Leaders

The persons contacted in this group included all the selectmen from the towns surveyed and town managers (where one was employed) and the mayors, city managers and city councilmen of Dover and Portsmouth. Of the 79 political leaders thus identified, 75 (95 percent) agreed to participate in the survey.

Two survey techniques were employed with this group. Because of the large number of city

TOWNS AND CITIES OF THE SEACOAST AREA

FIGURE A-1



councilmen and the greater expense of personal interviews compared to mail interviews, all city councilmen were sent mail questionnaires. The mayors and city managers of the two cities and the town leaders were all interviewed in person. The only major difference between the two interview schedules is that the questionnaire used in the personal interviews provided for a greater probing of reasons for and against selected issues. The mail questionnaires did, however, include all the issues covered in the personal interview questionnaires.

Business and Environmental Leaders

The selection of representatives of business and environmental groups was not derived from a random sample but, rather, from informed judgment. Based on discussions with elected representatives, officials in the Southeast New Hampshire Regional Planning Commission and the State Office of Comprehensive Planning, plus information from various business and environmental leaders themselves, the final list of organizations was identified (Figure A-2). All of the environmental groups and 12 of the 13 business groups contacted participated in the survey.

FIGURE A-2
BUSINESS AND ENVIRONMENTAL GROUPS CONTACTED

Business

- Commercial Fishermen's Association
- Dover Chamber of Commerce
- Exeter Area Chamber of Commerce
- First National Bank of Portsmouth
- Granite State Oil
- Hampton Chamber of Commerce
- Indian Head Bank
- New Hampshire Home-Builders Association
- Portsmouth Chamber of Commerce
- Public Service Company of New Hampshire
- Seacoast Regional Development Association
- Sprague Energy

Environmental

- Audubon Society
- Concerned Citizens of Dover
- Concerned Citizens of Exeter
- Concerned Citizens of Hampton
- Concerned Citizens of Newington
- Concerned Citizens of Rye
- Environmental Coalition
- Save Our Shores
- Seacoast Anti-Pollution League
- Seacoast Coalition
- Society for the Protection of New Hampshire Forests
- The Study Group, Inc.

Businesses contacted included all four local chambers of commerce, two large banks in the area, three representatives of energy industries, one representative of the fishing industry, two representatives of the building and realtor industries and one organization generally concerned with regional development.

Environmental respondents were representatives of some of the most active groups who have participated in the seacoast issues dealing with development. Many of these groups cooperate with each other, but each group has its own organization. Respondents were asked what other environmental groups should be surveyed in order to ensure that all major environmental groups were included in the survey.

The General Court

All members of the General Court (from both the House and Senate) were sent questionnaires. Explanatory letters were sent to notify the legislators before the questionnaires were mailed to them. Those who did not respond to the first questionnaire received reminders about two weeks later, followed by a second questionnaire and eventually another reminder. Finally, each legislator who had not responded was called and surveyed over the telephone when this was possible. The vast majority of responses were obtained during the three-month summer period of 1975.

Of the 400 members of the House, 13 had died or resigned since the last election, leaving 387. The overall response rate of House members was 66 percent, which included 79 percent of seacoast representatives and 63 percent of the others. Of the 24 members of the New Hampshire Senate, 50 percent participated in the survey.

The Executive Branch

Personal interviews were attempted with numerous selected members of the Executive Branch whose specific or general responsibilities deal with resource management issues. These included members of the Water Supply and Pollution Control Agency, the Bulk Power Site Evaluation Committee and the Special Board, plus officials with more general responsibility (Figure A-3). Of the 32 Executive Branch members selected for interviews, 88 percent participated in the survey, including all five members of the Governor's Executive Council.

FIGURE A-3
EXECUTIVE BRANCH OFFICIALS CONTACTED FOR SURVEY

Public Utilities Commission - Chairman
Department of Safety - Commissioner
Transportation Authority - Director
Department of Revenue Administration - Commissioner
Department of Resource and Economic Development - Commissioner
 Division of Parks - Director
 Division of Resources - Director
Department of Public Works and Highways - Commissioner
Department of Labor - Commissioner
Attorney General
Department of Agriculture - Commissioner
Department of Employment Security - Commissioner
Department of Health and Welfare - Commissioner
 Division of Welfare - Director
 Division of Health Services - Director
 Air Pollution Control Agency - Director
 Radiation Control Agency - Director
Department of Fish and Game - Commissioner
 Chief Marine Biologist
 Biologist for Fisheries
Industrial Development Authority - Chairman
Water Supply and Pollution Control Agency - Director
 Chief Aquatic Biologist
Port Authority - Chairman of the Board
Office of Comprehensive Planning - Director
State Energy Office - Director
Water Resources Board - Chairman
New Hampshire Executive Councilors - five

APPENDIX B
WEIGHTING FACTOR

Demographic characteristics of sample respondents were compared with those reported in the 1970 census for the seacoast area. The sample distributions regarding the age and income variables were not substantially different from those of the census figures. However, disproportionate numbers of females and of more highly educated persons were represented in the sample.

In order to correct for this bias, a weighting factor was used. The principle of this technique is to give more importance to those respondents who are in the under-represented categories and less importance to those respondents in the over-represented categories. For example, if the census indicates that 40 percent of the people in the seacoast are high school graduates and only 20 percent of the survey sample represents high school graduates, the sample would under-represent high school graduates. In this case, the weighting factor would be 2.0, which would allow for the response of each high school graduate to be counted twice. Likewise, if the census indicates that only 10 percent of seacoast residents have a college degree and the survey sample consists of 20 percent college graduates, the sample would over-represent college graduates. The weighting factor in this case would be .5, and would allow the response of every college graduate to be counted as one-half.

To apply the weighting factor to this survey, the sample was divided into male and female categories. These categories, in turn, were each subdivided into the six educational level categories.

The percentage of respondents in each category was compared with census data, and a weighting factor was derived for each category so that the adjusted sample percentage would correspond equally to the census data (Figure B-1). An adjusted number of respondents was then used in the analysis. For example, the raw sample contains 363 males, but the adjusted sample treats those males as though they actually numbered 423 (or 47.4 percent of the sample, which is identical in percentage to the census figures). Likewise, the 527 females are treated as though they actually numbered 470 (or 52.6 percent of the sample, again identical in percentage to census figures).

While this technique is useful in assuring that the sample reflects the actual demographic composition of the population, two major assumptions underlying the technique should be noted.

First, as applied in this study, the 1970 census figures are assumed to apply to 1975 (the

FIGURE B-1

<u>Education</u>	<u>Census Percent</u>	<u>Sample Percent</u>	<u>Weight Factor</u>	<u>Sample Number</u>	<u>Adjusted Number</u>	<u>Census Percent</u>	<u>Sample Percent</u>	<u>Weight Factor</u>	<u>Sample Number</u>	<u>Adjusted Number</u>
Elementary	8.63	2.46	3.49	22	77	8.90	1.57	5.66	14	79
Some High School	7.56	4.14	1.82	37	67	8.66	6.83	1.26	61	77
High School Grad	16.59	12.32	1.34	110	148	20.69	22.40	.92	200	184
Some College	5.62	7.84	.71	70	50	8.20	14.45	.57	129	73
College Grad	4.-8	7.39	.66	66	44	4.47	9.52	.47	85	40
Post-Grad	4.17	6.49	.64	58	37	1.64	4.26	.38	38	17
TOTAL										
(Average)	47.45	40.65	(1.17)	363	423	52.56	59.03	(.89)	527	470

year in which the sample was taken). This assumption, though probably not absolutely correct, seems to be a reasonable one. While the overall population has undoubtedly increased, there is no reason to believe that the demographic composition is changing very rapidly with regard to educational level and sex.

Second, the technique assumes that the sample respondents in each category represent the population that falls in that category. Thus, for example, the 110 males in the sample who are high school graduates are assumed to represent all males in the population who have completed high school. Since that category of males is under-represented in the sample, it would be acceptable to increase numerically the importance of their responses for analysis purposes. On the average, such an assumption seems reasonable. The smaller the number of respondents in a category, however, the greater the probability of some distortion in the final results.

Since no precise method of determining the accuracy of these assumption exists, it is important to check the results of the raw data analysis with the results of the adjusted-data analysis. In this study, significant discrepancies between the two types of analysis are noted in the text of the report.