

their value for acquisition or restoration as protected wetlands.

- Conduct research, development, and evaluation in key areas. Research and monitoring should be part of any long-term effort to protect and restore wetlands, now and as the climate changes. Congress could encourage agencies to incorporate research on wetlands into their U.S. Global Change Research Program efforts (see ch. 3). Congress could also direct the Department of the Interior to include an assessment of wetlands and periodic monitoring for the effects of climate change in the proposed National Biological Survey (see ch. 5).

## CHAPTER 4 REFERENCES

- I. Albrecht, V.S., and D. Isaacs, "Wetlands Jurisdiction and Judicial Review," *Natural Resources and Environment*, vol. 7, summer 1992, pp. 29-31, 65-67.
2. Alper, J., "War Over the Wetlands: Ecologists v. the White House," *Science*, vol. 257, August 1992, pp. 1043-44.
3. American Fisheries Society, letter to the Senate Committee on Commerce, Science, and Transportation March 1, 1990, as cited in J.P. Wise, *Federal Conservation and Management of Marine Fisheries in the United States* (Washington, DC: Center for Marine Conservation 1991), p. 1.
4. Armentano, T.V., R.A. Park, and L.C. Cloonan, "Impacts on Coastal Wetlands Throughout the United States," in: *Greenhouse Effect, Sea Level Rise, and Coastal Wetlands*, EPA 230-05-86-013, J.C. Titus (ed.) (Washington, DC: U.S. Environmental Protection Agency, Office of Policy, Planning and Evaluation, July 1988).
5. Arp, W.J., and B.G. Drake, "Increased Photosynthetic Capacity of *Scirpus olneyi* After 4 Years of Exposure to Elevated CO<sub>2</sub>," *Plant, Cell, and Environment*, vol. 14, 1991, pp. 1003-6.
6. Bean, M.J., "Waterfowl and Climate Change: A Glimpse into the Twenty-First Century," *Orion Nature Quarterly*, spring 1989, pp. 22-27.
7. Bingham, G., E.H. Clark II, L.V. Haygood, and M. Leslie (eds.), *Issues in Wetlands Protection: Background Papers Prepared for the National Wetlands Policy Forum*, report prepared for The Conservation Foundation, Washington, DC, 1990.
8. Booth, W., "Storm Left Gash in Everglades' Heart," *The Washington Post*, Sept. 6, 1992, pp. 1, 14.
9. Brewer, R., *The Science of Ecology* (Philadelphia: Saunders College Publishing, 1988).
10. Canning, D.J., *Sea Level Rise in Washington State: State-of-the-Knowledge, Impacts, and Potential Policy Issues*, Version 2.1 (Olympia, WA: Washington State Department of Ecology, Shorelands and Coastal Zone Management Program, 1992).

### WETLANDS-FIRST STEPS

- Revise the Clean Water Act
  - Make the *wetland* protection mandate specific in Section 404 or elsewhere.
  - Ensure that more land is set aside for protection or restoration than is destroyed.
  - Establish uniform standards for mitigation activities.
- Develop and implement priority plans to coordinate wetland protection across agencies
  - Build on existing plans under various agencies (i.e., the U.S. Army Corps of Engineers, the Fish and Wildlife Service, the Environmental Protection Agency, and the U.S. Department of Agriculture).
  - Direct agencies to use the priority plan in issuing permits (under Section 404 of the Clean Water Act) and acquiring land and easements (through the Swampbuster and wetlands Reserve Program and other programs).
  - Coordinate planning and management for wetlands at the watershed level.
- Ensure that all Federal policies and incentives are consistent with wetland protection
  - Extend the Coastal Barrier Resources Act to include coastal wetlands.
  - Require the Fish and Wildlife service to issue Volume 2 of *The Impact of Federal Programs* a report mandated in the 1986 Emergency wetlands Resources Act.
  - Restore the wetlands Reserve Program at least to authorized levels; target wetlands in high-priority areas.
  - Restore tax incentives to private landowners who grant conservation easements.

11. **Castelle, A.J., C. Conolly, M. Emers et al.,** *Wetland Buffers: An Annotated Bibliography*, report prepared for the **Shorelands and Coastal Zone Management Program**, Washington State Department of Ecology, **Olympia, WA, February 1992.**
12. **Castelle, A. J., C. Conolly, M Emers et al.,** *Wetland Buffers: Use and Effectiveness*, report prepared for the **Shorelands and Coastal Zone Management Program**, Washington State Department of Ecology, **Olympia, WA, February 1992.**
13. **Castelle, A.J., S. Luchessa, C. Conolly et al.,** *Wetlands Mitigation Banking*, report prepared for the **Shorelands and Coastal Zone Management Program**, Washington State Department of Ecology, **Olympia, WA, February 1992.**
14. Chambers, J.R., National Marine Fisheries Service, National Oceanic and Atmospheric Administration, 'U.S. Coastal Habitat Degradation and Fishery Declines,' paper presented at the 57th North American Wildlife and Natural Resources Conference, Charlotte, NC, March 27-April 1, 1992. (To be published in *Transactions of the North American Wildlife and Natural Resources Conference* by the Wildlife Management Institute, **Washington, DC.**)
15. **Chancy, E., W. Elmore, and W.S. Platts,** *Livestock Grazing on Western Riparian Areas*, report prepared produced for the U. S. Environmental Protection Agency (Eagle, ID: Northwest Resources Information Center, Inc., 1990).
16. Coastal **Ocean Policy Roundtable**, *The 1992 Coastal Status Report: A Pilot Study of the U.S. Coastal Zone and Its Resources* (**Newark, DE: Coastal Ocean Policy Roundtable, 1992.**)
17. **Cohn, J.P.,** "How Wet Must a Wetland Be?" *Government Executive*, vol. 24, **March 1992**, pp. 20-25.
18. Congressional Research Service, Library of Congress, *Ocean and Coastal Resources: A Briefing Book* (**Washington DC: Congressional Research Service, Library of Congress, Sept. 1, 1992.**)
19. Cooper, C., *Sensitivities of Western U.S. Ecosystems to Climate Change*, contractor report prepared for the Office of **Technology Assessment, 1992.**
20. **Copeland, C.,** *Federal Wetlands Manual Revisions: Summary of Interagency Team Reports* (**Washington DC: Congressional Research Service, Library of Congress, Feb. 25, 1992.**)
21. Council on Environmental Quality and Interagency Advisory Committee on Environmental Trends, *Environmental Trends* (**Washington, DC: U.S. Government Printing Office, 1989.**)
22. **Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe,** *Classification of Wetlands and Deepwater Habitats of the United States, FWS/OBS-79/31* (**Washington, DC: U.S. Department of the Interior, U.S. Fish and Wildlife Service, 1979.**)
23. **Dahl, TX.,** *Wetlands Losses in the United States, 1780s to 1980s*, report to Congress (**Washington DC: U.S. Department of the Interior, Fish and Wildlife Service, 1990.**)
24. **Dahl, T.E., and C.E. Johnson,** *Status and Trends of Wetlands in the Conterminous United States, Mid-1970's to Mid-1980's* (**Washington, DC: U.S. Department of Interior, U.S. Fish and Wildlife Service, 1991.**)
25. **Deland, M.R.,** "No Net Loss of Wetlands: A Comprehensive Approach," *Natural Resources and Environment, VOL 7*, summer 1992, pp. 3-5.
26. **Drake, B.G.,** "Effect of Elevated CO<sub>2</sub> on Chesapeake Bay Wetlands," *Responses of Vegetation to Carbon Dioxide*, VOL 51, April-November 1990.
27. **Drake, B.G.,** Research Scientist Smithsonian Environmental Research Center, testimony at the **Hearing on Global Change Research: Global Warming and the Biosphere**, before the **Senate Committee on Commerce, Science, and Transportation**, April 9, 1992.
28. **Drew, L.,** "Wrangling for Change on the Range," *National Wildlife*, February-March 1992, pp. 46,4849.
29. **Edgerton, L.T.,** *The Rising Tide: Global Warming and World Sea Levels* (**Washington, DC: Island Press, 1991.**)
30. **Ellison, J. C.,** "Climate Change and Sea-Level Rise Impacts on Mangrove Ecosystems," in: *Impacts of Climate Change on Ecosystems and Species*, R. **Leemans et al. (eds.)** (Cambridge, England: Cambridge University Press, in press).
31. **Erwin, K.L.,** *An Evaluation of Wetland Mitigation in the South Florida Water Management District* (1990), *Volume 1*, report prepared for South Florida Water Management **District**, July 1991.
32. Federal Emergency Management Agency, Federal Interagency Floodplain **Management Task Force**, *Floodplain Management in the United States: An Assessment Report, Volume 2*, 1992-623-787/60303, prepared by **L.R. Johnston Associates** (**Washington, DC: U.S. Government Printing Office, 1992.**)
33. Federal **Interagency Committee for Wetland Delineation** *Federal Manual for Identifying and Delineating Jurisdictional Wetlands*, cooperative **technical publication**, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S. Department of Agriculture, Soil Conservation **Service** (**Washington, DC: U.S. Government Printing Office, 1989.**)
34. *Federal Register*, "Permits for Activities in Navigable Waters or Ocean Waters," *Federal Register*, vol. 40, No. 144, July 25, 1975, pp. 3131943.
35. **Field, D.W., A.J. Reyer, P.V. Genovese, and B.D. Shearer,** *Coastal Wetlands of the United States: An Accounting Of a Valuable National Resource, a special National Oceanic and Atmospheric Administration (NOAA) 20th anniversary report* (**Washington, DC: Department of Commerce, NOAA, February 1991.**)
36. **Flather, C.H., and T.W. Hoekstra,** *An Analysis of the Wildlife and Fish Situation in the United States: 1989-2040, General Technical Report RM-178* (**Washington, DC: U.S. Department of Agriculture, September 1989.**)
37. **Foster, C.W., and P.P. Rogera,** "Rebuilding the Nation's Wetlands Heritage: A Challenge for the 1990s," **report** of the Harvard Wetlands Policy **Project**, Center for Science and International Affairs Discussion Paper 91-5, Revised (**Cambridge, MA: Harvard University, John F. Kennedy School of Government October 1991.**)
38. **Gendler, M.,** "Ibwtud a Better Use of Coastal **Resources:** Coordinated State and Federal **Planning** Under the Coastal Zone Management Act," *Georgetown Law Journal*, vol. 65, April 1977, p. 1059.

39. Georgia Department of Community Affairs, "Minimum Standards and procedures for Local Comprehensive Planning [to implement Georgia Laws 1989]," Act 634 as amended by the Board of Community Affairs (Atlanta, GA: Georgia Department of Community Affairs, April 1992), pp. 1317-91.
40. Gillis, A. M., "Should Cows Chew Cheatgrass on Commonlands?" *Bioscience*, vol. 41, No. 10, November 1991, pp. 668-75.
41. Goldsmith, E., N. Hildyard, P. McCully, and P. Bunyard, *Imperiled Planet: Restoring Our Endangered Ecosystems* (Cambridge, MA: The MIT Press, 1990).
42. Goldstein, J., "Introduction" in: *A National Policy of "No Net Loss" of Wetlands: What do Agricultural Economists Have to Contribute?*, AGES 9149, R.E. Heimlich (ed.) (Washington DC: U.S. Department of Agriculture, Economic Research Service, Resource and Technology Division, 1991), pp. 1-3.
43. Gosselink, J.G., E.P. Odum, and R.E. Pope, "The Value of the Tidal Marsh," Report No. LSU-SG-74-03 (Baton Rouge, LA: Center for Wetland Resources, Louisiana State University, 1974).
44. Grulke, N.E., G.H. Riechers, W.C. Oechel, U. Hjelm, and C. Jaeger, "Carbon Balance in Tussock Tundra Under Ambient and Elevated Atmospheric CO<sub>2</sub>," *Oecologia*, vol. 83, 1990, pp. 485-94.
45. Heimlich, R.E. (ed.), *A National Policy of "No Net Loss" of Wetlands: What Do Agricultural Economists Have to Contribute?*, AGES 9149 (Washington DC: U.S. Department of Agriculture, Economic Research Service, Resources and Technology Division, 1991).
46. Hill, C.L., B.J. Ryan, B.A. McGregor, and M. Rust, *Our Changing Landscape: Indiana Dunes National Lakeshore*, U.S. Geological Survey Circular 1085, in: "Public Issues in Earth Science" series (Washington DC: Government Printing Office, 1991).
47. Interagency Committee on Wetlands Restoration and Creation, *A National Program for Wetlands Restoration and Creation, report to the Policy Coordinating Group Interagency Task Force on Wetlands*, August 1992.
48. Intergovernmental Panel on Climate Change (WCC), World Meteorological Organization, and United Nations Environment Program, *Climate Change: The IPCC Impacts Assessment, report prepared for IPCC by Working Group II*, W.J. McG. Tegtart, G.W. Sheldon, and D.C. Griffith (eds.) (Canberra, Australia: Australian Government Publishing Service, 1990).
49. Intergovernmental Panel on Climate Change (IPCC), World Meteorological Organization, and United Nations Environment Program, *Climate Change: The IPCC Scientific Assessment, report prepared for IPCC by Working Group I*, J.T. Houghton, G.J. Jenkins, and J.J. Ephraums (eds.) (Cambridge, England: Cambridge University Press, 1990).
50. Jones, E., "The Coastal Barrier Resources Act: A Common Cents Approach to protection" *Environmental Law*, vol. 21, 1991, pp. 1015-80.
51. Joyce, L.A., *An Analysis of the Range Forage Situation in the United States: 1989-2040*, a technical document supporting 1989 USDA Forest Service RPA Assessment, General Technical Report RM-180 (Washington, DC: U.S. Department of Agriculture, Forest Service, 1989).
52. Kana, T.W., B.J. Baca, and M.L. Williams, "Charleston Case Study," in: *Greenhouse Effect, Sea Level Rise, and Coastal Wetlands*, EPA 23&05-86-013, J.G. Titus (ed.) (Washington, DC: U.S. Environmental Protection Agency, Office of policy, Planning and Evaluation, July 1988), pp. 37-59.
53. Kana, T.W., W.C. Eiser, B.J. Baca, and M.L. Williams, "New Jersey Case Study," in: *Greenhouse Effect, Sea Level Rise, and Coastal Wetlands*, EPA 230-0586013, J.G. Titus (ed.) (Washington, DC: U.S. Environmental Protection Agency, Office of policy, Planning and Evaluation, July 1988), pp. 61-86.
54. Keddy, P.A., "WaterUvel Fluctuations and Wetland Conservation," in: *Wetlands of the Great Lakes: Protection and Restoration Policies; Status of the Science*, Proceedings of an International Symposium, J. Kusler and R. Smardon (eds.), Niagara Falls, NY, May 16-18, 1990, pp. 799-91.
55. Kenworthy, T., "How Wetlands Funda Dried Up," *The Washington Post*, Oct. 7, 1992, p. A3.
56. Kundell, J.E., and S.W. Woolf, *Georgia Wetlands: Trends and Policy Options* (Athens, GA: Carl Vinson Institute of Government, University of Georgia, 1986).
57. Kusler, J.A., *Our National Wetlands Heritage: A Protection Guidebook* (Washington, DC: Environmental Law Institute, 1983).
58. Kusler, J.A., "Wetlands Delineation: An Issue of Science or Politics?" *Environment*, vol. 34, March 1992, pp. 7-11, 29-37.
59. Kusler, J.A., and M.E. Kentula, *Wetland Creation and Restoration: The Status of the Science* (Washington, DC: Island Press, 1990).
60. Larson, J.S. (ed.), *Models for Assessment of Freshwater Wetlands*, publication No. 32 (Amherst, MA: University of Massachusetts, Water Resources Research Center, 1976).
61. Liebesman, L.R., and P.T. Hundemann, "Regulatory Standards for permits under Section 404," *Natural Resources and Environment*, vol. 7, summer 1992, pp. 12-14, 56-58.
62. Louisiana Wetlands Protection Panel (LWPP), *Saving Louisiana's Coastal Wetlands: The Need for a Long-Term Plan of Action*, EPA-230-02-87-026, report of a panel convened by the U.S. Environmental Protection Agency (EPA) and the Louisiana Geological Survey at Grand Terre Island, LA, Sept. 17-19, 1985 (Washington, DC: U.S. EPA, April 1987).
63. McPhee, J., *The Control of Nature* (New York: Farrar, Straus, Giroux, 1989).
64. Minello, T.J., and R.J. Zimmerman, "The Role of Estuarine Habitats in Regulating Growth and Survival of Juvenile Penaeid Shrimp," in: *Frontiers of Shrimp Research*, P. DeLoach, W.J. Dougherty, and M.A. Davidson (eds.) (Amsterdam, The Netherlands: Elsevier Science Publishers, 1991), pp. 1-16.
65. National Academy of Science, Committee on Science, Engineering, and Public Policy, Panel on Policy Implications of Greenhouse Warming, *Policy Implications of Greenhouse Warming: Report of the Adaptation Panel*, prepublication manuscript (Washington, DC: National Academy Press, 1991).
66. National Academy of Science, committee on Science, Engineering, and Public Policy, *Policy Implications of Greenhouse Warming-Synthesis Panel, Policy Implications of Greenhouse Warming* (Washington, DC: National Academy Press, 1991).

## 216 | Preparing for an Uncertain Climate--Volume 2

67. National Oceanic and Atmospheric **Administration** (NOAA), *Coastal Wetlands of the United States: An Accounting of a Valuable National Resource*, a special NOAA 20th anniversary report (Washington, DC: Department of Commerce, NOAA, February 1991).
68. National Research Council (NRC), Committee on **Restoration of Aquatic Ecosystems—Science, Technology, and Public Policy**, Water Science and Technology **Board, Commission** on Geosciences, Environment and Resources, *Restoration of Aquatic Ecosystems: Science, Technology, and Public Policy* (Washington DC: National Academy Press, 1992).
69. **Niering, W.A.**, “**Endangered**, Threatened and Rare Wetland Plants and Animals of the Continental United States,” in: *The Ecology and Management of Wetlands, Volume 1, Ecology of Wetland*, **D.D. Hook et al. (eds.)** (Portland, OR: Timber Press, 1988).
70. **Odum, E.P.**, “The **Value** of Wetlands: A Hierarchical Approach,” in: *Wetlands Functions and Values: The State of Our Understanding, Proceedings of the National Symposium on Wetlands*, **P. Greeson, J.R. Clark, and J.E. Clark (eds.)** (Minneapolis, MN: American Waters Resources Association 1979).
71. **Odum, E.P.**, “Wetlands and Their **Values**,” *Journal of Soil and Water Conservation*, vol. 38, 1983, p. 5.
72. **Oechel, W.C.**, and **W.D. Billings**, “**Effects** of Global Change on the Carbon Balance of Arctic Plants and Ecosystems,” in: *Arctic Ecosystems in a Changing Climate: An Ecophysiological Perspective*, **F.S. Chapin III, R.L. Jefferies, J.F. Reynolds, G.R. Shaver, and J. Svoboda (eds.)** (San Diego, CA: Academic Press, 1992), pp. 139-68.
73. **Park, R.A.**, et al., “The Effects of Sea Level Rise on U.S. Coastal Wetlands,” in: *The Potential Effects of Global Climate Change in the U.S.: Appendix B—Sea Level Rise*, **J. Smith and D. Tirpak (eds.)** (Washington, DC: U.S. Environmental Protection Agency, 1989), pp. 1-1 to 1-55.
74. **Park, R.A.**, et al., *The Effects of Sea Level Rise on U.S. Coastal Wetlands and Lowlands*, contractor report prepared for U.S. Environmental Protection Agency, Cooperative Agreement **CR814578-01**, September 1989.
75. **Park, R.A., J.K. Lee, and D.J. Canning**, *Potential Effects of Sea Level Rise on Washington State Wetlands*, report prepared for Washington State Department of Ecology, **Shorelands and Coastal Zone Management Program**, **Olympia, WA**, 1992.
76. **Poiani, K.A.**, and **W.C. Johnson**, “Global Warming and Prairie Wetlands: Potential Consequences for Waterfowl **Habitat**,” *Bioscience*, vol. 41, No. 9, October 1991, pp. 611-18.
77. President’s **Commission** on the American Outdoors, *America’s Outdoors: The Legacy, the Challenge* (Washington, DC: Island Press, 1987).
78. **Presser, N. S., G.G. Rdonski, and D.B. Rockland**, “A Review of State Agencies’ Capabilities to Manage Marine Recreational Fisheries,” paper presented at the 118th Annual Meeting of the American Fisheries Society, Toronto, **Canada**, 1988 (Washington, DC: Sport Fishing Institute, 1988).
79. **Roberts, L.**, “Wetlands Trading Is a **Loser’s** Game, Say Ecologists,” *Science*, vol. 260, June 25, 1993, pp. **1890-92**.
80. **Roots, E. F.**, “Climate Change: High-Latitude Regions,” *Climatic Change*, vol. 15, 1989, pp. 223-53.
81. **Salveson, D.**, *Wetlands: Mitigating and Regulating Development Impacts* (Washington, DC: **Urban Land Institute**, 1990).
82. **Sanderson, J. W.**, “Section 404: Federal Interference with State and Local Land Use?” *Natural Resources and Environment*, vol. 7, summer 1992, pp. **6, 8-9, 53-54**.
83. **Shipman, H., and D. Canning**, “**Vertical Land Movements in Coastal Washington**: Implications for Coastal Erosion and Sea Level Rise,” a paper presented at the 12th **International Conference of the Coastal Society**, San Antonio, TX, October 1990.
84. **Smith, J.B.**, and **D. Tirpak (eds.)** *The Potential Effects of Global Climate Change on the United States*, **EPA-230-05-89-050** (Washington, DC: **U.S. Environmental protection Agency**, December 1989),
85. **Sokolove, R.D.**, and **P.D. Huang**, “Privatization of Wetland Mitigation Banking,” *Natural Resources and Environment*, vol. 7, summer 1992, pp. 36-38,6869.
86. State of Maine, Department of Environmental **Protection**, “Natural Resources **Protection Act**: Coastal Sand Dune **Rules, Chapter 355**,” revised **Jan. 4, 1988**.
87. **Taylor, W.E.**, and **D. Magee**, “Should All Wetlands Be Subject to the Same Regulation?” *Natural Resources and Environment*, vol. 7, summer 1992, pp. 32-35, 67-68.
88. The Conservation Foundation *Protecting America’s Wetlands: An Action Agenda, The Final Report of the National Wetlands Policy Forum* (Washington DC: The **Conservation Foundation**.L 1988).
89. **Thorhang, A.**, and **B. Miller**, “Stemming the Loss of Coastal Wetland Habitats: Jamaica as a Model for the Tropical Developing Countries?” *Environmental Conservation*, vol. **13, 1986, p. 72**.
90. **Tiner, R.W., Jr.**, *Wetlands of the United States: Current Status and Recent Trends, National Wetlands Inventory* (Washington, DC: U.S. Department of the Interior, Fish and Wildlife Service, March 1984).
91. **Titus, J.G.** (cd.), *Greenhouse Effect, Sea Level Rise, and Coastal Wetlands*, EPA 230-05-86-013 (Washington, DC: U.S. **Environmental Protection Agency, Office** of Policy, Planning and **Evaluation, July 1988**).
92. **Titus, J.G.**, “**Strategies** for Adapting to the Greenhouse **Effect**,” *APA Journal*, summer **1990**, pp. 311-23.
93. **Titus, J.G.**, “Greenhouse Effect and Coastal Wetland Policy: How Americans Could Abandon an Area the Size of Massachusetts at Minimum **Cost**,” *Environmental Management*, vol. 15, No. 1, 1991, pp. 39-58.
94. U.S. Army Corps of Engineers, Institute for Water Resources (IWR), “**IWR Review Report for U.S. Congress, Office of Technology Assessment, in Reference** to Draft Report on Systems at Risk from Climate Change,” IWR Policy Study 93-PS-1, July 1993.
95. U.S. Congress, **Office of Technology Assessment, Wetlands: Their Use and Regulation, OTA-O-206** (Washington, DC: U.S. Government Printing Office, March 1984).
96. U.S. Department of Agriculture (USDA), Economic Research Service, *Farm Drainage in the United States: History, Status, and Prospects*, Miscellaneous Publication 1455, **G.A. Pavelis** (cd.) (Washington, DC: **USDA**, December 1987).

97. U.S. Department of Agriculture (USDA), Forest Service, *An Analysis of the Range Forage Situation in the United States: 1989-2040*, General Technical Report RM-180, a technical document supporting the 1989 USDA Forest Service RPA Assessment, by L.A. Joyce (Washington, DC: USDA, 1989).
98. U.S. Department of Agriculture (USDA), Forest Service, *An Analysis of the Wildlife and Fish Situation in the United States: 1989-2040*, General Technical Report RIM-178, a technical document supporting the 1989 USDA Forest Service RPA Assessment, by C.H. Flather and T.W. Hoekstra (Washington, DC: USDA, 1989).
99. U.S. Department of Agriculture (USDA), Soil Conservation Service, *The Second RCA Appraisal: Soil, Water, and Related Resources on Nonfederal Land in the United States: Analysis of Conditions and Trends*, Miscellaneous publication 1482 (Washington, DC: USDA, June 1989, slightly revised May 1990).
100. U.S. Department of Commerce, Letter of Comment, dated Nov. 27, 1987, on the Sept. 1, 1987, Draft National Wetlands Priority Plan.
101. U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS), *Fisheries of the United States, 1990, Current Fishery Statistics No. 9000* (Silver Spring, MD: Fisheries Statistics Division, NMFS, NOAA, May 1991).
102. U.S. Department of the Interior (DOI), *The Impact of Federal Programs, Volume 1: The Lower Mississippi Alluvial Plain and the Prairie Pothole Region, a report to Congress by the Secretary of the Interior, October 1988*.
103. U. S. Department of the Interior (DOI), Bureau of Land Management *Fish and Wildlife 2000: Annual Report of Accomplishments FY 1991* (Washington, DC: Government Printing Office, 1991).
104. U.S. Department of the Interior (DOI), Bureau of Land Management, *Fish and Wildlife 2000: Special Status Fishes Habitat Management*, BLM/SC/PT—91/005+6844 (Washington DC: Government Printing Office, May 1991).
105. U.S. Department of the Interior (DOI), Bureau of Land Management, *Riparian-Wetland Initiative for the 1990's*, BLM/WO/GI—91/001+4340 (Washington, DC: Bureau of Land Management, September 1991).
106. U.S. Department of the Interior (DOI), Fish and Wildlife Service (FWS), *An Overview of Major Wetland Functions and Values*, FWS/OBS-84/18, contractor paper prepared by J.H. Sather and R.D. Smith (Washington, DC: U.S. DOI, FWS, September 1984).
107. U.S. Department of the Interior (DOI), Fish and Wildlife Service (FWS), *National Wetlands Priority Conservation Plan* (Washington, DC: U.S. DOI, FWS, April 1989).
108. U.S. Department of the Interior (DOI), Fish and Wildlife Service (FWS), *Wetlands: Meeting the President's Challenge—1990 Wetlands Action Plan* (Washington, DC: U.S. DOI, FWS, 1990).
109. U.S. Environmental Protection Agency (EPA), *National Water Quality Inventory 1990 Report to Congress* (Washington, DC: U.S. EPA, 1992).
110. U.S. General Accounting Office (GAO), *Rangeland Management: BLM Efforts to Prevent Unauthorized Livestock Grazing Need Strengthening*, GAO/RCED-91-17 (Washington, DC: GAO, December 1990).
111. U.S. General Accounting Office (GAO), *Rangeland Management: Forest Service Not Performing Needed Monitoring of Grazing Allotments*, GAO/RCED-91-148 (Washington DC: GAO, May 1991).
112. U.S. General Accounting Office (GAO), *Wetlands Overview: Federal and State Policies, Legislation, and Programs*, GAO/RCED-92-79FS (Washington, DC: U.S. GAO, November 1991).
113. Van Sickle-Burkett, V., et al., National Wetlands Research Center, U.S. Fish and Wildlife Service, tables describing coastal wetland vulnerabilities to climate change, prepared for U.S. Office of Technology Assessment, May 1992.
114. Warren, R. S., *Coastal Wetland Vulnerabilities to Climate Change*, contractor paper prepared for the Office of Technology Assessment, July 1992.
115. Water Quality 2000, *A National Water Agenda for the 21st Century: Final Report* (Alexandria, VA: Water Environment Foundation/Water Quality 2000, November 1992).
116. Whigham, D.F., and M.M. Brinson, "Wetland Value Impacts," in: *Wetlands and Shallow Continental Water Bodies, Volume 1*, B.C. Patten et al. (eds.) (The Hague, The Netherlands: SPB Academic Publishing, 1990), pp. 401-21.
117. Wilkinson, C.F., *The Eagle Bird: Mapping a New West* (New York: Pantheon Books, 1992).
118. Willard, D.E., and L.D. Kosmond, "A Watershed-Ecosystem Approach to Land and Water Use Planning and Management," draft contractor paper prepared for the Office of Technology Assessment, August 1992.
119. Willard, D.E., C.P. Wolfe, and A.G.B. Primack, "The Peculiar but Widespread Problem of Altered, Degraded, or Disturbed Wetlands," paper presented at an Association of State Wetland Managers meeting, Oakland, CA, 1991.
120. Willard, D.E., et al., "Wetland Vulnerabilities to Climate Change," contractor paper prepared for the Office of Technology Assessment, August 1992.
121. Winter, T.C., "A Physiographic and Climatic Framework for Hydrological Studies of Wetlands," in: *Aquatic Ecosystems in Semi-Arid Regions: Implications for Resource Management*, National Hydrology Research Institute Symposium Series #7, R.D. Robards and M.L. Bothwell (eds.) (Saskatoon, Saskatchewan, Canada, Environment Canada, 1992), pp. 127-48.
122. Wise, J.P., *Federal Conservation and Management of Marine Fisheries in the United States* (Washington, DC: Center for Marine Conservation, 1991).
123. Wisheu, I.C., et al., "Effects of Eutrophication on Wetland Vegetation," in: *Wetlands of the Great Lakes: Protection and Restoration Policies; Status of the Science, Proceedings of an International Symposium*, J.L. Kusler and R. Swardon (eds.), Niagara Falls, NY, h&y 16-18, 1990, pp. 112-21.
124. Wood, L.D., "Federal Wetland Regulation is Essential," *Natural Resources and Environment*, vol. 7, summer 1992, pp. 7, 1011,54-56.

## 218 I Preparing for an Uncertain Climate--Volume 2

125. **Zallen, M.**, "The Mitigation Agreement—A Major Development in Wetland Regulation," *Natural Resources and Environment*, vol. 7, summer 1992, pp. 19-21, 60-62.
126. **Zedler, J.B.**, "The Challenge of Protecting Endangered Species Habitat Along the Southern California Coast," *Coastal Management*, vol. 19, 1991, pp. 35-53.
127. **Zedler, J.B.**, "Coastal Wetlands: Multiple Management Problems in Southern California," paper presented at the Multiple Uses of the Coastal Zone in a Changing World Symposium, sponsored by the National Academy of Science, Commission on Geosciences, Environment and Resources, Woods Hole, MA, June 1992.
128. **Zedler, P.H.**, "The Ecology of Southern California Vernal Pools: A Community Profile," *Biological Reporter*, vol. 85 (7.11), 1987.
129. **Zimmerman, R.J., T.J. Minello, E.F. Klima, and J.M. Nance**, "Effects of Accelerated Sea-Level Rise on Coastal Secondary Production," in: *Coastal Wetlands: Coastal Zone '91 Conference*, H.S. Bolton and O.T. Magoon (eds.), proceedings of conference held by the American Society of Civil Engineers (ASCE), Long Beach, CA, July 1991.
130. **Ziska, L.H., B.G. Drake, and S. Chamberlain**, "Long-Term Photosynthetic Response in Single Leaves of a C<sub>3</sub> and C<sub>4</sub> Salt Marsh Species Grown at Elevated Atmospheric CO<sub>2</sub> in situ," *Oecologia*, vol. 83, 1990, pp. 469-72.