

**Narragansett Bay Study Project**  
**Translating Science into Management**

by

John Wendell Gruber

Thesis

Submitted in partial fulfillment of the requirements for the  
Degree of Bachelor of Arts with Honors  
in the Environmental Studies Program at Brown University

May 1986

## CONTENTS

<i>Acknowledgments</i> . . . . .	iii
<b>FOREWORD</b> . . . . .	iv
<b>INTRODUCTION</b> . . . . .	v
<b>Chapter I:      <i>History of the Narragansett Bay Study Project</i></b> . . . . .	<b>1</b>
<i>Defined Purpose of the Bay Study</i> . . . . .	1
<i>EPA and State Administration</i> . . . . .	4
<i>The Committee Structure</i> . . . . .	5
<b>Chapter II:     <i>Research and Management</i></b> . . . . .	<b>14</b>
<i>Achieving the Correct Balance</i> . . . . .	16
<i>Sectoral Participation in Research Selection and Scientists Incentives</i> . . . . .	17
<i>Scientists' Incentives in Research</i> . . . . .	20
<i>Resource Allocation and Maximization of Research Gains</i> . . . . .	21
<i>Research Time Scales and Syntheses</i> . . . . .	26
<i>Lessons to be Learned from Chesapeake Bay</i> . . . . .	27
<b>Chapter III:    <i>Structure of Decision-making and the Influence of Science</i></b> . . . . .	<b>30</b>
<i>The Potential for Science Influence</i> . . . . .	30
<i>Interactions and Influence</i> . . . . .	38
<i>Error Correction</i> . . . . .	42
<i>Research Types and Management Questions</i> . . . . .	43
<i>Narragansett Bay Research</i> . . . . .	47
<i>Summary</i> . . . . .	51
<b>Chapter IV:     <i>Analysis of the Five-Year Plan and Research</i></b> . . . . .	<b>52</b>
<i>Science research evaluation</i> . . . . .	52
<i>Biological Species and Living Resources</i> . . . . .	54
<i>Ecosystems Modelling and Simulations</i> . . . . .	56
<i>The MERL Mesocosm</i> . . . . .	59
<i>The role of risk research</i> . . . . .	64

<b>Chapter V:</b>	<b><i>Recommendations for the Future of Bay Study</i></b>	<b>67</b>
	<i>The Public and User Groups</i>	67
	<i>The Decision-Making Process</i>	71
	<i>Policy and Management Studies</i>	74
	<i>Types of Science Being Done</i>	76
	<i>Living resources</i>	77
	<i>Use of Modelling Science</i>	78
<b>Chapter VI:</b>	<b><i>Conclusion</i></b>	<b>80</b>
<b>Appendix A:</b>	<b><i>Meeting Notes from Management Committee Meetings, 1986.</i></b>	<b>82</b>
	<i>Narragansett Bay Management Committee Meeting</i>	82
	<i>Narragansett Bay Management Committee Meeting</i>	86
	<i>Narragansett Bay Management Committee Meeting</i>	90
	<i>Narragansett Bay Policy Issues Review Committee Meeting</i>	94

**TABLES**

1.	<i>Narragansett Bay Project Management Structure:</i>	7
2.	<i>Striking a Balance</i>	16
3.	<i>The Influence of Science</i>	32
4.	<i>Elements of an "ideal" policy process</i>	43
5.	<i>Management Questions for the Narragansett Bay Study</i>	45
6.	<i>Research Agenda for First Year of Narragansett Bay Study.</i>	49
7.	<i>Research Agenda for Fiscal Year 1986.</i>	50
8.	<i>Recommendations for future of Bay Study</i>	68
9.	<i>Some important aspects of Model Evaluation</i>	79