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Rachel Carson and nature as resource, object and spirit : identification, consubstantiality, and multiple stakeholders in the environmental rhetoric of the conservation in action series.

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RACHEL CARSON AND NATURE AS RESOURCE, OBJECT, AND SPIRIT:
IDENTIFICATION, CONSUBSTANTIALITY, AND MULTIPLE STAKEHOLDERS IN
THE ENVIRONMENTAL RHETORIC OF THE *CONSERVATION IN ACTION* SERIES

By

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B.A., Western Kentucky University, 2000

M.A., Western Kentucky University, 2003

A Dissertation

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A Dissertation Approved on

August 6, 2010

by the following Dissertation Committee:

Dissertation Director

DEDICATION

This dissertation is dedicated to the memory of

Gerald A. Embry (1941-2008)

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ABSTRACT

RACHEL CARSON AND NATURE AS RESOURCE, OBJECT, AND SPIRIT: IDENTIFICATION, CONSUBSTANTIALITY, AND MULTIPLE STAKEHOLDERS IN THE ENVIRONMENTAL RHETORIC OF THE *CONSERVATION IN ACTION* SERIES

Cynthia E. Britt

August 6, 2010

This project examines the *Conservation in Action* series, twelve texts produced by the United States Fish and Wildlife Service (USFWS) from 1947-1957 and developed and written by Rachel Carson and other agency employees. She developed the series to publicize the refuge service and conservation work, and I specifically focus on the first two booklets in the series, *Chincoteague: A National Wildlife Refuge* and *Parker River: A National Wildlife Refuge*, which argue the need for waterfowl sanctuaries. I analyze the texts as early examples of government environmental rhetoric produced by Carson, author of *Silent Spring*.

For the analysis I use four lenses: Killingsworth and Palmer's environmental perspectives, Herndl and Brown's environmental discourse categories, Aristotelian proofs, and Carson's subject positions as government employee, scientist, and naturalist. My analysis suggests that Carson's construction of arguments and evidence in these texts illustrates the potential for environmental discourse to 1) contain appeals for both specific and wide audiences, 2) incorporate multiple ways of talking about the environment, and 3) address the needs of many stakeholders. Adding to Carson

scholarship and critiques of modern environmental discourse, I specifically argue that using a combination of ethos, logos, and pathos is rhetorically powerful and that current environmental discourse must incorporate emotional appeals not depending only on jeremiad, apocalyptic, or overly emotional language.

Chapter 1 reviews current environmental rhetoric scholarship, analyses of governmental environmental texts, and critiques of environmental discourse; it also explores environmental communication models, Burke's theory of identification and consubstantiality, and current Carson scholarship. Chapter 2 explains background information about the USFWS, Carson, her involvement with the agency, and the creation and content of the *CIA* series. Chapter 3 analyzes how Carson constructs nature through the discourse of resource and of science and incorporates ethical and logical proofs, specifically arguing Carson's use of the language of commerce and the language of conservation science. Chapter 4 analyzes Carson's construction of nature as spirit and her use of multiple pathetic appeals in her call for conservation support. Chapter 5 briefly examines two recent examples of environmental discourse in light of the project's discussion.

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INTRODUCTION

In this project, I examine the *Conservation in Action (CIA)* series, twelve texts produced by the United States Fish and Wildlife Service (USFWS) from 1947-1957 and developed by Rachel Carson while she was an agency employee.¹ Carson is the primary author of four of the texts and co-author of one. She developed the series to publicize the refuge service and conservation work, and nine of the texts (four of them by Carson) describe individual wildlife refuges. I specifically focus on the first two booklets in the series, *Chincoteague: A National Wildlife Refuge* and *Parker River: A National Wildlife Refuge*, which argue the need for waterfowl sanctuaries. I analyze the texts as early examples of environmental rhetoric produced by the government and created by Carson, author of *The Sea Around Us* and *Silent Spring*.

Using archival evidence and environmental history scholarship, I explore the development of the conservation movement and the creation of the USFWS. I analyze how agency and Carson's personal goals shaped the series' development. Then using environmental discourse models by Killingsworth and Palmer and Herndl and Brown, I analyze the *Chincoteague* and *Parker River* booklets to determine how Carson develops rhetorical appeals and what evidence she uses to argue the value of the refuges and their conservation work. My analysis suggests that Carson's construction of arguments and evidence in these texts illustrates the potential for environmental discourse to contain

appeals for both specific and wide audiences and to incorporate multiple ways of talking about the environment.

Environmental rhetoric scholarship has contributed to conversations discussing the ineffectiveness of current environmental discourse (Bruner and Oeschlaeger, 1994; Cooper, 1996; Shellenberger and Nordhaus, 2004; Rosteck and Frentz, 2009; Johnson, 2009), blaming its failure on (among other things) its inability to foster collaboration between environmental advocacy groups or to create appeals for wide audiences. The field has also explored how government texts, as the sole source of environmental legislation and policy development, often fail to acknowledge or incorporate knowledge other than “experts” and to support dialogue with stakeholders (Killingsworth and Palmer, 1992; Katz and Miller, 1996; Waddell, 1996; Patterson and Lee, 1997; Ingham, 2000; Karis 2000; Dayton, 2000; Paretto, 2003). However, these criticisms offer only vague suggestions for ways to effectively change the patterns of environmental discourse and rarely provide examples of effective contemporary or historic texts that argue environmental issues from a variety of perspectives. Within the discipline of environmental rhetoric there is a need for further scholarship that analyzes how environmental authors past and present construct environmental appeals for wide audiences and consider the demands of multiple stakeholders. My analysis of the *CIA* series addresses this need by analyzing how Carson argues for refuge conservation work through a variety of perspectives, discourse categories, and appeals and how these arguments result in texts sponsoring opportunities for both specific stakeholders and a

variety of readers to identify with her, with refuge managers and advocates, and with the non-human actors the refuges serve.

Many rhetoric scholars and environmental historians have discussed *Silent Spring's* rhetorical effectiveness (Killingsworth and Palmer, 1992, 1995, and 1996; Opie and Elliot, 1996; Slovic, 1996; Plevin, 1997; Waddell et al, 2000; Bryson, 2003; Murphy, 2005; Matthiessen et al, 2007). The success of it and *The Sea Around Us* make Carson an important environmental writer. However, very few scholars have considered the writing she completed while working for the government and what it can tell us about her and the development of her environmental philosophy and advocacy. Carson biographers, such as Lear and Souder, have similarly pointed to the need for further exploration of her agency writing as predictive of her later environmental discourse strategies and portrayals of destructive human/nature relationships in *Silent Spring* (personal communication). In this project, I add to Carson scholarship by closely analyzing the *Chincoteague* and *Parker River* texts, exploring Carson's careful attention to her rhetoric and constructions of environmental responsibility. I explain how her various appeals illustrate her belief that everyone has a stake in conservation work and the management of natural resources. I also argue that her support of USFWS multi-use policies resulted in tensions both within the *Chincoteague* and *Parker River* texts and for Carson herself.²

First, I use three main ways of viewing the environment and environmental issues described by Killingsworth and Palmer as part of their "continuum of

perspectives”: **nature as resource, object, and spirit**. Second, I use Herndl and Brown’s incorporation of these perspectives as they define ways of discussing the environment. They frame environmental discourse categories as illustrative of these perspectives. **Ethnocentric** discourse views nature as resource and is “devoted to negotiating the benefits of environmental policy measured against a broad range of social interests” (10). **Anthropocentric** discourse explains nature as “an object of knowledge constructed through careful scientific methodology” (11). **Ecocentric** discourse describes nature as “spiritual or transcendent unity” (12). As a third lens, I use Herndl and Brown’s alignment of these discourse categories with ways of constructing evidence and arguing environmental issues—the rhetorical proofs. **Ethos** or the use of ethical appeals comes from “the culturally-constructed authority of the speaker or writer” to represent environmental issues and is generally an effect of institutional power, such as that of the federal government (11). Logical arguments or the use of **logos** results from “the appeal to objective fact and reason” (12). **Pathos** or the use of pathetic proofs emerges through “aesthetic or spiritual responses” or “appeals to the emotions of the audience” (12).

These lenses (perspectives, discourse categories, and proofs) provide a position from which to ask questions about the construction of the *CIA* texts: how is nature viewed, talked about, and argued? This theoretical position is made richer when placed in the context of Carson’s personal and professional background: her experiences as a government employee, scientist, and naturalist. I map her subject positions onto the other lenses, examining the series’ content, rhetorical strategies, appeals, and arguments.

These analyses explain ways readers of the *Parker River* and *Chincoteague* texts can identify (as in Burke's use of *identification*) with Carson, with the USFWS as manager of the sanctuaries, with other refuge supporters, and with non-human actors supported by conservation efforts. This identification, in turn, increases the potential for *consubstantiality* (using Burke's term) among human actors and between human and non-human actors.

My analysis of the rhetorical exigencies, construction, and rhetoric of the *CIA* texts adds to understandings of environmental informational discourse in several ways. First, analysis of the discursive situation and competing exigencies for this series illustrates the rhetorical complexity of what may seem (at least to modern readers), a straight-forward environmental issue: the need for waterfowl conservation. Many different populations, however, had a stake in the development of and work of the refuges about which Carson writes: members of local communities, hunters, landowners, farmers, etc. Carson's use of a variety of rhetorical strategies to persuade stakeholders and meet their concerns is illuminating and can serve as an example for future work. All (or at least most) environmental situations have complexities—subtle, hidden or obvious—and multiple individuals and groups with an investment in decisions and policies. Environmental writers must recognize and address both this complexity and the existence of multiple stakeholders as they construct their texts. If readers understand complexities in environmental issues and how multiple populations may be affected by conflicts, they may be less likely to be moved by dichotomous, over-

simplified, or misleading statements about or solutions to environmental issues and disputes.

Second, Carson's example suggests that environmental texts can and should incorporate many ways of talking about the environment. If environmental writers want to reach and to persuade large audiences, they must address environmental issues from various perspectives. Carson constructed nature as resource, science, and object and employed ethnocentric, anthropocentric, and ecocentric discourse through her government-sponsored texts. Using various ways of looking at and talking about environmental subjects and issues, such as Carson did, can create multiple ways for readers to understand, weigh, question, and connect to environmental information.

Lastly, Carson's examples suggest that argumentative proofs have an important place in environmental texts, but they work best in combination. Appeals based on ethos are composed by organizations or institutions (and sometimes, individuals) involved in the allocation of resources. These ethical appeals generally address specific populations or stakeholders. In the *Chincoteague* and *Parker River* texts, the discrete resource arguments made in the name of the USFWS targeted hunters and local industries but Carson included everyone in the category of those concerned with conservation issues. Her work thus suggests that arguments for resource use based on ethical appeals can and should be composed to address the needs of many stakeholders and that rhetors should consider how those needs may be contradictory or complementary. By avoiding narrow ethical appeals regarding resource use and attempting to determine how

competing demands can be explained and/or become less oppositional, Carson creates greater opportunities for readers with diverse needs to identify with the perspectives of others.

Logical evidence provides the basis on which persuasive and informative environmental discourse is built. Although rhetoric of science scholarship has successfully dispelled the myth of scientific objectivity, scientific evidence does carry rhetorical weight. However, informational discourse works best when combined with other types of discourse and appeals—pathetic or ethical—and when all are explained to readers through various arguments and approaches. Carson used the subject of flyways as the basis for much of the content of the *CIA* texts, but she explains the concept in a variety of ways and connects the subject to both ethical and pathetic arguments.

My analysis of the *Chincoteague* and *Parker River* texts further argues the need for increased attention to the rhetorical power of emotional appeals. Emotional or pathetic arguments need not depend upon overly emotional language, apocalyptic scenarios, or instilling feelings of blame or guilt in the reader. Arguing through pathos can be creative and not limited to a single approach. Carson uses pathetic appeals in a variety of ways: by describing the beauty of the refuge, using statements of risk, and incorporating language of inclusion and accountability. These appeals combine to argue for the value of the refuge and to encourage positive human/nature relationships. Emotional appeals, by incorporating discussions of resources and using scientific information to build arguments, can be the discursive space where all the rhetorical proofs work together.

The *CIA* series illustrates that government texts can be rhetorically flexible and include pathetic arguments. Emotional appeals hold great rhetorical potential and are necessary to move readers from engagement with environmental issues through identification to commitment through consubstantiality.

Research Questions

In order to illuminate the strengths, weaknesses, and complexities of environmental discourse, this project addresses the following questions:

- 1) What were the rhetorical exigencies and discursive goals of the *CIA* series?
- 2) How did Carson's background influence the development of the texts?
- 3) What discursive features and rhetorical strategies does Carson use in the *CIA* series?
- 4) How do these features and strategies present opportunities for Carson to appeal to multiple stakeholders, e.g., members of communities near refuge land, sporthunters, those interested in refuge recreational opportunities, wildlife advocates, and naturalists?
- 5) How does Carson create opportunities for identification and consubstantiality in the texts?
- 6) What do the *CIA* texts suggest about possibilities for environmental rhetoric more productively meeting current environmental discourse needs?

Project Overview

Chapter 1 reviews some of the basic tenets of current environmental rhetoric scholarship, analyses of governmental environmental texts, and critiques of environmental discourse. To situate research on the *CIA* series, I explore environmental

communication models, Burke's theory of identification and consubstantiality, and current Carson scholarship. Chapter 2 explains the historical situation and rhetorical context in which the texts were written. Here I provide background information about the USFWS, Carson, her involvement with the agency, and the creation and content of the *CIA* series. Chapter 3 analyzes how Carson constructs nature through the discourse of resource and of science and further analyzes how these discursive categories incorporate ethical and logical proofs. Specifically, I argue that Carson uses the language of commerce and the language of conservation science to persuade her audience of the need for waterfowl sanctuaries. Chapter 4 analyzes Carson's construction of nature as spirit and her use of multiple pathetic appeals in her call for conservation support. Chapter 5 briefly examines two recent examples of environmental discourse in light of the project's discussion. How do they limit or create opportunities for identification? What approaches to nature do they contain? The chapter then considers the implications of this research in environmental rhetoric: what does it offer to the future of the field, what current questions does it help to answer, and where might it lead in terms of further research?

Research Activities

Because there has been minimal attention to Carson's government writing and very little on the *CIA* series, my preparation for this project involved extensive primary research. I visited the Beinecke Rare Book and Manuscript Library at Yale University in October, 2007, and February, 2008, to examine the Carson papers held there. In October,

2007, I also visited the National Conservation Training Center library and permanent collection, where objects and documents associated with Carson are preserved. In 2008, I visited Connecticut College's Linda Lear Center for Special Collections and Archives to study the documents gathered and created by Lear, author of the definitive Carson biography *Rachel Carson: Witness for Nature*, during her research for and writing of the 1997 book. I spent five days at the National Archives and Records Administration in College Park, Maryland, researching the USFWS and Carson's work for the agency.

To add to my understanding of the refuge system, I visited the Rachel Carson National Wildlife Refuge in Wells, Maine, the Wheeler National Wildlife Refuge in Decatur, Alabama, and the Muscatatuck National Wildlife Refuge in Seymour, Indiana. I was also fortunate to be able to visit Carson's cottage in Maine, and, with the permission of her nephew, Roger Christie, I walked and gathered shells on her beach behind the cottage. I visited Pennsylvania College for Women, now Chatham College, where Carson was an undergraduate and her home in Silver Spring, Maryland, which is now the headquarters of the Rachel Carson Council. Lastly, I attended the Rachel Carson Legacy Conference at Carnegie Mellon University in September, 2007. This extensive primary research underpins much of my analysis in the following chapters.

NOTES

¹ Copies of the twelve CIA booklets were obtained from the NCTC. Please see Appendix A for a complete list of archival collections and Appendix B for a complete listing of CIA booklets, authors, and dates of publication.

² I am using the term *multi-use* versus *multiple-use*. *Multiple-use*, *dominant-use*, and *compatible-use* are heavily-loaded terms in resource management. *Multiple-use* generally means allowing many different activities on government land or water areas which are equally considered and weighed. *Dominant-use* refers to the privileging of one specific function (in the case of the USFWS, the protection of wildlife), and other activities must be “compatible” with or not threaten or compromise the primary use of the land or water area. Bureau of Land Management and National Forest Service areas normally are managed through *multiple-use* philosophy, while National Park Service and the USFWS areas normally are managed through a *dominant-use* philosophy. I use the term *multi-use* to explain that refuge areas support multiple activities.

CHAPTER 1

LITERATURE REVIEW

The *Conservation in Action (CIA)* texts are an example of early environmental rhetoric sponsored by a government agency, the United States Fish and Wildlife Service (USFWS). Refuge leaflets (mimeographed copies of type-written sheets that describe individual refuges) are the precursors to this 1947-1957 series that extended and developed the medium to include more information, photographs, illustrations, and maps. Color brochures found at refuges today are current examples of this type of environmental discourse that works as a guide for refuge visitors.

The study of environmental discourse has emerged as a strong strand in the English Rhetoric discipline. This chapter will provide a brief overview of some of the work of environmental rhetoric and its major claims, looking first at analyses of one historic and two contemporary environmental texts and then examining scholarship concerning government-created and -mediated environmental discourse. Then to create this project's context, I will review Rachel Carson studies, discuss specifically scholarship critiquing the effectiveness of modern environmental discourse, examine two of the discipline's environmental discourse models, and consider how Burke's use

of the terms *identification* and *consubstantiality* can be used to explain productive environmental discourse strategies.

Overview of the Work of Environmental Rhetoric

Beginning primarily in the early 1990s, composition and rhetoric scholars' nascent interest in environmental texts and discursive situations quickly accelerated. Killingsworth explains this momentum resulted from the "remarkable environmental disasters" of 1988: "fires in Yellowstone; medical waste and a red tide on the beaches of the U.S. Atlantic coast; reports of giant holes in the ozone layer and of global warming, allegedly caused by atmospheric pollution and given credence by the hottest summer ever recorded by worldwide observers" (*Technical Communication* ix). With expanding public interest in environmental issues since the first Earth Day in 1970, the reality of global climate change, and pervasive ecological destruction, understanding how environmental texts persuade audiences became increasingly important.

Studying environmental discourse, rhetoric scholars explain how the use of language and symbols molds human understandings of nature and the environment. Those understandings result in human/nature relationships and types of involvement with the natural world individually and through groups. And, ultimately, rhetorical successes and failures enacted in a discursive space moderate how the physical world is affected: valleys are dammed, forests are felled, species become extinct, policies are enacted, and grassroots movements are initiated through the work of environmental

texts. Rhetoric scholars explain the contexts in which environmental discourse is created and how these texts affect environmental issues.

Environmental rhetoric has developed into several lines of study and analysis. For instance, scholars examine the rhetoric surrounding specific, localized environmental conflicts (Oravec, 1984; Lange, 1993; Moore, 1993; Waddell, 1995 and 1996; Katz and Miller, 1996; Trumbo, 2000). Other studies analyze rhetorical strategies of historic and contemporary environmental texts (Waddell, 1994; Killingsworth and Palmer, 1996; Ulman, 1996; Opie and Elliot, 1996; Plevin, 1997; and Bryson, 2003) and the philosophies and rhetoric of environmental groups (Short, 1991; Killingsworth and Palmer, 1992 and 1996; Cooper, 1996). These situational, textual, and organizational studies show the complexity and breadth of environmental debates and writing.

Underlying these lines of study and analysis is the history of our relationship with the natural world and how that has been created and mediated through language. Discussions about specific language use and symbol development are an inseparable part of environmental discourse studies. One of the main claims of environmental rhetoric is that human relationships to “nature” writ large have a long and complicated history determined by and described through the way we talk and write about what surrounds us.

Cantrill and Oravec describe the “constitutive and constructive role of communication in approaching environmental issues” (2). They explain,

The environment that we experience and affect is largely a product of how we have come to talk about the world. [. . .] the planet is a captive of our language community; the environment, beyond its physical presence, is a social creation [. . .] the only hope we have of ever preserving our environment is collectively to understand and alter the fundamental ways we discuss what we continually re-create. (2)

They argue that in order to learn how to effectively communicate environmental information and to promote change, we must understand that “nature” and “environment” are historic, cultural, and social creations.

Making a similar argument for the constitutive power of language in molding and reflecting human relationships to the environment, Herndl and Brown describe “historical and cultural sources of the rhetoric used to talk about the environment” and how environmental rhetoric “shapes our contemporary debates” (vii). They explain that the environment is not universally definable and lacks clearly outlined boundaries. Instead, it is “a concept and an associated set of cultural values that we have constructed through the way we use language” (3). Explaining the “way that discourse shapes our relations to the world” (5), they analyze two examples of contemporary environmental writing, Diane Ackerman’s essay “Albatrosses,” from the *New Yorker* magazine, and the genre of direct mail solicitation, explaining how the texts’ authors define nature through familiar cultural constructs. These brief analyses help explain two important concepts: 1) that every environmental text can be examined for the historic, cultural, contextual, and rhetorical influences contained within its construction; 2) that each construction may (and usually does) contain both rhetorical strengths and weaknesses. I examine the

texts and their history to determine how the discursive situation influenced their development, exploring both how Carson creates appeals for wide audiences and the textual dissonance that sometimes results.

The Ackerman essay tells the story of her visit to a “remote island off the coast of Japan” (Herndl and Brown 5) with naturalist and illustrator Peter Harrison and Hiroshi Hasegawa, a Japanese scientist involved in the preservation of the island and a species of albatross that live there (5). Herndl and Brown summarize Ackerman’s article as “the story of solitary individuals fighting to save the last remnants of a once abundant species” (5). Ackerman describes Harrison as a rugged, solitary individualist on a dangerous pilgrimage, what Herndl and Brown see as “an exceptional person [acting] out of a separate, intimate, and personal connection with a mysterious and wild nature” (6). Ackerman’s narrative is dramatic, interesting, and adventurous and presents a literary and historical human/nature relationship, but one Herndl and Brown view is unsuited to help solve modern environmental dilemmas. They argue the narrative of nature lover as the romantic solitary hero intervening of behalf of a place or species “considers knowledge and action as private affairs and sees nature as an aesthetic, even religious, object” (6). This portrayal inhibits seeing the “environment as a social responsibility, to think of nature as a scientific, an economic, or an institutional construction or problem” (7).

Herndl and Brown then look at the genre of direct mail solicitation in the environmental movement and critique how it presents nature and involves its audience.

Using a mailing from The Nature Conservancy requesting donations the organization will use to purchase a sandhill crane sanctuary, the authors describe how the “rhetoric of real estate values, motel prices, and neighborhood preservation makes the crane just another consumer competing in the marketplace, thus reinforcing the very commercial ideology that has destroyed much of the crane’s habitat” (9). While admitting direct mail solicitation has proved very successful in raising funds for environmental advocacy groups, Herndl and Brown explain that this strategy offers only two ways for readers to be involved: to send money or to throw the mailing away (9). This limitation “reduces the process of ethical decision making so severely that it essentially guts any viable sense of collective, community-based ethical action” (9).

Herndl and Brown’s analysis shows how in both examples the cultural value of nature is constructed through language use and historic, national narratives and that rhetorical appeals in environmental discourse gain and lose power because of the authors’ discursive choices. The Ackerman essay privileges nature as spiritual and mystical force, the romantic tradition of individualism, and an intimate and personal human/ nature relationship. In The Nature Conservancy’s mailing, nature is a resource to be purchased (in this case to be “protected”) and managed—a philosophy consistent with the treatment of resources in most of American history. Although Ackerman’s essay, compared with The Nature Conservancy’s mailing, did not prompt a specific action, it certainly had an agenda. In very different ways, both examples work towards the preservation of endangered species but target narrow audiences—the readers of the

New Yorker magazine and those on a conservation mailing list. Nature is portrayed both as individualistic and spiritual or commercial and distanced—neither presentation designed to build a community-based or politically-motivated citizenry. Herndl and Brown’s analysis helps develop questions to consider in analyzing the content of the *CIA* series, asking how Carson uses nature as resource and nature as spirit perspectives in isolation or in combination.

Oravec analyses a historic dispute illustrating how language use represents both contemporary and traditional ways of viewing Americans’ relationship with the natural world. She describes a conflict in which both sides use rhetorical strategies to influence large national audiences and “[reflect] two differing views of ‘public interest’” (17). The battle surrounding the damming of the Hetch Hetchy Valley in Yosemite National Park, California, (which officially lasted from 1901 until the dam was approved in 1913) involved competing views of public welfare. Conservationists argued “the greatest good for the greatest number” meant developing the area. Preservationists argued “[saving] the beauty of the valley served a more generally defined ‘national’ interest,” keeping sacred a representative American landscape (17). Oravec argues that these “two views of society corresponded to the two poles of the American self-image that had been linked in uneasy union in the nineteenth century” (18). These she defines as progressivism, “America as a collective population of individual units,” and nationalism, “America viewed as an organic nation, the whole greater than its parts” (18). Oravec argues that the victory of conservationists and the damming of the valley is related to

progressivism's rise to power which is still felt today in defining what constitutes "public interest" (18).

When the Hetch Hetchy controversy began, preservationists based their arguments against development by claiming "national interest," "their belief in the value of the wilderness," and that "the unity of Yosemite corresponded symbolically with the unity of the nation itself" (18-19). Later they adopted a utilitarian strategy claiming that Hetch Hetchy in its undeveloped state best served "public interest" as a place of natural beauty that could be enjoyed by all Americans citizens.

Conservationists, however, were able to argue that the area could best be enjoyed by more people through area development and that, additionally, the damming would provide needed resources to thousands of Americans. The preservationists' attempt to adopt both an ethical and a utilitarian claim proved unconvincing. Oravec explains the conservation movement maintained its political and national hold well into the 20th-century. The rhetorical framing of the "wise use" argument not only dammed the Hetch Hetchy Valley but also helped solidify resource-based public, private, and governmental policy.

Both Herndl and Brown's analysis of contemporary environment rhetoric and Oravec's analysis of an historical debate illustrate some of environmental rhetoric's major claims. First, that language is a powerful creator and interpreter of human/nature relationships. Second, that language and other symbolic systems create multiple ways of viewing nature, whether as (among others) nature as spirit, resource, or national

identity. Lastly, that ways of viewing nature are positioned against historic contexts. Public opinion and governmental action in environmental issues are determined by who is in power, what other issues hold the nation's interest, and how arguments are framed. The *CIA* series examined in this project shows how a government agency created texts encouraging the public to develop a personal relationship with and responsibility for particular places and species. Moreover, the series is a product of specific political and historic influences.

Governmental intervention in environmental matters has been a rich site for analysis in the field of environmental rhetoric. Since the mid-to late-1800s, the average American's relationship with the environment has been, in many respects, strongly defined, legislated, and mediated through the United States government. National and state agencies remove land from private ownership, appropriate and control resources, and develop and implement environmental policy. Much of environmental rhetoric research has focused on the ways in which the government is involved in our relationship with the natural world and the resulting discursive practices both public and private.

Though the majority of environmental scholarship has focused on the inadequacies and the pitfalls of government-mediated environmental communication, there are scholars exploring what they argue are effective discourse practices. Karis explains it is important for modern students of rhetoric to understand that future environmental debates continue to create opportunities for public participation, while he

acknowledges the difficulties of and obstacles to democratic decision-making. He uses a specific case study to discuss how environmental debates contain both technical and human-centered arguments. When an “independent, bipartisan state agency responsible for developing long-range [Adirondack] Park policy” prevented both the building of a Wal-Mart and \$200 million refurbishment of the historic Lake Placid Club, it was because of concern over environmental impact and “quality of life issues” (230). The quality of life issues revolved around keeping the areas around the park as free from commercialization as possible. Karis’s essay works to explain how the “human side” of environmental debates and less fact-based argumentation competes with an “ethic of expediency” in our technologically and commercially-based society which limits opportunities for controlled decision-making and devalues reasoned debate (226-7). However, he argues there is evidence “[suggesting] that processes can be and are being implemented that allow for greater inclusion of different values into deliberative rhetoric” (228). For Karis, these victories over commercial development in the park are examples of the necessary and productive marriage of the human side and the technical side of environmental debate.

Explaining how emotional appeals from both “experts “ and the “public” can influence, even if in a limited fashion, environmental action, Waddell analyses the effects of public hearings on the 1991 International Joint Commission (IJC) on Great Lakes Water Quality. He argues that,

As Killingsworth and Palmer have suggested, at times it may appear that the public has considerable influence on policy recommendations when in fact, it has little [. . .]; this study suggests that at other times it may appear that the public has little influence on public policy recommendations when, in fact, its influence is considerable. (“Saving” 153)

In his analysis of the decision-making processes of the IJC, Waddell determines that two of thirteen recommendations resulted from the emotional appeals of those who testified in favor of tighter environmental control mechanisms and policies. He explains how commissioners moved from being convinced (the “intellectual acceptance of an idea”) to being persuaded, which involves “a commitment to act on the basis of an idea” (“Saving” 153). His suggestions regarding effective environmental communication include balancing ecocentric (environment-centered) with homocentric (human-centered) appeals when confronting issues encompassing the “larger ecosystem” (156). He advocates using a social-constructionist model, where all participants “communicate, appeal to, and engage values, beliefs, and emotions” (Waddell, “Defining” 9), “for enhancing public participation in environmental and science policy disputes” (“Saving” 158).

In a study that argues a more contingent and tentative support of government-sponsored communication methods, Dayton analyses two Environmental Impact Statements (EISs). Killingsworth and Palmer explain EISs were developed in response to the National Environmental Policy Act which requires “federal agencies, and in some

cases private industries, to issue an EIS before effecting or allowing a change in areas of land, water, or air that fall under federal jurisdiction" (*Ecospeak* 169). Evaluating each EIS by its ability to meet the demands of Habermas's communication actions (comprehensibility, truth, sincerity, and legitimacy), Dayton argues that the exigencies of each EIS determine their success. When an EIS is developed as a type of environmental inquiry and in response to community-sponsored, legitimate questions, it was considered by the public to have been successful in meeting their environmental needs (399). However, when an EIS is developed primarily to meet the technical needs of a project and was not truly inquiry-based, it showed "less concern for comprehensibility and [subverted] the norms of truth, sincerity, and legitimacy with systemically distorted communication" (399). Dayton's conclusion points to the need for what he defines as a "rhetoric of inquiry" in environmental, technical communication—a shift from advocacy to an authentic search for answers to environmental questions.

Each of these studies describes a type of environmental communication success story. However, each points to the need for further change—increasing the value of emotional appeals, incorporating communication models privileging the exchange of both information-based and experiential-based knowledge, and recognizing the need for inquiry in environmental decision-making and communication. These suggestions require moving away from environmental communication practices based on expediency, technical knowledge, and expert opinion. But these examples of positive and productive environmental rhetoric analyses are in the minority. More

problematically, the majority of scholarship considering the role of government-created texts and mediation concludes that state and federal agencies are failing to meet the communicative needs of constituencies.

Ingham and Paretto (in separate studies) conclude that the privileging of “expert” voices in government texts and interpretative settings prevent communicative goals from being met. Ingham examines the “rhetorical situations and strategies of interpretive slide lectures” presented in the Grand Teton National Park in 1994 (139). She concludes that a reliance on the lecture format, the focus on technological equipment, and the failure of the lecturers to develop an ethical appeal cause the audience to feel both physical and emotional distance from the park itself. The one-way (expert to audience) communication results in “performances and presentations which may teach but do not engage” (144). Paretto examines Forest Management Plans, “documents that articulate a plan, usually on a five- or ten-year planning horizon, for managing a forest” (443). Analyzing state- and federally-created plans, she argues that the current dynamic, “between the ‘nature experts’ on the one hand and the private landowners” on the other, work against collaborative decision-making. In spite of technical writing guidelines designed to include landowner goals and needs, the plans created fail to offer alternatives, explain rationales, use reader-friendly terminology, or allow for the knowledge of the landowner to be considered in the development of plans.

This failure of environmental discourse to be constructively dialogic is explained in other environmental rhetoric studies. Killingsworth and Palmer’s critique of the EIS

process describes competing discourses—experts versus the public. They argue the EIS system is “unprecedented as a governmental effort to control environmentally related practices indirectly by controlling the discourse associated with those practices” (*Ecospeak* 169). Analyzing the library of EISs for central New Mexico projects, Killingworth and Palmer determine that the texts create distance from their audience and subject through the use of passive voice, nominalizations, and strings of noun modifiers (173-4). They conclude by suggesting the “emergence or reemergence of a ‘narrative paradigm’ to challenge the currently dominant ‘rational world paradigm’” (191).

Patterson and Lee argue that using a metaphor of “balance” when developing environmental policy “diminishes the public, cloaks the subjectivity of decision making, and reduces the reasonable rhetor to the role of umpire” (26). Invoking the need for balance when determining what priorities to privilege in environmental debates reduces the “public” to one of many equal stake-holders instead of decision-makers. Patterson and Lee explain that using the term “balance” prohibits dialogic debate and results in expediency versus thoughtfulness. And both Ross and Katz and Miller argue those most affected by governmental decisions about the environment are those whose voices are silenced. Ross describes how the procedures negotiating the clean-up activities on the polluted St. Lawrence River in New York failed to incorporate the voices of Mohawk community members. She calls for the training of “boundary spanners,” “who understand principles of effective intercultural communications” (326). And Katz and

Miller describe the debate surrounding the development of a low-level radioactive waste storage unit in North Carolina. Examining the process of risk communication, they describe how attempts to involve public participation in the creation of the facility were in truth “[experts] trying to ‘correct’ the public’s ‘risk perception’” (118). They suggest using a “model of communication that takes into account the role of emotions and values of all parties involved in decision-making processes” (131).

The work of rhetorical scholars analyzing government texts and communication processes consider a variety of environmental situations and offer different solutions. The major claim points to the collapse of communication in environmental situations involving governmental discourse, such as the failure to incorporate knowledge other than “expert” and to support dialogue with those most affected by environmental situations. Moreover, criticism of government texts and processes is one aspect of a larger, more encompassing concern of environmental scholars: in spite of the increasing amount of available information explaining the consequences of environmental damage, the American public as a whole isn’t demanding legislation needed to mitigate what scientists argue is our increasing contribution to global warming and the over-consumption of nonrenewable resources. A major claim of environmental rhetoric is that environmental discourse in general is failing because environmental texts and arguments are unable to create cooperative appeals that meet the competing interests and priorities of national and global populations.

Critiques of Environmental Discourse

The failures of environmental discourse have long been a concern in rhetoric and communication research. Scholars recognize that environmental discourse doesn't meet effectively the demands of changing environmental exigencies. In *Ecospeak*, Killingsworth and Palmer explore the strengths, weaknesses, genres, and rhetorical devices of a variety of environmental texts; their conclusions are not encouraging. Admitting "the potential for the failure of rhetoric," they argue that "[the] structures of conventional scientific investigation and the mass media, as well as the clanking machinery of government and the passivity of the news consumer, all but ensure that, despite recent shifts in awareness and attitude, people will be slow to act on scientifically generated information, if at all" (271).

Marilyn Cooper, using radical democratic theory to analyze the persuasiveness of two environmental groups, considers the efficacy of their rhetorical strategies to create changes "in how our society thinks about the environment and in environmental policies and practices" (237). She concludes that there is an absence of healthy interaction not only between environmentalists and those fighting against pro-environmental policies but also among various environmental groups. This results in the inability of these groups to have "passion over the issues and [an articulation of visions] of what the future should hold" and "more resources and strong management" (256). When environmental groups, in effect, work against one another, potential and actual

audiences are fractured and support is diluted. Limited or narrow types of appeals have the potential for only minimal influence.

Communication and philosophy scholars Bruner and Oeschlaeger take a different approach in their criticism of environmental discourse by crediting the tactics and rhetorical strategies of the “anti-environmental right” and the way they have been able to “name environmentalism as a liberal ploy” (211). They argue that current pro-environmental information and warnings have failed to reach a large audience and are instead “specialized [. . .] discourse that less and less resembles the prose found in Leopold’s *A Sand County Almanac*, and more and more revolves around either arcane discussions of such issues as ethical monism, moral considerability, intrinsic value, [or] ecophilosophy [. . .]” (213). This results in environmental philosophy and discourse that appear elitist and tend to obfuscate and offer no practical help in the face of ecocatastrophe. The liberal left, mainstream environmental non-profit organizations, and environmental activists and advocacy groups have failed to agree on an agenda and diluted their forces. Conversely, Bruner and Oeschlaeger argue that since the policy victories of the 1960s and 1970s, the political right has been able to approach the environmental debate with cohesiveness and a broad, rhetorical sweep, pitting progressivist against environmentalist. Especially in the context of resource use arguments, progressivists consistently promote the immediate economic rewards of capitalism and industrialization. They argue environmentalists deny human needs in

favor of non-human agents. Much in the same vein of the Hetch Hetchy debate, both sides righteously argue “public interest.”

More recent scholars discuss the need for environment discourse to meet a variety of rhetorical exigencies and argue against the efficacy of using single genres to tackle the many-headed hydra of environmental crisis. In their analysis of the competing rhetorical strategies of *An Inconvenient Truth*, Rosteck and Frenz argue that the film avoids a single narrative and contains aspects of autobiography, political jeremiad, and science documentary. This combining of genres meets the 21st-century need to use more than any “single perspective on nature” (16). Because of competing conceptions of nature, environment, and the human role in the degradation of the planet, it is difficult to create environmental communication capable of addressing multiple audiences with varying ideologies, subject positions, and levels of environmental literacy. They found aspects of both the sublime and the jeremiad in Gore’s documentary as “eerily significant”: “[Our] contemporary cultural meanings of nature may not be either [sublime or jeremiad], but may well be as contradictory and incongruous as the symbolic action that animates this film” (16). Studying the same environmental documentary, Laura Johnson argues “the inadequacy of a single rhetoric to fully explain contemporary environmentalism, a truth that may be inconvenient to the project of analysis, but one that may also enable a more reasoned activism” (44). The *CIA* series, I will argue, anticipates the need for multiple appeals in environmental texts and thus

offers an early example of environmental discourse that uses many rhetorics and consequently allows a variety of readers to identify with the texts.

Though discussions about the overarching failures of environmental discourse have been leveled in many different directions, the most trenchant critique of the movement came from within the ranks of environmental advocates. In *"The Death of Environmentalism,"* Shellenberger and Nordhaus, argue that current activism still employs the same strategies that brought them policy victories in the 1960s and 1970s: "[First] define a problem (e.g., global warming) as 'environmental.' Second, craft a technical remedy (e.g., cap-and-trade). Third, sell the technical proposal to legislators through a variety of tactics" (9). However, the political and public landscapes have changed, and "more of the same" hasn't resulted in second-wave comprehensive environmental policy successes. Shellenberger and Nordhaus present a challenge to environmental leaders and a comprehensive condemnation of the "business as usual" approach:

We believe that the environmental movement's foundational concepts, its method for framing legislative proposals, and its *very institutions* are outmoded. Today environmentalism is just another special interest. Evidence for this can be found in its concepts, its proposals, and its reasoning. What stands out is how arbitrary environmental leaders are about what gets counted and what doesn't as "environmental." Most of the movement's leading thinkers, funders and advocates do not question their most basic assumptions about who we are, what we stand for, and what it is that we should be doing. (8).

Shellenberger and Nordhaus call for increased scrutiny of how environmental communicators are framing their arguments; how can they create appeals based upon the primary concerns of citizens as well as the health and future of our planet? They critique what they view as the philosophical underpinnings of the environmental movement and question its ability to create and to position environmental discourse reaching the public in a personal and pertinent manner. Their criticisms of environmental discourse describe environmental communication as fractured. Shellenberger and Nordhaus encourage advocates with disparate strategies and organizational/personal environmental philosophies to engage in painful self-appraisal. This is the first step in creating common priorities and constructing appeals not based on scientific positivism or what seems the ethical and moral certainties of their cause.

This review discusses just some of the criticisms of environmental discourse. The failure of the environmental movement has been blamed on the inability of environmental groups to work together, the intellectualization of environmental philosophy, or outmoded methods and disciplinary grounding. There is a consensus that environmental discourse is failing to meet multiple audiences, match their varying levels of environmental literacy, and dismantle or transform what Cantrill calls environmental default mechanisms (EDMs), cognitive strategies causing us to “take mental shortcuts in reasoning about the environment” (81). He argues environmental messages are often controlled, framed, and presented by status-quo stakeholders who “effectively play on symbolic predispositions” (88). Just as language “serves a pivotal

role in creating and activating the dysfunctional biases we employ in the processing of environmental communications" (89), it can also serve to overcome communicative barriers.

Scholars criticizing contemporary environmental discourse do offer some guidance on what needs to be done to improve effectiveness. Rosteck and Frenz (16) and Johnson (31) point out the need for multiple and interacting rhetorics and the blurring and combining of traditional genres. Cooper argues for a redefining of issues and a reconsideration of traditional methods, adding that environmental discourse must "value all of the strategies employed by the different groups" and "[relate] in a new way with the concerns of a broad range of interests in our society" (256-57). Killingsworth and Palmer call for "crossing the boundaries of discourse communities and creating [...] gap-filling texts" that call for the creation of "new kinds of authors and audiences," resulting in genre-blending and recognition of the multiplicity of rhetorical situations and exigencies (*Ecospeak* 279-80). Lastly, in phrasing reminiscent of another historic call to action, Shellenberger and Nordhaus state, "The arrogance here is that environmentalists ask not what we can do for non-environmental constituencies but what non-environmental constituencies can do for environmentalists" (9), indicating a need to do the reverse. They feel strongly that it is inaccurate to believe "that to win action on global warming one must talk about global warming instead of, say, the economy, industrial policy, or health care" (13). The "belief that social change happens when people speak a literal 'truth to power'" overestimates the persuasiveness of

scientific facts. Shellenberger and Nordhaus define this as “literal-sclerosis” — a failure of environmental discourse to match the day-to-day urgencies and demands of modernity (13).

What is the solution to the literal-sclerosis of environmental discourse? While the critiques and suggestions of environmental scholars are intriguing and pertinent, they share a lack of specificity. What might new environmental texts and methods of delivery look like? How will they function in the world of real audiences and challenging priorities and needs? If a text like *An Inconvenient Truth* offers a type of answer, it still depends upon an apocalyptic narrative. It also lacks guidance for viewers truly desiring to become change-agents. I argue the “things you can do” section has the feel of an afterthought. How can environmental discourse create loyalties and produce positive associate symbols that resonate with the public, or, in truth, the multitude of publics?

Shellenberger and Nordhaus argue that environmental communicators should meet the public where they are—attempting to understand and work with the divergent needs of other groups. This involves creating a discursive space that is roomy enough to welcome and invite individuals with varying levels of commitment and competing priorities yet who could agree on the importance of an overall environmental goal, such as funding a specific alternate energy program or supporting a CSA (community-supported agriculture) group. In other words, environmental writers must create partnerships not just with other environmentalists but also with individuals whose ideologies may not align with their own.

Through these studies it becomes clear that all types of rhetoric and response are needed to communicate messages of environmental urgency to wide audiences. My project adds to environmental rhetoric conversations by analyzing a set of government texts addressing the concerns of multiple stakeholders holding conflicting ideologies and perspectives about the natural world. The government-sponsored *CIA* series is considered by the USFWS and Carson scholars to be environmental rhetoric effectively designed to encourage reader's understanding of the wildlife refuge system and its goals.

Rachel Carson and Environmental Rhetoric

Most of scholarship on Rachel Carson has focused on analyzing *Silent Spring* and its creation, publication, and reception. Graham's *Since Silent Spring* includes biographical information but focuses on continuing Carson's criticism of unregulated pesticide use. He augments her arguments with contemporary evidence and discussions regarding the federal government's complicity in environmental contamination through irresponsible chemical use policies. Lear's definitive biography, *Rachel Carson: Witness for Nature*, greatly extends the earlier biography by Carson's Houghton Mifflin editor, Paul Brooks. Both of these books explore the early influences on Carson, her writing, and the publication of *Silent Spring*.

Brooks's biography, *The House of Life: Rachel Carson at Work*, adds to early Carson scholarship by including excerpts not only from her books but also from the *CIA* series, magazine articles, speeches, letters, and unpublished writing. Lear's biography is

invaluable to anyone interested in Carson's personal life and her passion for and struggles with writing. Lear carried out extensive research and details Carson's long concern with the issue of pesticide use, the research Carson engaged in to write *Silent Spring*, and the public reaction both positive and negative. She also discusses Carson's employment with the USFWS in detail and gives some attention to the CIA series. In *The Recurring Silent Spring*, Hynes analyses Carson's experiences and writing through a feminist lens. She considers how gender issues and sexual discrimination intersect with environmental destruction and the hegemonic institutions of industry, science, and government. These works provide biographical and background information necessary to understanding Carson as a writer and the stories surrounding the creation of *Silent Spring*.

Two edited anthologies contribute to Carson scholarship. In *And No Birds Sing: Rhetorical Analyses of Rachel Carson's Silent Spring*, editor Waddell and contributing authors place the rhetoric of *Silent Spring* in the tradition of *rhetorica docens* and *rhetorica utens*—rhetorical theory and rhetoric-in-use. Both Lutts and Glotfelty explain how the rhetorical strategies of the book were influenced by historical contexts: Lutts explaining how Carson exploits the country's concern with radioactive fallout, and Glotfelty explaining how Carson drew on America's cultural memory of war. Oravec uses archival evidence to "[reconstruct] the inventional processes involved in the writing of 'A Fable for Tomorrow'" (45), the controversial opening chapter of *Silent Spring*. Peter Matthiessen edited a more recent collection, *Courage for the Earth*, arguing for the

heroism and courage involved in the writing and publication of *Silent Spring*. Authors such as Lear, E. O. Wilson, Al Gore, John Elder, John Hay, and Terry Tempest Williams describe the ways they were affected by the book, their view of our environmental future, and the nature of Carson's legacy. These projects firmly place Carson as an iconic figure in the modern environmental movement, mainly through general biographical work and arguments about *Silent Spring*. This attention to historical contexts in analyzing the rhetorical strategies of *Silent Spring* informs my project, as I use the institutional exigencies surrounding the CIA series' development to explain Carson's rhetorical strategies.

Articles by environmental scholars show that rhetorical analyses of *Silent Spring* and Carson's nature writing are a large part of the discipline's knowledge-making history. Killingsworth and Palmer's work is foundational in the study of environmental rhetoric, and the fact that they have found Carson and her work such a rich subject speaks to her rhetorical versatility. First, they analyze Carson's argumentative strategies as an example of apocalyptic rhetoric. They consider the rhetorical strategies in *Silent Spring*, particularly in her opening chapter, "A Fable for Tomorrow," and how she explains the consequences of unmanaged pesticide use through allusions to nuclear fallout. Describing the strengths and weaknesses of the strategy, they argue that the form has shifted as cultural and political change has occurred, leading to an understanding that "the apocalyptic narrative [is] a rhetorical strategy rather than a literal argument" ("*Millennial*" 13).

Second, they argue that Carson (along with Paul Ehrlich and Lois Gibbs) uses a rhetoric of environmental hysteria created through the apocalyptic narrative ("*Discourse*" 35-54). Relating this strategy to Freud's theory of the relationship between mind and body, they conclude that hysteria is a reasonable reaction to threats to environmental well-being. However, they conclude that as a rhetorical move, it "fails to meet the continuing need for dialogue, deliberation, and consensus-building" (50).

Third, in *Ecospeak*, they describe Carson's environmental activism and advocacy as eco-humanism or social ecology, a philosophy arguing that technological or legislative solutions to our environmental problems must be accompanied by accurate and pertinent scientific information and "psychological and social adjustments" (2). In their chapter, "The Rhetoric of Scientific Activism," they define Carson (along with Barry Commoner and Aldo Leopold) as one of the three "major figures responsible for building strong alliances between environmental activism and scientific learning from 1950 to 1980" (18). However, the joining of "scientific ecology and social ecology" with growing environmental awareness fails to provide mechanisms for meaningful social change (19).

Looking at Carson's nature writing and drawing from *Silent Spring* and other Carson texts, Slovic uses selections from *The Edge of the Sea* to explore her "shift from the rhetoric of epistemology to the rhetoric of politics" (102). He explores Carson's move from explanations and descriptions of nature with connotations of advocacy in her books about the sea to arguing advocacy through *Silent Spring*, her "struggle, in 1958, to

decide between epistemological and political modes of expression” (103). Slovic places American nature writing in the category of persuasive rhetoric and analyzes how Carson and other writers work both to explain the relationship between human beings and the natural world and to persuade readers to develop “enlightened attitudes” leading to “nondestructive” environmental behaviors (84).

Continuing with the argument that nature writing has been instrumental in the development of environmental attitudes, Opie and Elliot analyze the work of nature writers to “illuminate the ways in which Americans have used language to advance positions about the environment” and to identify and explore examples of jeremiad discourse (9-10). They describe Carson’s use of the genre to move an audience to fear, pity, or compassion which “[solicits] personal responses to forestall a global apocalypse” (10). In a related argument, Plevin describes Carson’s use of environmental guilt and describes how she was one of the first environmental writers to suggest to the public that scientists’ work could and should be questioned. He evaluates the ability of the strategy to create the potential for long-term communication and argues it is instead a “short-term motivator that draws on murky, less rational forms of thinking” (137). Bryson also analyzes Carson’s “incisive yet balanced critique of science, “one “rooted in ethical engagement with nature, the rejection of anthropocentric values, and a healthy suspicion of the blind faith in science and technological progress” (369). He argues, like Slovic, that Carson’s inquiry- and epistemological-centered approach works not only to develop knowledge but also to investigate and improve the relationship between

humans and the environment. Thus, Carson scholarship has used her work to continue exploring how language we use to talk about the environment creates what we call the environment. An important part of Carson scholarship has worked to explain how she both has faith in and questions the narratives of scientific and technological progress and how these oppositions occupy a niche in the discipline of environmental rhetoric.

The extensive work on Carson has explored her writing, primarily in *Silent Spring* but also in her nature books, and described her rhetorical strategies in a variety of ways. These explorations discuss how her texts work as examples of environmental rhetoric and ask how her writing acts upon audiences and what were the contextual influences on her arguments. The influence of *Silent Spring* has been made clear through both contemporary and historic evidence, such as Murphy's reception study *What a Book Can Do*, even as scholars (such as Plevin and Killingsworth) question the ultimate success of some of its rhetorical strategies. It is unusual to find a discussion of the modern environmental movement that doesn't name Carson as a primary force. However, her writing for the USFWS has been neglected in Carson studies. I argue that the *CIA* series shows early indications of an environmental philosophy that emerges more fully in her nature writing and in *Silent Spring*. As this review of Carson literature has illustrated, Carson's writing is rhetorically flexible and versatile. These aspects of Carson's work are explored further in my project. I argue that Carson speaks about the environment and the work of the refuge system through a variety of appeals in the *CIA* series. The project analyzes her rhetorical strategies, and the next section places them in

the tradition of environmental writing by using environmental communication models which explain how we share information about the natural world.

Patterns of Environmental Rhetoric

Environmental scholars have used various communication models to explore how messages are sent and received (Waddell, 1995; Coppola, 1997). However, two models, one by Killingsworth and Palmer and one by Herndl and Brown, are particularly useful in identifying the main ways the environment has been described and its resources used. These models help me explore how Carson's ways of writing about the natural world work and how her subject positions and experiences affected her ability to describe, explain, and argue environmental topics on multiple levels.

Killingsworth and Palmer developed their model as a "framework to use as a point of departure in tracing the relationships" influencing environmental texts and one which "challenges the oversimplification of ecospeak" (11). They define ecospeak as "[A] makeshift discourse for defining novel positions in public debate [. . .] a form of language and a way of framing arguments that stops thinking and inhibits social cooperation rather than extending thinking and promoting cooperation through communication" (8, 9).

To offer an alternative to the polarity of ecospeak, the model avoids placing developmentalism opposite to environmentalism — an often non-productive and inaccurate positioning (Figure 1). Instead nature as resource is positioned between

nature as object (represented by science) and nature as spirit (represented by deep ecology).

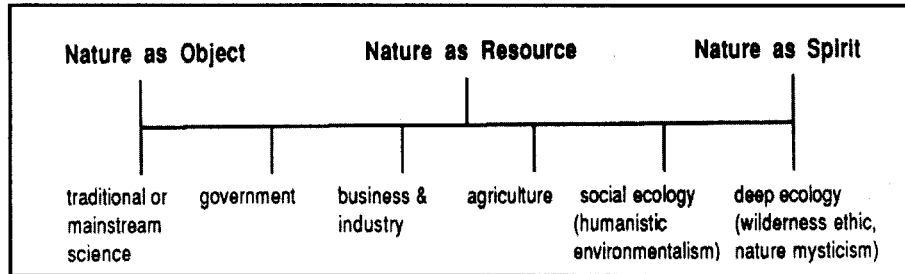


Figure 1: Killingsworth and Palmer’s Continuum of Perspectives on the Environment (*Ecospeak* 11)

These three summative **perspectives** on the continuum contain (among others) the hegemonic systems using the environment (government, big business, and mainstream science) as well as movements to protect it (social ecology and deep ecology). Nature as science is based on the objectivism originating with rationalistic, 17th-century Cartesian philosophy. The environment is an object to be quantified, described, and analyzed rather than felt. Nature as resource is the philosophy of nature as “a bounty [. . .] for human use and enjoyment” (12), exemplified by “wise use” policy and “the gospel of efficiency.” Departing from both scientific- and resource-based views of the environment, nature as spirit “[asserts] a mythic involvement with nature, an identity in which the spirit of creation wraps the human and the nonhuman in an indissoluble unity with definite ethical consequences” (12).

Killingworth and Palmer explain that ecospeak occurs when opponents classify or assign to each other a single perspective or philosophy. They argue that applying the continuum pragmatically would prevent this dichotomous positioning and oversimplification of both motives and issues. The actions of various stakeholders can be identified with a basic attitude, but when analyzing environmental texts and activities, we can see that they are influenced generally by more than one perspective. However, environmental scholarship has not yet identified and analyzed texts that argue from all three perspectives. I argue that the *CIA* series created by Carson is an early example of environmental writing that incorporates all three perspectives: nature as resource, object, and spirit. In this project, I analyze how each perspective is developed. I further explain what is sacrificed by her appeals and what is gained. Such an analysis helps explain some of the influences behind the creation of environmental texts, but to understand the environmental motives that support and inform the perspectives and effective ways of arguing, a further communication model is helpful.

Carson's development of the series and her arguments can be explored by using Herndl and Brown's communication triangle, a model based upon Killingsworth's and Palmer's main environmental discourse categories and Ogden and Richards's rhetorical triangle (11). Herndl and Brown's model uses the nature as science, object, and spirit delineation but also categorizes environmental **discourse** as ethnocentric, anthropocentric, and ecocentric. They define ethnocentric discourse as "devoted to negotiating the benefits of environmental policy measured against a broad range of

social interests" (10-11). The philosophies of wise use and stewardship would fall under this category. Anthropocentric discourse comes from "faith in the human ability to come to know nature's secrets" (11), a rationalistic and logical view of nature as objects to be described and quantified. Bureau of Land Management reports, Environmental Impact Statements, and scientific publications are included in this category. Ecocentric discourse privileges the idea of "nature as a spiritual or transcendent unity" (12) and includes Leopold's land ethic, the wilderness ethic, and nature writing.

Through the delineation of categories, motive is added to the continuum perspective. Herndl and Brown use Burke's dramatism and dramatic pentad to foreground their interest in the rhetorical scene:

Burke's influential theory of rhetoric says that the motives and purpose of a document can be found in the "scene" from which the document emerges, and the scene and the other elements of any rhetorical action. [. . .] Burke calls this "dramatism," a "technique of analysis of language and thought as basically modes of action rather than as means of conveying information" (*Language as Symbolic Action* 54). (10)

They argue that Burke's theory explains how the motive behind a text emerges through the scene, which is created by symbols (10).

Nature as resource corresponds with an ethnocentric or human-centered motive; nature as object works to explain anthropocentric texts privileging neither humans nor nature but objective "fact"; and substituting humans with nature as the central focus places ecocentric texts in a nature as spirit category. Herndl and Brown situate their model in the rhetorical tradition by adding corresponding Aristotelian *pisties* or **proofs**

to their categories and a description of the type of texts created: regulatory discourse or ethos-driven government texts; logos or the logical presentation of scientific discourse; and poetic discourse using a pathos-centered approach. Ways of arguing support the philosophical and motivational thrust of discourse categories. Herndl and Brown designed their model as a heuristic, an aid “to help clarify the connections between a text, a writer, and the setting from which a piece of writing comes in an effort to elicit the underlying motives around a text or topic” (10). In short, this model helps to develop a position from which to interrogate multiple facets of the communicative act and will help me connect Carson’s background to the perspectives, discourse categories, and argumentative proofs of the *CIA* texts. Specifically, I will map Carson’s history onto a revised model as follows.

Carson’s involvement with the natural world through her hobbies, education, and employment resulted in her occupying three subject positions: scientist, government employee, and naturalist. These roles, in turn, resulted in her authoring primarily three types of texts (scientific, regulatory, and literary), using the three Aristotelian proofs. Explaining Carson’s rhetoric in the *CIA* series involves placing her at points on Herndl and Brown’s model where her subject positions meet the perspectives, discursive categories, and proofs. This creates a model further adapted to incorporate the influences on Carson, creator of the *CIA* series.

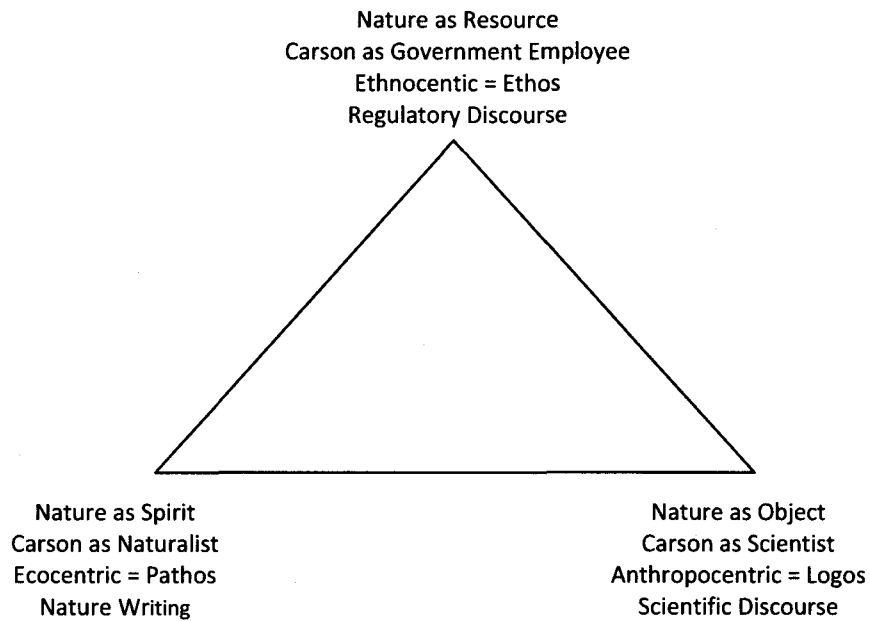


Figure 2: Adaptation of Herndl and Brown's rhetorical environmental discourse model (11)

The *CIA* texts are examples of regulatory discourse through the sponsorship of the USFWS. They are also scientific texts, using fact-driven content. And they are examples of nature writing, guiding the reader through the refuge, celebrating its sights and sounds. Killingsworth and Palmer's and Herndl and Brown's models place Carson and her writing in the perspectives, discourse categories, and rhetorical proofs of environmental writing. However, these models don't explain the mechanisms through which a reader connects with information presented in these ways. How do readers identify with the philosophies and positions presented in the discursive space of the *CIA* texts?

Identification and Consubstantiality

Like Herndl and Brown, Killingsworth and Palmer draw upon the work of Kenneth Burke to inform their rhetorical analyses and to explain how texts work and how readers identify with the authors and the arguments created.

Killingsworth and Palmer explain that the primary goal of public discourse is identification, and the “intractability of social problems like the environmental dilemma is due to the inability of concerned discourse communities to form adequate identifications through affective appeals” (7). Identification fails to occur when the “subject position of one group (‘we’) cannot be filled with members of another group (‘you’ or ‘they’)” (7). They argue that Burke’s most important contribution to the study of rhetoric is the concept of identification, what they describe as “the means by which a speaker or writer puts forth an image or character [. . .] and invites the audience to participate in a consubstantial relationship with the image” (23).

Following Killingsworth and Palmer’s lead, I draw on Burke’s development of the terms *identification* and *consubstantiality*. Identification works to explain how readers are convinced by the persuasive elements of a text—how they metaphorically join forces with the writer. Consustantiality explains how readers willingly occupy a writer’s discursive and rhetorical space—how they come to hold the same argumentative position. When Carson developed the *CIA* series in the 1940s, environmental issues were different in degree and number than those currently facing us. However, her goals would have been the same as the goals of environmental communicators today:

convincing readers to identify with the author's point of view and creating shared opinion and common ground. Carson needed to provide opportunities for identification, a necessary element of persuasion, and to create consubstantiality between writer and reader.

In *A Rhetoric of Motives*, Burke moves away from the focus of a *Grammar of Motives* (substance) and theorizes persuasion and identification. Identification is part of and a crucial step on the way to persuasion:

As for the relation between 'identification' and 'persuasion': we might well keep it in mind that a speaker persuades an audience by the use of stylistic identifications; his act of persuasion may be for the purpose of causing the audience to identify itself with the speaker's interests; and the speaker draws on identification of interests to establish rapport between himself and his audience. So, there is no chance of our keeping apart the meanings of persuasion, identification ('consubstantiality') and communication (the nature of rhetoric as 'addressed'). (*Rhetoric* 46)

If identification is a readers' often unconscious alignment with the writer ("I am like you in this way"), then persuasion is conscious agreement leading to action. Burke describes identification as a reader locating a commonality or shared belief with the writer, often in spite of differing ideologies, backgrounds, or interests (20-21).

Identification with "collectives" or social groups is a human requirement, and without the move towards affiliation, a "function of sociality," individuals become "enfeebled" (Burke, *Attitudes* 266-7). The ways in which suasive acts are constructed to move specific audiences cause a reader to choose to "identify itself with the speaker's interests; and the speaker draws on identification of interests to establish rapport between himself and his

audience" (Burke, *Rhetoric* 46). The audience or reader also has the choice not to identify with particular groups or arguments, but identification itself is not a choice. In Clark's words, Burke agrees "the choice people face is not whether to identify but which identification to accept" ("Kenneth Burke"). For Burke, identification depends upon the mindset or belief of the individual. Joining a group of stakeholders or becoming a member of a discourse community doesn't depend on authentic shared interests but on a perception of shared interests: "A is not identical with his colleague, B. But insofar as their interests are joined, A is *identified* with B. Or he may *identify himself* with B even when their interests are not joined, if he assumes that they are, or is persuaded to believe so" (*Rhetoric* 20). Because of the speaker/writer's arguments, presentation, and/or affiliations, the audience/reader is moved to feel a connection and a degree of agreement. If substance is "something that stands beneath or supports [a] person or thing" (Burke, *Grammar* 22), consubstantiality "either explicit or implicit, may be necessary to any way of life. For substance [is] a way of acting together; and in acting together, men have common sensations, concepts, images, ideas, attitudes that make them consubstantial" (Burke, *Rhetoric* 20)

Burke continues by explaining that however "intrinsic" a human activity, it can be credited to personal motives or gain; it cannot be looked at in isolation or separate from other "extrinsic" motives (*Rhetoric* 27). Considering human activity in general, Burke argues that "any specialized activity participates in a larger unit of action, and identification is a way of explaining that activity in a broader context" (27). Individuals

are neither motivated solely by selfish or unselfish impulses. They react to situations and to others through unconscious and conscious perceived shared interests, traits, or goals. Intrinsic and extrinsic factors meet on some dynamic level and result in recognition or estrangement. Burke explains "You persuade a man only insofar as you can talk his language by speech, gesture, tonality, order, image, attitude, idea, identifying your ways with his" (*Rhetoric* 55). This represents the more intentional definition of persuasion. However, identification moves away from blatantly intentional, sophistic rhetoric. Burke explains that using identification as an instrument, "[marks] off the areas of rhetoric, by showing how a rhetorical motive is often present where it is not usually recognized, or thought to belong. [. . .] an intermediate area of expression not wholly deliberate, yet not wholly unconscious [. . .]" (*Rhetoric* xiii). I argue that Carson's rhetoric in the *CIA* booklets uses identifiable, purposeful strategies to create opportunities for identification. However, there is more at work than intentionality. One of her goals for the texts was to encourage the reader to experience nature on a personal level, and it is her genuine sympathy with the landscapes and wildlife rather than an overt rhetorical strategy that encourages this.

The reader of the *CIA* booklets needed to identify with the texts' author(s) and sponsoring agency and, further, to see herself as a wildlife advocate and supporter of the refuge system. Carson needed to create ways for hunters, birdwatchers, and botanists alike to identify with the refuge system even as they came to the sites with differing agendas and ways of viewing the natural world.

Because identification occurs through the ways arguments are composed, Carson had to create appeals coinciding with the priorities of many different readers; she accomplished this goal through her use of the environmental discourse categories: ethnocentric, anthropocentric, and ecocentric. Carson, with the backing of a federal agency, constructed ways of seeing wildlife refuges that many could agree with—but for different reasons. Bird watchers desired safe habitats; fishermen hoped for consistent, productive places to fish; botanists wanted ecosystems to be preserved. Recreational hunters, wildlife biologists, and nature enthusiasts found common ground at refuges and became consubstantial. Though their interests were divergent and often conflicting, they were joined in the discursive space of the *CIA* texts and the physical space of the wildlife refuge. As Burke explains:

Here are ambiguities of substance. In being identified with B, A is “substantially one” with a person other than himself. Yet at the same time he remains unique, an individual locus of motives. Thus he is both joined and separate, at once a distinct substance and consubstantial with another. [. . .] Two persons may be identified in terms of a principal they share, an “identification” that does not deny their distinctness. (*Rhetoric* 21)

Figure 3 illustrates this way of defining consubstantiality—the aligning of shared points on terministic screens—in terms of waterfowl conservation. Three distinct populations agreed that waterfowl needed to be protected, but the reasons differ dramatically in terms of motive and perspective. Through each of her subject positions, Carson worked for the protection offered by preservation areas though her reasons involved contrasting environmental philosophies.

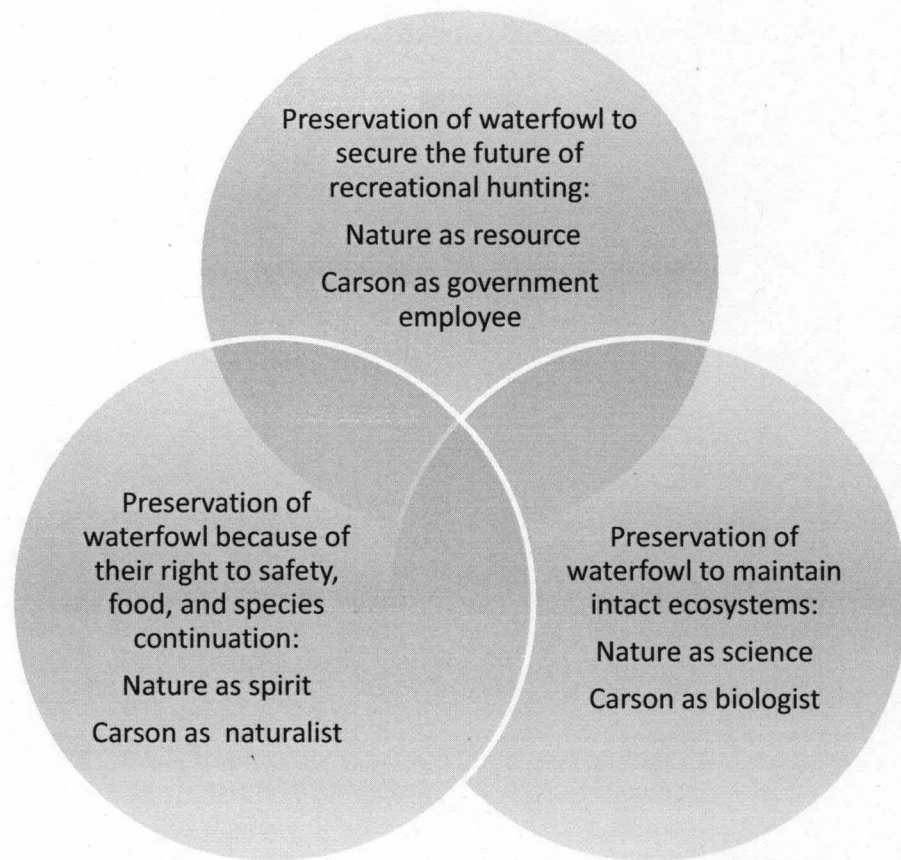


Figure 3: Consubstantiality in the *CIA* texts: Sporthunters, biologists, and naturalists agree on the topic through competing and conflicting rationales.

Just as Figure 3 shows a shared space, it also maintains separation. Inherent in Burke's descriptions of our ways of "acting together" are the "partisan aspects" of identification (*Rhetoric* 21-22): "Identification is affirmed with earnestness precisely because there is division. [. . .] But put identification and division ambiguously together, so that you cannot know for certain just where one ends and the other begins, and you have the characteristic invitation to rhetoric" (22-25). When a reader of the *CIA* series "identified" with Carson's and other authors' arguments for the need for

refuges—that is, when they became included in Carson’s use of “us” and “we”—they then became “divided” from those who might disagree. Overall, Carson avoided an overt “us versus them” dichotomy in the rhetoric of the *CIA* texts; the majority of her explanations concerning threatened species and landscapes describe past rather than specific present-day enemies. A destructive historic relationship is positioned against a wiser, proactive relationship with nature. This invitation to join a community of conservation supporters is important in that it created an opportunity for readers to enlarge the extent and range of their endorsement. For example, hunters could become refuge advocates not only because refuges improved their sport but also through acknowledging how the sport’s destructive practices contributed substantially to the national urgent need for refuges. Carson’s specific practices appealing to the main perspectives of nature open a door to agreement and patronage on other levels.

Carson spends minimal time placing blame, creating guilt, or posing potential future dire scenarios, thereby avoiding an apocalyptic narrative. She creates a discursive space where readers see ways their views of nature are represented and are not competitive but consubstantial. With identification and consubstantiality is the increased potential for environmental advocacy and action. With the failure of contemporary environmental discourse to persuade broad audiences, my analysis will show that even in situations where discursive practices and genres traditionally and, perhaps, logically demand a single type of appeal, multiple appeals are more effective in meeting the

primary concerns and interests of various populations. And, in fact, these multiple appeals can work more effectively in tandem than in isolation.

Chapter 2 explores the rhetorical contexts of the CIA series, how the discursive needs contributed to Carson's use of appeals. The chapter also provides background information necessary to understanding the development of the USFWS, Carson's subject positions and relationship with the agency, and the creation and content of the CIA series.

CHAPTER 2

HISTORICAL BACKGROUND AND INTRODUCTION

TO THE *CONSERVATION IN ACTION* SERIES

Most writing for the federal government is transitory, self-serving, and entirely forgettable. [. . .] It is rare that any government publication withstands the passage of time; nearly seven decades after they were written, the “Conservation in Action” essays are still regarded as models for how to engage the public in the work of wildlife conservation with words that transcend bureaucratic prose.

David Klinger
Senior Writer-Editor
National Conservation Training Center

The *Conservation in Action* (CIA) series is a set of booklets created by Rachel Carson and written by her and other United States Fish and Wildlife Service (USFWS) employees. Published from 1947-1957, their major task was to advertise the growing national refuge system. The impetus for the series resulted from combined influences: the USFWS’s political history, Carson’s background and beliefs, and the project’s rhetorical priorities. She brought to the discursive situation her accumulated experiences as a writer, government employee, and life-long nature lover. Her first book, *Under the Sea-Wind*, an example of Carson’s writing as a naturalist, had been published in 1941. When she began the CIA series in 1947, she had been employed as a government

biologist since 1935, and much of her agency work involved creating, analyzing, and summarizing scientific research. All of these experiences influenced her environmental philosophy and her understanding of natural systems and their interdependencies and actions.

The USFWS itself resulted from the joining of two government agencies concerned with different areas of the natural world: the Bureau of Fisheries and the Bureau of Biological Survey (Madison, *United States* 1259). Carson was originally employed by the U.S. Bureau of Fisheries, and then by the USFWS. Her experiences with both agencies greatly expanded her scientific knowledge and her understanding of species and biological processes. She didn't engage in original research for the agency; instead she analyzed, summarized, and critiqued the research of others (Lear 81-110). The interest and passion Carson had felt since childhood for the natural world was augmented and nourished through her USFWS work.

During her tenure as a government employee, Carson created many different types of writing, both agency-sponsored and private. The USFWS considers the *CIA* series to be the most important texts she produced as a government employee because of the literary quality of the prose, the way the texts comprehensively describe the wildlife refuges, and the skillful way conservation information is explained (Klinger personal communication). The series is also the most rhetorically flexible and versatile of her government writing, representing different aspects of our relationship to nature: economic, scientific, and ethical. The variety of human/nature interactions that the

series incorporates corresponds to the history of the USFWS and its concern with natural resources, scientific study, and eventual policies to protect and preserve species and landscapes. I argue that many of the competing urgencies and rhetorical appeals of the *CIA* texts can be explained by analyzing the creation of the agency.

This chapter will provide a brief history of the agency and explain how the political, economical, and social forces influencing its development are represented in the *CIA* texts. I will also discuss Carson's subject positions as naturalist, scientist, and government employee and the ways these inform her writing in the series. Lastly, I'll explain the *CIA* booklets' general characteristics and themes.

The Evolution of the U.S. Fish and Wildlife Service

The USFWS formed to meet human-centered and nature-centered needs, and the rhetoric of both would later be part of the *CIA* series. Management of wildlife refuges and preserves requires the agency to consider nature and natural resources economically, scientifically, and ethically. This combining of human-centered/wildlife-centered needs and environmental philosophies resulted as governmental oversight and policy development attempted to meet both the demands of a growing public and the results of increasing environmental damage.

Starting in the early 1800s, public and political momentum to institute environmental change began to grow, a movement motivated initially by questions about how to best control and utilize the nation's natural resources (Hays 2-3). These

concerns were soon complicated by contemporary fears regarding the disappearance of those resources, contamination of water and food sources, destruction of the American landscape, and diminishing wildlife and wildlife habitat. Because of these concerns and fears, both government and not-for-profit agencies developed to support intelligent use of the nation's resources and stop environmental destruction and contamination (Dolin, *U.S. Fish* 19-22).

Hays describes the early history of government's relationship with the natural world as "[. . .] rational planning to promote efficient development and use of all natural resources" (2). This "rational planning" depended upon the application of scientific principles and developing technology to provide the best management information and techniques (Hays 2-3). Although not without its turf battles, conflicting philosophies, and actions both noble and selfish, "conservation of efficiency" policies created economic growth and development by controlling and utilizing the nation's water systems, forests, grazing and farm land, minerals and precious metals, and oil and coal reserves (Merchant, *Columbia* 120-132).

Early in this history of government intervention in environmental matters, policies and legislation worked mainly to support U.S. industries; the main focus was economic—nature as resource. One example is the 1869 setting aside of the Alaskan Pribilof Islands (proposed by Ulysses S. Grant in 1868) enacted to protect the United States' interest in the Northern Pacific Fur Seal trade. The Department of Treasury was given the responsibility for managing the islands (Dolin, *Smithsonian* 36). Another

example is the creation of the U.S. Commission on Fish and Fisheries in 1871, which responded to the decrease in coastal and inland fish populations and its impact on related commerce (Dolan, *U.S. Fish* 23). However, some policies, primarily motivated by economics, also began to move towards protecting wildlife and wildlife habitat. A shift to a shared concern for both humans and nature emerged. For example, the 1892 Afognak Island Forest and Fish Culture Station in Alaska (the first fish reserve) was conceived not only to protect the salmon industry but also because of the land/water quality and the number of animal species ((Dolin, *Smithsonian* 36). A slow appreciation and valuation of nature for its own sake began to emerge in governmental agencies.

Two agencies involved with resource use developed in the latter decades of the 19th-century and eventually became the USFWS; one was concerned primarily with terrestrial wildlife and the other with aquatic (the two sometimes referred to as “fins and feathers”). These agencies developed first to respond to economic concerns and the need to protect resource-related industries but also to increased concerns about the utilization and destruction of fish and wildlife resources. The first agency, the U.S. Commission on Fish and Fisheries (1871), resided under the jurisdiction of the Commerce Department but in 1903 was renamed the Bureau of Fisheries and placed under the newly created Commerce and Labor Department (Dolin, *U.S. Fish* 24). The agency was “charged with studying populations of commercial food fishes of the inland and coastal waters of the United States and recommending ways to protect threatened fisheries” (23). The agency’s responsibilities heavily involved scientific research and study: gathering and

publishing data on commercial fishing, studying the effects of pollution on fish populations, and “protecting fish populations on dammed rivers” (25-7).

The second agency, the Office of Economic Ornithology and Mammalogy, was created in 1885 as part of the Department of Agriculture. Dolin explains that the agency’s first concern was primarily economic (as with the U.S. Commission on Fish and Fisheries): “The division’s initial responsibility was [to] educate farmers about ways to save money by protecting their crops and livestock from pests and predators. Over the next 10 years the division’s responsibilities changed, and by 1896 its primary activities were scientific” (*U.S.Fish* 28). The agency created maps and surveys detailing plant and animal populations. And again, as with the Commission on Fish and Fisheries, nature as science became a priority. However, as Dolin explains, Congress wanted the division to engage in work more clearly aiding citizens and “[this] sentiment resulted in a series of congressional and presidential actions that radically altered the division’s activities and responsibilities” (29). Renamed twice, first as the Division of Biological Survey (1896) and later the Bureau of Biological Survey (1905), the agency had dual purposes: to eradicate and/or control animals interfering with agriculture and to conserve and protect animal species endangered by human activity (29). These priorities resulted in the slaughter of some species and attempts to save others.

In 1940, the Bureau of Biological Survey and the Bureau of Fisheries merged under the Department of the Interior (DOI) to become the United States Fish and Wildlife Service (Madison, *United States* 1259). This combination resulted from two New

Deal attitudes: perception of inefficiency in governmental handling of natural resources (the great 1930s program growth resulting in duplication and redundancy of efforts among agencies) and the belief that the Great Depression was, in part, caused by this inefficiency (Dolin, *U.S. Fish* 41). In its final configuration, the USFWS was a combination of two agencies concerned with the protection and utilization of resources from the land and the water. Additionally, both economic priorities and scientific research were primary influences on the organization's development. All of these influences are major threads in the *CIA* series.

With this change in organization, the work of the agency evolved to consider fish and wildlife protection more broadly; the responsibilities increased to represent not only industrial or commercial interests and sport and recreational stakeholders but also to include the serious investigation of threats to wildlife and wildlife habitat (Dolin, *U.S. Fish* 15-17). This focus included the need for increased understanding of ecological systems and populations and the effects of increasing urbanization and expansion of humans into animal habitat. Ultimately, the government began setting aside natural areas to protect wildlife and unique landscapes, creating the National Wildlife Refuge system.

This complicated intersection of competing needs (human and animal) and stake-holders (governmental and public) results in an agency that supports various human/nature relationships: economical, scientific, and ethical. However, texts created by the agency rarely represented this diversity. For example, the research article

abstracts Carson completed for the Bureau of Fisheries' publication the *Progressive Fish Culturist* are for other biologists and fish hatchery managers—a nature as object perspective for a very narrow audience.¹ The “Food from the Sea” booklets Carson wrote targeted homemakers and also used strictly nature as resource discourse.² In comparison, Carson's *CIA* series was written for a broad audience and describes the refuge system in terms naturalistic, economic, and scientific. Through this government-sponsored text, we can see the possibilities of environmental writing--its potential for flexibility and inclusiveness.

The Development of the National Refuge System

The emergence of the refuge system and the responsibility of the USFWS for its management and growth represent a historic shift in environmental policy from primarily profit to protection. Our nation's history of abusing our natural resources, birds, and animals has been well-documented (Dolin, *Smithsonian* 7-21). Extinction of species such as the passenger pigeon and the near-extinction of species such as the buffalo illustrate how early (and many contemporary) Americans considered our national supply of wildlife and natural resources as inexhaustible.

In the latter decades of the 19th-century, as the precarious position of many animal and bird populations became evident to those who were paying attention, some states began to pass laws to protect endangered and threatened species. However, the enforcement was rare, and a federal law was badly needed. The Lacey Act, signed by

President McKinley in 1900, was passed “in response to the decimation of birds used for their feathers in the millinery trade” (Merchant, *American* 277). This law “made the interstate transport of illegally killed wildlife a federal offense [and] institutionalized the idea that even nonutilitarian species should be allowed to coexist with people”(Nash 49). Although this legislation seemed a huge step forward, economical influences limited the bill’s success in decreasing species’ destruction, particularly birds whose plumes were used to decorate ladies’ hats. The popularity of feathers in fashionable clothes and accessories created a demand suppliers met in spite of federal laws. Also, although the Division of Biological Survey was responsible for enforcing Lacey Act legislation, very little money was available to pay game wardens (Dolin, *Smithsonian* 39-40).

Eventually, public support for conservation and protection policies began to grow, and the tides of conservation efforts changed for the better when Theodore Roosevelt took office in 1901. Florida was home to some of the most intense battles over the plight of bird populations, and, in 1903, Roosevelt set aside 2-hectare Pelican Island as a protected animal habitat, making it the first national refuge (Madison 1259). When Roosevelt left office in 1909, he had signed 51 executive orders creating wildlife refuges in three territories and seventeen states (Reffalt).³

The need for more information about conservation and refuge management coincided with the 1905 establishment of the Bureau of Biological Survey in the Department of Agriculture (Dolin, *U.S. Fish* 28-29). This agency was given the responsibility of the newly protected areas. Later legislation, such as the Migratory Bird

Treaty Act (1918), the Bald Eagle Protection Act (1940), and the Endangered Species Act (1973), all increased the ability of the agency that finally became the USFWS to carry out its work (Madison 1259). Today, a large part of the responsibilities of the USFWS involves the development, maintenance, and protection of the 150 million acres, 550 national wildlife refuges and units of the Refuge System, and 37 wetland management districts (National). The need to inform the public about the conservation work of this growing network of sanctuaries created the institutional motivation for the *CIA* series developed by Carson in the early 1940s. To meet that public information need, Carson produced an original set of texts that provided comprehensive information about the refuge system.

Rachel Carson and the *Conservation in Action* Series

Much has been written about Rachel Carson and the writing of and reactions to *Silent Spring*. Minimal attention has been paid to her nature writing (three books published from 1941-1955) and even less to the writing she did while working for the government (1935-1952). However, as Carson's biographers (Brooks, 1972; Lear, 1997) point out, her employment by the agency played a role in the development of her environmental philosophy and knowledge of the natural world, both of which are evidenced in *Silent Spring*.

Carson's environmental philosophy began during her childhood and was nurtured by her adult experiences educationally, vocationally, and personally. Lear describes how an early appreciation for nature was created by Carson's mother:

From the time Rachel was one year old, she and her mother spent increasing amounts of time outdoors, walking the woods and orchards, exploring the springs, and naming flowers, birds, and insects. [. . .] They talked about what they saw in the woods and particularly watched for birds. The distinctive quality of their experiences in the outdoors was shared delight. From the first Rachel responded to her mother's love of nature. Her acuity of observation and her eye for detail were shaped on these childhood outings. (16)

Carson became an avid bird-watcher and more than amateur ornithologist, participating in birding excursions whenever her schedule would allow. She also had a life-long love of the sea, although she didn't get to experience it firsthand until she joined the Marine Biological Laboratory at Woods Hole in the summer of 1929 (Lear 52-56). This experience, her study of nature, and a Master's Degree in Zoology from Johns Hopkins University culminated in Carson's employment by the Bureau of Fisheries in 1935. She was hired initially as a consultant to write a series of radio scripts about the sea; what resulted was a long history of writing about nature and natural processes as a scientist and as a naturalist (Lear 78-84).

In 1936, Carson was formally hired by the Bureau as a junior aquatic biologist, making her one of two professional women in the bureau at that time. Lear describes some of Carson's responsibilities when working for the Bureau of Fisheries as "analyzing biological and statistical data of the region's fish, determining age and

population variation, writing up reports and producing brochures for the public on fish conservation" (82-83). Lear further explains how Carson's work for the Bureau used both her scientific and her communication talents and gave her opportunities to grow as a scientist and become an expert in the work that would occupy her for the remainder of her life—writing about nature and the ecologies of natural systems:

Her research required her to locate and consult with experts in several fields of fishery biology. She visited bureau laboratories and field stations. Some reports required considerable library research in addition to routine laboratory study. Her duties employed both her scientific and her literary skills. Her work reinforced her personal connections with nature, and deepened her understanding of the ecological tapestry of marine life. (83)

Between 1935, when Carson was first hired by the then Bureau of Fisheries, and 1941 when her first book, *Under the Sea-Wind*, was published, Carson had 18 articles accepted in publications such as the *Baltimore Sunday Sun*, *Richmond Times-Dispatch*, and the *Atlantic Monthly* (Lear 585-6).

In 1942, Carson was promoted to assistant aquatic biologist, and she became *Progressive Fish-Culturist* Editor. For the bureau, she summarized, reviewed, and critiqued research articles in the publication and produced four comprehensive and substantial wartime booklets, "Food From the Sea," instructing housewives on how to identify and prepare regional seafood (Lear 95-107).

In 1945, Carson was promoted to aquatic biologist, but her primary responsibilities as a writer and editor rarely required field work. Within six months, her

title was changed again to “information specialist in charge of ‘informational matter relating to the wartime fishery program’” (Lear 111). In a report, “Women in Government,” Carson described her work as managing a small publishing house (Lear 131). Here her skills in both science and communication were used.

It would be difficult to overemphasize how Carson’s work with the USFWS influenced her career as a writer. With the agency, she expanded her knowledge of biological systems, species, and ecologies. Through her editing and research work, she learned how to critically examine research articles, pulling from the information what would prove useful to her writing and arguments. These skills would greatly influence her ability to digest and utilize an extensive amount of scientific information when she was engaged in research for and writing *The Sea Around Us* and, later, *Silent Spring*.⁴

Lear explains how Carson used her research for the agency to inform her writing on fishery topics for newspapers (79). This became a pattern for Carson: absorbing great amounts of information for her government writing and then using what she had learned to write articles for popular publications. During my research at the National Conservation Training Center and the Beinecke Rare Books and Manuscript Library, I examined hundreds of documents Carson created during her research for the magazine articles and for the books about the sea completed during her tenure with the USFWS. I also examined many of her *Progressive Fish Culturist* abstracts, the “Food from the Sea” series, and drafts of articles that weren’t published in the popular press (such as “Bird

Banding Is Their Hobby" and "Road of the Hawks"⁵). These records document a continuous and intensive learning process.

Carson also developed a vast network of friends and associates working within the field of science and conservation who would support her and provide information during research for her book-length projects and her scientific popular articles. She regularly sought out experts on her research subjects and verified information or asked for further instruction. For example, Carson's correspondence with *Collier's* regarding the well-received article "The Bat Knew it First" illustrates both her use of primary sources and her extensive research activities. In a letter to her *Collier's* editor, Carson writes,

The sources of the article were a series of technical papers by Dr. Galambos and his associates published while the experiments were in progress and after their completion. The most important of these appeared in the *Journal of Experimental Zoology*, Vol. 86, 1941; the *Journal of the Acoustical Society of America*, July, 1942; and *Scientific Monthly*, February 1943 [. . .] I have corresponded with Dr. Galambos directly. For general information on the natural history of bats, I drew on Grover Morrill Allen's classic monograph, "Bats," published by Harvard University Press in 1939. I have never been willing to use secondary source material, but I invariably consult the Reader's Guide before spending any time on an article, to avoid duplicating something that has already been done. When I looked up the subject of bats, I found that the following journals had published technical accounts of the Galambos experiment: *Scientific News Letter*, Jan. 4, 1941; *Popular Science*, March 1941; *Scientific American*, August 1941.⁶

Carson's willingness and eagerness to learn from experts in biology and other disciplines became an invaluable skill. Her pain-staking research for *Silent Spring* is

evidenced by the book's extensive bibliography; that the project involved intensive study and incorporated a large degree of expert evidence added to Carson's ethos and the legitimacy of her arguments when the book was published in 1962 (Lear 366).

Carson's editing and supervising USFWS communications also developed in her the desire to improve the publications created by the agency. In 1946, the need for increased publicity and information about the growing national refuge system gave Carson the opportunity to develop a series that would showcase the best the USFWS had to offer in terms of public information documents (Lear 132).

The Conservation in Action Series

To understand the *CIA* series' history and development, it is helpful to have an overview of the constraints and competing environmental/ institutional exigencies surrounding the texts' production.

There are twelve *CIA* booklets, ten ranging from approximately 10-20 pages and describing specific refuges, a single booklet explaining the Duck Stamp Program, and a more ambitious booklet, *Guarding Our Natural Resources*—an overview of national and international conservation efforts.⁷ Carson was the primary author of four of the *CIA* texts and co-authored a fifth. She began the series in 1946 while assistant to the chief of the USFWS Office of Information; in 1948, she advanced to USFWS Information Division editor-in-chief. When Carson left the agency in 1952 to pursue her own writing career, the planned *CIA* booklets were completed by other authors. The texts were published

by the Government Printing Office (GPO)/Superintendent of Documents between 1947 and 1957 and were sold for 15 to 30 cents through the GPO and at individual refuges.

Lear explains that Carson developed the plan for a set of informational booklets highlighting specific refuges and explaining USFWS conservation approaches; Carson saw the series as the opportunity to establish a “public educational forum” encouraging involvement in conservation efforts in general (132). Katherine Howe Roberts, the USFWS artist who accompanied Carson on almost all the refuge trips, said Carson saw a need for the series and had a specific idea of what the texts should include and how they should look. Roberts agreed Carson’s main goal was to educate the public about wildlife refuge work. However, when I spoke with Roberts, she also described a tension between Carson’s desire for the public to have a greater appreciation for the work of the refuge system and a reluctance to encourage more use of the refuges for recreation, a consistent balancing act for the USFWS—public support and involvement against limited access to prevent human interference in wildlife activities. Roberts explained: “As I remember, it was difficult for Rachel to find a balance, to work to bring more visitors into the refuges when she really felt that protecting the wildlife from human interference was the biggest priority. For her, the [waterfowl] came first, but people needed to know about the refuge system” (interview).

Carson’s idea for the series was timely because it matched an articulated institutional need to advertise and share refuge system information with the public. In 1951 USFWS Conference minutes, Alistair MacBain, Chief of the Division of

Information, is reported as describing the aim of his new position as gaining “widespread publicity for the Service,” indicating an on-going need for public information.⁸ There was also mention of the current *CIA* series: “Some progress was reported toward filling the informational needs of the refuge program, which has been starving for publicity. This year we were able to get out another refuge leaflet, this time concerning the Great Bear River Refuge.”⁹ Another document, complete with bibliography and titled “Public Relations and the Refuge Manager,” was released in 1953 and opens with:

Public relations activities are becoming increasingly important in the national wildlife refuge program. It is essential that every effort be made to acquaint the public with the refuge objectives and operations. [. . .] The Annual Report for fiscal year 1952 shows there were approximately 3,442,917 visitors on national wildlife refuges [. . .] It is the impressions these people retain that influence support of the refuge program.¹⁰

This booklet indicates the strong push from USFWS management to publicize the work of the refuges; it contains sections such as one titled “Methods of Public Contact,” examples of appropriate items for press releases, and advice for participation in meetings; it also gives refuge managers a sample speech that could be adapted for presentations and the exhortation to “talk to the camera, and smile” when appearing on television. Carson’s *CIA* series is listed as reference material for the refuge managers as they work to better promote their refuge. Madison sees Carson as “part of a New Deal and WWII generation that felt compelled to proselytize to the American public about conservation” (e-mail). In short, there was an institutionally recognized need for more

advertising of the refuges and the refuge system, and Carson's early desire for the development of the series coincided with institutional goals.

In addition to the institutional and personal motivation for the series, Carson also hoped the set of texts would serve as an example for well-designed and well-written government publications. Lear states that Carson saw the twelve booklets "as a model for service publications in style, illustration, and layout" (132). Paul Brooks, Carson's Houghton Mifflin editor for *Silent Spring*, explains:

United States government publications, however useful, have seldom been noteworthy for their literary distinction or charm of format. [Carson] welcomed the chance to show that good writing and printing were possible in the Washington bureaucracy. A few passages [of the *CIA* series] show how superior they were in style—and therefore in effectiveness—to the typical government publication. (100)¹¹

Brooks's praise is one example of contemporary evidence regarding the series' success. Another way of measuring its success is its longevity. A document titled "Publications of the National Wildlife Refuges" shows that eight of the *CIA* booklets were still being sold as late as 1965—almost a full twenty years of printing for the earlier texts in the series.¹²

Madison describes the lasting power of the series, how Carson's booklets are still held up as models today in the USFWS, and how they have lasted as examples of literary, governmental writing:

[The *CIA*] series is still regarded by many in the USFWS as the most effective publication we have been involved with. The issues written by Carson are given to every new USFWS employee and Carson's prologue ("The Sign of the Flying Goose") is reproduced at numerous refuges. Carson's goal in the series was to explain to the public in broad terms what the USFWS did. [. . .] As such the Conservation in Action series is still a fallback when we try to explain what our agency does. (e-mail)

Other documents surrounding the *CIA* series show how the project combined both on-site work and research. Carson visited a variety of refuges in different areas of the country, traveling in late spring 1946 to Chincoteague; in September 1946 to Parker River; in February 1947 to Mattamuskeet, Pea Island, and Swanquarter; in September 1947 to Bear River, Red Rock Lakes, National Bison Refuge in Montana, and the salmon fish hatcheries along the Columbia River. Lear discusses Carson's research methods:

[Carson was] particularly interested in the habitat the refuge provided and the successful efforts to increase the natural food supply and to provide more cover and nesting area. [She] had to get specific information about each refuge. Not only did she take copious notes, but she also asked detailed questions of the refuge personnel, local fishermen, hunters, and the locals. (139, 142)

The great majority of her field notebook materials never appeared in the booklets, but all the information contributed to her overall understanding of the refuges' history, conservation work completed, and wildlife. Carson's accumulating vast amounts of material, most of which doesn't appear in the finished text, is typical of the methods she used for all her writing, especially *Silent Spring* and *The Sea Around Us*, which earned her public praise and financial success.¹³

Through Carson's visits to the refuges and her extensive research into the history, work, and species of each one, the *CIA* booklets visitors might buy at the site's informational/welcome center gave them a thorough understanding of the refuge and its wildlife. Although Carson was one of thirteen series' authors, as the creator and as the author of the first texts, she established a template that other authors, more or less and with greater or lesser success, followed. Therefore, there are consistent topics and types of information provided.

The texts describe the geography of the refuges, often presenting a historical narrative of the site and explaining how the location and landscape features affect conservation practices. For instance, Carson spends significant time explaining the concept of flyways and their importance to the refuge system. All of the booklets describe refuge animals and, oftentimes, plants, sometimes spending considerable time on one species important because the refuge was developed primarily to protect it (such as the Trumpeter Swan) or because the species might be of particular interest to readers (such as the alligators of the Okefenokee Swamp). Along those lines, many of the booklets explain how certain species became endangered due to overhunting, destruction of breeding or nesting sites, and/or encroachment of civilization into their habitat.

In turn, the booklets explain refuge conservation approaches. The majority of the texts discuss economic uses of the refuge, such as clamming, fishing, and the management of "surplus" wildlife. The booklets describe the refuges' plants and

animals, often following a seasonal pattern—what a visitor might typically see in spring, summer, winter, and fall. The texts include recreational uses of the refuge and directions to the site. Some of the booklets contain photographs of refuge work, landscapes, or animals, and all of the booklets contain detailed illustrations.

Although the overall goals for each *CIA* booklet are the same—to provide information about the refuge, the wildlife, and refuge activities—other rhetorical needs of refuge texts varied. For instance, the *Parker River* text was used to persuade state conservation agencies, politicians, and citizens in communities surrounding refuge land that the refuge would not injure the clamming industry or recreational hunting. In the *Wheeler* text, author Thomas B. Atkeson works to persuade the reader of the opportunity that exists when man-made impoundments, “highly artificial” areas “subject to considerable water fluctuations and great human interference, and almost totally lacking in natural foods” are rehabilitated into wildlife refuges (13). The USFWS hoped this new type of refuge created by human manipulation of waterways would reduce the consequences of the alteration’s mass disruption of ecosystems. Whatever unique exigencies existed for specific refuges, the *CIA* texts share a similarity in form and purpose—to inform the public about the refuges, the refuge system, and the wildlife that benefit.

Representing their shared informational motive, an illustration showing the “sign of the flying goose,” the emblem of the National Wildlife Refuges, appears with little variation in the first pages of ten of the twelve *CIA* booklets; the illustration is

accompanied by a brief four-paragraph introduction written by Carson for the first of the series (*Chincoteague*) in 1947 (Figure 4). These initial paragraphs assert themes that

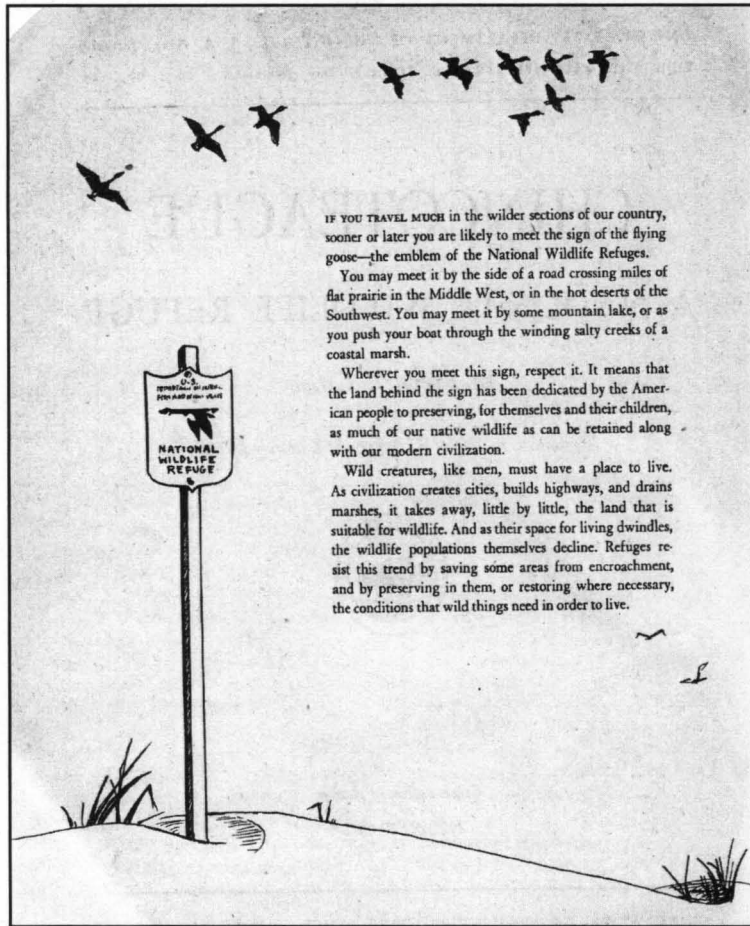


Figure 4: Sign of the Flying Goose Introduction: Although the illustration varied in the twelve CIA booklets, the content of this introduction remained the same and is still used in some refuge texts today.

recur in the series and represent Carson's developing conservation/preservation philosophy—one that reemerges in her books about the sea. First, she explains that wild creatures have the same basic requirements humans have—a place to live, be protected,

and find food. In the tradition of nature writing, Carson establishes our similarities as living beings in order to build an argumentative base of sympathy and relatedness. Second, she acknowledges that wildlife and wild spaces must be able to exist alongside humans and their “civilizing” forces: “As civilization creates cities, builds highways, and drains marshes, it takes away, little by little, the land that is suitable for wildlife.” This encroachment results in less room for wildlife to live and thrive. Third, she argues that refuges “reverse this trend” by creating or recreating places where the needed resources and space can be found. Carson speaks more in terms of preservation (using the term twice) than conservation (which is used not at all). Although the content of the booklets makes a nod at a “wise-use” philosophy, there is no mention in this preparatory statement of economic uses of refuge land, management of “surplus” wildlife, or the recreational value of the refuge. Through this short statement, Carson presents an abbreviated environmental philosophy of relatedness, necessity, and action.

Each of the *CIA* booklets provides a detailed picture of a specific refuge and introduces the idea that wildlife is entitled to a safe place to dwell. The text offers a visitor, whether a hunter, bird-watcher, hiker, or nature-lover, several ways of seeing the site but always as a valued, unique piece of American landscape. Carson’s prose invites the reader to become involved in a worthy cause and part of a solution to a crisis—a crisis created by human beings but one that could be solved by human beings.

Carson explains the refuge system in terms of its economic value, the scientific principles behind its creation and day-to-day management, and ethical arguments

regarding the rights of animals. All of these aspects have their origins both in Carson's background and in the history of the refuge system development. What is unique about the *CIA* series is its ability to address all of these aspects in a cohesive narrative that underplays the sometimes contradictory needs of multi-use policies. I argue this is because of Carson's specific appeals and the manner in which she develops her conservation arguments. By offering various ways for readers to identify with each refuge and its work, she encourages them not only to occupy the same physical space of the refuge but also to experience consubstantiality with others (agency employees, visitors, conservations groups, etc.) who believe that refuge work plays a vital role in creating ethical human/nature relationships.

NOTES

¹ Copies of *The Progressive Fish Culturist* (Oct. 1936, Feb-March 1938, April 1938, June-July 1938, Aug.-Sept. 1938, Nov.-Dec. 1938) were obtained at the BRBML.

² A copy of "Fishes of the Middle West" was obtained from the NCTC.

⁴ The Rachel Carson Collection at the Beinecke Rare Books and Manuscript Library contains 118 boxes of Carson material, most of which pertain to her research in and writing of *The Sea Around Us* and *Silent Spring*. However, she also communicated with many specialists while she wrote her other books and her numerous magazine articles.

⁵ Copies of these two unpublished manuscripts are located at the BRBML.

⁶ This quote is from a letter from Carson to Mr. Herbert Asbury and is located at the BRBML

⁷ When I talk about the CIA series as a whole, I will not be including the third text (*Federal Duck Stamps and Their Place in Waterfowl Conservation*), the fifth text (*Guarding Our Wildlife Resources*), or the twelfth (*Fur Seals of the Pribilof Islands*). The third and fifth texts do not concern specific refuges, so I am not evaluating them in this analysis. The twelfth text does concern a refuge, but the nature of the text is so different in approach and philosophy, that it doesn't benefit from the same type of consideration.

⁸ From "Fish and Wildlife Service Conference" notes, January 15th, 1951, obtained from the NARA.

⁹ From "Fish and Wildlife Service Conference" notes, January 15th, 1951, obtained from the NARA. In fact, refuge leaflets are a different type of agency publication than the CIA series, being much shorter and without the more elaborated format. However, the *CIA Bear River* booklet was published in 1950 and is undoubtedly the text being referred to in this document.

¹⁰ From "Public Relations and the Refuge Manager" by Harvey K. Nelson, obtained from the NARA.

¹¹ Though supported by her administrators, Carson's vision of the series was threatened by her frequent battles with the Government Printing Office over her orders for the series' design (Brooks 100). John Ady, GPO Liaison to the Department of Interior, had the final say on the planning of all printing projects. As Lear writes, "He always wanted to do it the cheapest way possible. Carson [. . .] was trying to upgrade service publications both in terms of writing quality and appearance; consequently every meeting was a skirmish" (125). Kay Howe states, "Rachel would always say, 'Well, I have to go down and do battle with Ady,'" whenever the final decisions for document layout and design were needed. A letter from artist Shirley Briggs, who accompanied Carson to Chincoteague National Wildlife Refuge, to her father (April 1, 1947)

explains some of the frustrations Carson and her staff felt and how working for a government agency had its artistic drawbacks:

We feel particularly bitter today. The *Chincoteague* booklet arrived. It is the first in a new series which we wanted to be an example of fine design—a model for the Service in writing, illustration, and layout. [Rachel] and Kay have worked exceedingly hard on it, and I did the map. Well—we had every document and evidence, finally, that they would print the *Chincoteague* book about the way we wanted it. It comes now, and we find that someone over there, with not legal right to do so, changed the requisition in such a way that the thing was printed by letterpress, with cuts made of all the illustrations. Than instead of using the paper we wanted—the kind in the Jefferson book—they used cheap offset stock. [. . .] We are still going to struggle about it. (from the LLCSCA)

Conflict with the GPO slowed down publication of the first booklet by several months (Lear 133) and was representative of the battles Carson fought to publish quality projects through a process over which she had only minimal control.

¹² From “Publications of the National Wildlife Refuges” obtained from the NARA.

¹³ Kay Howe, USFWS artist who traveled with Carson on three of the four *CIA* trips, speaks about Carson and the way she gathered information, specifically on their trip to Parker River and Mattamuskeet:

[. . .] Rachel would be armed with a notebook. She was always interested in all kinds of birds and the habitat that was there for them. We saw how work was being carried on to increase the natural food supplies, and also to provide more cover and better nesting areas for them. If they were experimenting with creating artificial islands in the marshes that would be above the really high tides for the ducks. [. . .] Once again the Refuge Manager either drove us around or we hiked after him to see what was being done to improve conditions on the refuge for the birds, and other wildlife. [. . .] On our trips she was always very interested in everything going on in the refuges. The birds, animals, what was being done to attract more of them, evaluating for herself how successful the results were [. . .] She took notes, and would go over them later. When she worked I remember everything seemed to be on little lined 3 X 5 file cards, written by hand, and each sentence worked over so much that the results should have sounded labored, but of course they didn't. Each sentence flowed.” (from a letter from Kaye Howe Roberts to Linda Lear dated May 16, 1994 from the LLCSCA)

CHAPTER 3

NATURE AS RESOURCE AND OBJECT: THE LANGUAGE OF COMMERCE AND OF CONSERVATION SCIENCE

When Rachel Carson began work on the *Conservation in Action (CIA)* series, she was already an accomplished author. Working for the U.S. Bureau of Fisheries and then for the USFWS, she was primarily a technical/scientific writer. She wrote press releases and speeches, analyzed data, summarized research (such as her work for the *Progressive Fish Culturist*), and developed informational texts (such as the four “Food from the Sea” booklets). Additionally, she was an experienced nature writer and translator of scientific information for the public, as author of *Under the Sea-Wind* (1941) and numerous magazine articles (Lear 81-151). However, none of her government writing before the *CIA* texts drew from all of her strengths as a writer: technical, scientific, and naturalistic.

Because of her tenure with the USFWS and her proven ability as a writer, Carson seems to have had a large degree of authorial freedom in deciding how to meet both agency and personal goals for the *CIA* series. Through her subject positions as a government employee, biologist, and naturalist and drawing from her experiences writing scientific, regulatory, and literary texts, she argued through logic (logos), the authority of the USFWS (ethos), and emotion (pathos). She publicized the work of the

refuges and encouraged visitors' personal involvement with the natural world by describing what the refuge had to offer.

Moreover, by explaining the work of the system through multiple perspectives, Carson developed appeals to gain support for wildlife refuges from readers with different backgrounds and interests: hunters, bird watchers, fishermen, boaters, local residents, etc. Visitors who bought the booklets came to the refuges for various reasons: to enjoy the sites' aesthetic pleasures, to take from the resources available, or to gain knowledge about the natural world. Carson needed to engage a wide audience; then, as now, refuges' existence depended upon taxpayer dollars and support. Within the situational constraints, she provided a variety of opportunities for the audience to identify and experience consubstantiality with her and her belief in the work of wildlife refuges. Through the *CIA* series, Carson was the voice of the USFWS, her ethos that of the federal government. Visitors who read the booklets had the opportunity to identify with the USFWS as a conservation agency.

Carson avoided creating a text containing only nature as resource or nature as object perspectives, the typical treatment of most agency writing primarily concerned with the research, management, or utilization of natural resources. Instead, she created opportunities for identification and consubstantiality through appeals to various stakeholder positions—conservation as ethics as well as information and economics. When readers identify with a cause (refuge conservation work) or group (the USFWS), identification increases the potential for action (visiting the refuge, providing financial

support, becoming a volunteer, communicating with legislators regarding refuge issues, etc.). Specific understandings or beliefs often translate into action. Becoming part of a group, movement, or community encourages common goals.

Using the categories of environmental rhetoric laid out by Killingsworth and Palmer and extended by Herndl and Brown, I argue that Carson created appeals encouraging readers to identify and experience consubstantiality with her as author of the *CIA* texts and with the refuge system. Specifically, I will analyze the rhetoric of the *CIA* booklets through four lenses:

- Environmental perspectives: nature as resource, object, and spirit
- Environmental discourse categories: ethnocentric, anthropocentric, and ecocentric
- Rhetorical proofs: ethos, logos, and pathos
- Carson's subject positions: government employee, scientist, naturalist.

In this chapter, I explore how Carson creates texts that use nature as resource and as object perspectives through her descriptions, arguments, and information; in the following chapter, I deal with how she also uses nature as spirit perspective in those same texts. I use these environmental perspectives, discourse categories, rhetorical proofs, and Carson's subject positions to analyze how her appeals work rhetorically, situating the *CIA* texts' discourse and arguments in three ways:

- 1) Nature as resource perspective, ethnocentric discourse, argument through ethos, and Carson as government employee
- 2) Nature as object perspective, anthropocentric discourse, argument through logos, and Carson as biologist
- 3) Nature as spirit perspective, ecocentric discourse, argument through pathos, and Carson as naturalist

These overlapping ways of defining and analyzing Carson and the *CIA* texts create new understandings of how environmental rhetoric and discourse can carry out competing work within the same discursive space.

In this chapter, I first analyze how Carson creates ethnocentric discourse, which is discourse constructed when we make decisions regarding the use of natural resources from a variety of human-centered perspectives. Specifically, she uses a language of commerce in the *Chincoteague* and *Parker River* texts to present information about the management of refuge resources and to persuade her audience (particularly waterfowl hunters) of the economic benefits of the Parker River Refuge. Using the definition of ethos as “the sum of particular intellectual and moral qualities in the rhetor’s message” (Ulman 50), I argue Carson establishes ethos and constructs ethical appeals by representing USFWS multi-use policies and incorporating her thorough knowledge of the resource use and value of refuge land. Her ethnocentric discourse creates commercially-centered arguments through her position as a government employee. Her platform from which to argue refuge value and a significant part of the series’ rhetorical exigencies come from the USFWS. Therefore, she needed to represent agency priorities.

Second, I will examine how the *CIA* booklets also use logos, specifically the language of conservation science, to represent nature as object. Carson's training as a biologist explains how she uses the anthropocentric perspective of nature as something to be studied and described.

The language of conservation science helps Carson present a general audience with information necessary to understanding the work of the refuge, while the language of commerce allows her to make a rhetorical appeal aimed at a specific population—waterfowl hunters. The ethnocentric and anthropocentric discourses and nature as resource and nature as object perspectives contribute to Carson's overall argument—the great importance of conservation work. She creates appeals inviting identification by both specific and general populations. However, just as the rhetoric and strategies of the two texts create identifiable appeals, they also create obstacles to persuasion. The content explaining how waterfowl hunting will improve because of the development of the Parker River Refuge conflicts with Carson's consistent emphasis on the importance of providing protection and safety to waterfowl in the *Chincoteague* and *Parker River* booklets, creating a textual, ethical dissonance.

Nature as Resource: Language of Commerce in the *CIA* Series

As a USFWS employee, Carson needed to meet the agency's rhetorical goals for the *CIA* series. This involved a need for the booklets to include discussions about economic practices on refuge land. Ethnocentrism—a view focused on the use and management of natural resources—had been a basic ideological and practical tenet in

the history of government environmental policy. Although the shift from nature as profit to nature as protected was in full swing, both the contextual influences of refuge creation and agency traditions mandated that economic concerns continue to be a focus. This influence of developmental and economical imperatives continues in contemporary agency battles over refuge resources, such the disputes over drilling in the Arctic National Wildlife Refuge and the use of freshwater resources in the Western states (Madison interview).

In a very real sense, the entire *CIA* series and the refuge system itself revolve around the management of natural resources--an ethnocentric focus. But this focus is complicated or even elided because of the conservation and preservation rhetoric of agency and refuge activities. When something is "saved," "set aside," or "withheld," the process seems distinct from resource use. Refuges and other USFWS protected lands serve a variety of purposes ethnocentric, anthropocentric, and ecocentric—sometimes to be held inviolate, often studied, always "managed" in some sense. Through the reality of federal ownership, nature becomes a resource to be evaluated and utilized. This fact doesn't obviate that the government has in truth helped salvage American landscapes and save countless species from extinction, but, eventually, there are always those who clamor for economic and development purposes to be served.

Carson's ethnocentric, resource-oriented arguments in the *CIA* series are highly specific, value-driven economic discussions of individual refuge's assets. Including discussions of each site's economic practices in the *CIA* series was important for two

contextual reasons. First, it was vital that people living in areas around the refuges understand that, whenever possible, USFWS policies encouraged traditional commercial use of the land. Community support for refuges is important to not only their day-in-day-out management but also their long-term success and sustainability. Communities are influenced in different ways when a refuge is created. Federal withdrawal of land from local and state ownership affects tax bases. Refuge land boundaries, evident to humans, are blurred for waterfowl and other species. Animals and birds cross over into neighboring areas, sometimes damaging crops or interfering with commercial practices. Negotiating and resolving property and resource disputes are easier when there are friendly or at least non-adversarial relations between the community and the USFWS. Avoiding conflicts over traditional economic uses of land helped maintain refuge-community partnerships (Klinger interview).

Second, refuge visitors informed about the economic value of the sites gain a richer and expanded vision of the worth (both monetary and aesthetic) of the refuges' land and resources. Learning about grazing, timbering, mining, clamming, and oyster seeding can help the reader understand the refuge's activities and the ways in which the local inhabitants are intimately involved with the land and its riches.

The majority of *CIA* booklets discuss economic practices at refuge sites. In the *Parker River* and *Chincoteague* booklets, Carson's position as government employee influenced the framing of conservation and preservation practices in specific ways. Carson's arguments in these two texts range from assuring readers that pre-refuge

“economic uses of the land” would continue to asserting that refuge development improves commercial uses of the site’s resources. Carson uses a *language of commerce*, discussing plant and animal species in commercial terms and the value of the refuges on a monetary basis. I argue these are ethos-centered strategies: Carson as representative of the USFWS uses value-laden rhetoric inviting specific audiences—hunters, recreational sportsmen, and those not persuaded by ethical and moral conservation arguments—to identify with her, the agency, and the economic priorities of refuge management. By supporting refuges in order to meet their own needs, waterfowl hunters can become consubstantial with Carson or refuge visitors ethically opposed to hunting because they share a belief in the value of the refuge system.

The *Chincoteague* and *Parker River* texts can be categorized as ethnocentric discourse through their commercial arguments and ethos-based appeals. In *Chincoteague*, Carson uses two closely positioned declarative statements that clearly explain the USFWS policies regarding economic practices: “Economic uses of the land [. . .] continue as before the establishment of the refuge” and “The establishment of a wildlife refuge has not interfered with the use of the area for shellfishing” (15). Similarly, she states the policy of USFWS non-interference with the “generations-old customs of grazing stock” (17). These types of declarations appearing here and in other *CIA* booklets, including *Parker River*, show that the USFWS thought it was very important for local communities to understand they sought to avoid interference in established commercial practices. The booklets include not only general statements of non-

interference but also name specific local industries, such as clamming, cutting timber, and gathering beach plums and cranberries. Carson describes the cultivation of oysters, clamming, and the annual auctioning of the historic “wild ponies of Chincoteague” (17). Readers of the texts are introduced not only to the species and landscapes of the refuge but also to the scope of local involvement with its resources and to the agency’s commitment to maintaining existing economic practices.

Carson’s ethos—authority—is constructed in the *Chincoteague* and *Parker River* texts in several ways. First, the appearance of the booklets themselves legitimizes the texts as credible representations of the refuge. One of Carson’s goals was to create an example of what good government writing could be, and she fought many battles over the quality of the printed booklets (see note eleven, Chapter 2). The final products are substantial descriptions of the refuges, containing maps, diagrams, pictures, and illustrations with “Fish and Wildlife Service, United States Department of the Interior, Washington, D. C.” on the cover. On the third page, among other identifications connecting the texts to the federal government (such as the DOI seal, DOI Secretary, USFWS Director, etc.), are the names of the author(s) and illustrator(s).

More importantly, Carson’s ethos is established through the thoroughness of her discussions about commercial practices on refuge land. Included in the booklets are descriptions of clamming, details about the challenges of oyster-gathering, information about obtaining permits to harvest refuge resources, and references to unique refuge resources, such as the Chincoteague ponies. The time Carson invested in research prior

to writing the booklets paid off in the comprehensive information they contain and the ethos she develops as a knowledgeable author.

When visitors purchased the *Chincoteague* or *Parker River* texts at refuges' visitor centers, they were buying information about all aspects of the site as represented through the government agency that managed it. Communicating refuge resource management information to the public was a contemporary priority for the USFWS; Carson made communicating about commercial practices a rhetorical priority. Her ethos was supported by her skill as a writer—a government-enabled voice.

In the *Parker River* text, arguments regarding economic impact met a specific rhetorical exigency. Here, it was crucial that Carson include information describing if and how traditional land usage would be affected by governmental development of the site. Discussions of the economic value of the land assume a more argumentative and persuasive form because of controversies over the refuge's creation. Carson uses different rhetorical strategies to argue not only for a policy of no-harm or interference but also for proactive, beneficial USFWS involvement and strategies.

Archival documents show the creation of the Parker River Refuge was complicated because of state and local concern over the impact it would have on area waterfowl hunting and the clamming industry. The Massachusetts Department of Conservation published two 1945 booklets: "Parker River National Wildlife Refuge: Its Threat to Clam Fisheries" and "Parker River National Wildlife Refuge: The Case for Revision of Plans."¹ The first booklet argues the "[Wildlife Service] forcibly seized the

public flats of Plum Island Sound," thereby "[doing] more to arouse distrust than can be undone by any number of easy promises" (9). This state agency expressed concern over what it considered a violation of "the right to free access [of clam flats] by local inhabitants [. . .] jealously guarded throughout the 300-year history of the Commonwealth" (4). Additionally, groups opposing the refuge feared a dramatic and long-term decrease in the clam harvest because of increased numbers of black ducks feeding on seeded clam areas.

The second booklet, "The Case for Revision of Plans," denounced USFWS research upon which refuge plans were based, disputing many of the findings and interrogating the ethics of and statements made by the agency in relation to the Parker River project. The first paragraph of this document's conclusion states, "The proposed Parker River Wildlife Refuge is not, in its present form, a sound and workable plan for increasing waterfowl. It appears to offer certain advantages, but actually these are outweighed by defects which will prove crippling in the long run" (15). These booklets were neither the only documents created nor the only ways in which local and state parties fought refuge development. In editions of *Conservation News* (produced by the National Wildlife Federation) as early as 1945, articles discuss congressional hearings surrounding development of the Parker River Refuge.² Thus, there was a strong USFWS motivation for Carson to include in the *Parker River* booklet economic considerations and to defend the refuge. The resulting rhetoric of commerce specifically addresses fears the refuge would harm the quality of waterfowl hunting and the clamming industry.

Although I argue that throughout the *Parker River* text Carson specifically uses strategies to convince both clam and waterfowl hunters to trust and identify with the USFWS—to become consubstantial with the agency because of common goals, early in the *Parker River* text she clearly establishes the refuge's priorities as "New England's most important contribution to the national effort to save the waterfowl of North America" (1). The refuge was "designed first of all to restore and if possible to increase the black duck population" and other "values [. . .] are secondary to its principal purpose" (4). However, through her assertions of waterfowl as the refuge's prime focus, this early acknowledgment of "values" other than waterfowl presages the economic and commercial evaluations that follow.

Carson categorizes and evaluates Parker River resources in terms of profitability. She writes, "The economic values inherent in the land [. . .] are those of a typical northern seacoast region" (10). Cranberries and beach plums are "less valuable" but still an "economic asset," and salt marsh hay as a "product" is "profitable" (11). Here, she doesn't discuss these particular species in terms of their aesthetic properties or how they work to ease the plight of waterfowl, the refuge's main priority. Instead, this language represents a straight-forward, strictly profit-based transaction.

When directly addressing concerns of the clamming industry and waterfowl sportsmen, Carson uses language of commerce in three distinct ways: borrowing terms of finance, providing examples or developing analogies of investment, and alluding to or explaining what is at risk without the refuge. These ethnocentric, resource-oriented

arguments make Carson, the agency, and the local community complicit in viewing refuge lands in terms of human economic value. This creates opportunities for identification important for the USFWS.

Using terms of finance, Carson shows that she, and through her the USFWS, understands the clamming business. In language connoting Wall Street activity, she describes the history of the local trade as one of great fluctuations resulting in “prosperity of the [industry],” both abundance and scarcity, and the existence of market “enemies.” Referencing the unpredictable nature of the industry, Carson alludes to what is at risk: “Until science has discovered why clams are scarce, little can be done to make the yield of this fishery more stable.” With the feast and famine history of the industry, stability would be a desirable goal. “Science” here is analogous to the work of government-appointed and agency-funded biologists. Then Carson describes how the USFWS is investing its resources and staff and involving itself in the clamming industry to help “not only [the] Essex County clam flats but wherever the soft-shell clam grows on the northern New England coast.” The agency “sent several of its shell-fish biologists to Parker River to make surveys on the clam flats” and “established a small laboratory [. . .] for continuing studies” (11). Included is a photo of a USFWS scientist “surveying clam flats to find reasons for the periodic scarcity of clams.” This is investment made plain. Using financial terms and describing investment, Carson acknowledges industry concerns and shows the USFWS understands that the livelihood of local individuals and businesses is at stake. She legitimizes the issue and offers an olive branch or, possibly, a

carrot, describing clamming as “a poor living in years of clam scarcity, a good living when clams are abundant” (10).

However, in discussions about the refuge and hunting, the concept of investment also is used metaphorically to explain a basic conservation argument: that “by a seeming paradox, the refuge has improved hunting” (6). Carson explains this counter-intuitive result using language not denoting the moral right of wildlife to exist or their aesthetic value but focusing instead on waterfowl as a source of sport and recreation.

Carson begins by directly addressing sportsmen as stakeholders and explaining what is at risk. Then using financial terms intricately woven into an extended analogy of investment, she responds to arguments against Parker River Refuge in terms of its influence on waterfowl hunting.

In the opening paragraph of the *Parker River* booklet, Carson lists two million waterfowl hunters as one group of “[many] million Americans [with] a direct stake” in the efforts to save waterfowl and increase their numbers (1). She then clearly explains what is at risk without refuge conservation work. Describing the cyclic declines in waterfowl populations, she argues, “the [next one] may reduce the flocks of waterfowl to so low a point that there can be no recovery” (1). Focusing on black ducks, the main concern of the Parker River Refuge, she warns, “A serious reduction in the population of black ducks would mean the end of waterfowl hunting for the majority of New England sportsmen” (5). The language of “may reduce” and “would mean” indicates contingency; through conservation intervention, refuges can avoid these consequences.

This threatening scenario is then compared to a possible future with a “secure” sport and the payment of “sportsmen dividends” as she develops an analogy of conservation as investment (10).

Carson presents a hypothetical situation to the waterfowl hunter: “Let’s say that 5,000 acres of marsh are ‘invested’ in waterfowl conservation by converting them into a refuge.” Directly addressing the hunter in second person, she describes investment in waterfowl to financial investment through banking imagery: “just as money you invest in stocks is no longer in your pocket to spend” (11). Wildlife feeding and nesting territory is “withdrawn,” “converted,” “invested,” and “begins to pay dividends” as a refuge. Nature becomes a commodity manipulated and managed, and sportsmen are portrayed as wise financiers willing to set aside resources now in order for better, abundant future resources.

Carson’s language of commerce has three effects. First, portraying waterfowl as a resource and an investment is strictly anti-anthropomorphic. Ducks and geese are objects and not sentient living animals that mate, raise young, and exist in communities. Accordingly, they are “managed” instead of being killed or shot. Second, “hunters as investors” is an alternative to “hunters as killers.” This narrative doesn’t include blood, maimed or wounded waterfowl left to die, or the increasingly advanced weapons sportsmen use to hunt. Lastly, absent in this commercial language is any discussion of the ethical and moral right of wildlife to shelter, safety, and food. The purpose of the “investment” is to provide fodder for the sportsman’s gun. The unstated message is that

the refuge is, in effect, protecting waterfowl so they can be hunted. As Barry Lopez writes in "A Reflection on White Geese," "We preserve them, principally to kill them" (31). The long-term reward of sacrifice now is better hunting indefinitely; just as money sacrificed as savings increases to be spent in the future.

Carson predicts the success of the investment argument and acceptance of the practice: "[The] sportsman understands the wisdom of the investment he and his fellow citizens have made. Instead of interfering with his sport, the refuge has increased it and made its future more secure" (11). Carson here aligns the sportsmen with other "citizens" and moves away from the portrayal of them as a special interest community. In effect, in *Parker River's* opening pages, Carson groups hunters with other "stakeholders" (1), all of whom share a stake in waterfowl conservation. Carson's rhetoric thus creates identifications and consubstantiality of disparate groups, but she then singles hunters out for special consideration by using the analogy of investment (10); she identifies and exhibits sympathetic understanding of their needs and goals. Finally, as she groups them with "their fellow citizens," they again become part of a group of refuge supporters (10). This bringing together, separating, and bringing back together camouflage Carson's intense argumentative focus on hunters. In the end, everyone is included in the fold of proactive, wise, environmental activists. However, Carson's speaking directly to waterfowl hunters and the specific arguments she uses to convince them are problematic in that they work to lessen the rhetorical effect of Carson's

larger argument in both the *Chincoteague* and *Parker River* texts—the need to understand and meet waterfowl needs.

The rhetorical exigencies of the *Parker River* text resulted in the need to argue directly to those concerned with resource use on the refuges, especially waterfowl hunters. However, in the text Carson repeatedly explains our responsibility to waterfowl:

In order to provide enough food, water, cover, and nesting areas for its patrons, a wildlife refuge must be a small, separate world in which all these things exist in greater abundance than in the world outside—a wildlife Utopia. To bring about these ideal conditions is the aim of refuge management.

The rhetoric that argues better hunting around refuge areas strikes a discordant note played against the rhetoric of a “wildlife Utopia.” These contradictory ideas are reminiscent of a disturbing narrative in Richard Adams’ *Watership Down*, when the inhabitants of a rabbit warren were provided with plentiful, tasty food, but at regular intervals, a rabbit had to be sacrificed, caught by the “shining wire” or snare for human consumption (95-106). Because Carson’s plea on behalf of waterfowl and their needs is consistently argued, especially in the early pages of the *Parker River* text, the resource-driven language of commerce and the metaphors of investment can seem specious or suspect to a modern reader. Their effect on contemporary readers is not known. What is clear is that Carson made an effort to rhetorically embrace waterfowl hunters in her promotion of the Parker River Refuge by helping them identify their interests with those

of the refuge and that this embrace of hunters is contradictory to other rhetorical priorities.

In the case of the Parker River Refuge and the debates surrounding its creation, this contradictory rhetoric may be inevitable. Because of the limited number of areas open to hunting, today's sportsmen do not need to be persuaded to support waterfowl and wildlife refuges. The USFWS's Parker River Refuge website offers didactic information for readers regarding the policies and availability of hunting but doesn't argue how it benefits conservation efforts (Parker River website). Allowing hunting on many refuge sites is established USFWS policy, viewed as a management tool and one of the six public use priorities (Klinger interview). With a few exceptions, such as Barry Lopez's narrative concerned with hunting on the Tule Lake National Wildlife Refuge (19-40), debates about hunting on and around refuge lands and opposition to USFWS management-- particularly, pieces of east coast wetlands--have become arguments of the past (Madison interview). However, the USFWS still has to resolve the ethical and moral consequences of competing and multiple uses of refuge resources, and issues such as oil and gas development on the Arctic National Wildlife Refuge are hotly contested.

In the historic arguments of the *Parker River* text, Carson mentions how refuge economic practices encourage the survival of waterfowl. For example, the cutting of salt marsh hay provides a "natural food supply" (11), and "'straddles' for the hay stacks are favorite roosting places of the black-crowned night herons" (13). However, when Carson uses terms of finance, risk, and investment, she doesn't discuss how economic practices

work towards the protection of waterfowl for waterfowls' sake. The transaction is one way—nature providing resources for humans. Archival evidence shows that Carson was, in fact, deeply opposed to recreational hunting.³ However, as a government employee, she was motivated and, in effect, obligated to use a nature as resource appeal; that is, she argued for a practice to which she was philosophically opposed. Nevertheless, in the rhetorical exigencies of the Parker River Refuge creation, waterfowl hunters and clam hunters needed to be convinced they would be the ones benefitting from refuge practices.⁴

Nature as Object: Conservation Science Language in the *CIA* series

When Carson uses a language of commerce in the *CIA* texts, often she is appealing directly to specific stakeholders or communities. However, in general, most of the series' content is designed for a broad audience: refuge visitors from all walks of life. The *CIA* booklets are essentially ethnocentric discourse because when land is owned by the federal government it is always "managed" in some sense. Moreover, the series also can arguably be categorized as anthropocentric discourse, which "locates the human researcher as outside and epistemologically above nature" (Herndl and Brown 11). Each text uses scientific logos and a nature as object perspective, evolving from "faith in the human ability to know nature's secrets" (11). The booklets present the refuge through biological, geographical, and conservation science information, including descriptions of refuges' geological histories and contemporary terrain, explanations of species' seasonal behaviors, and data testifying to successful conservation practices. And because the

texts are information- and education-based, the authors' ability to clearly translate scientific concepts is vital.

Carson had extensive experience in presenting scientific information to a lay audience. By the time she wrote the *Chincoteague* and *Parker River* booklets in 1947, Carson had twenty-three newspaper and magazine articles published on such subjects as eels, Atlantic shad, starlings, oyster farming, whaling, duck hunting, and other topics (Lear 585-6). Her article "The Bat Knew It First," which appeared in *Collier's* magazine in 1944, was described by the U.S. Navy Recruiting Office as "one of the clearest expositions of radar yet made available for the public" (Lear 114). Lear explains how the Navy made the article "required reading for anyone interested in radar technology" and provided all the recruitment centers with copies (114). It was also used by the U.S. Office of War Information as part of "an excellent fund of material appearing in leading American magazines and newspapers" to be "reprinted for distribution to the foreign press and radio in Europe, Asia and Africa."⁵ Carson was able to take a topic, such as radar, and present it to the lay reader in a clear, comprehensive way. Nature here is an object to be examined and explained.

The nature as object perspective, and its attendant anthropocentric focus, was an important part of the rhetorical work of *CIA* texts. Visitors came to the refuges to see the landscapes and the species living or stopping there—the tangible attractions. Less tangible or observable, conservation science made up the practices, policies, and research that supported the refuge system as a whole and explained site selection,

wildlife requirements, conservation challenges, management activities, and evaluation criteria. Refuges are established because of a conservation need: an endangered species rests, breeds, or nests in specific habitat; development or environmental degradation threatens a unique landscape; or a human-created change presents opportunities to utilize an area for a group of wildlife species. If the reader was to connect to the site's real work, understanding fundamental conservation information had to be an important part of the *CIA* series.

Especially in the case of waterfowl sanctuaries, a few main biological concepts undergird policies and preservation efforts. The concept of flyways, migratory flight patterns of bird species, is particularly important. Carson describes flyways as "more than any other fact, [determining] the location of the waterfowl refuges" (*Chincoteague 2*) and defines them, saying, "The term 'flyway' as ornithologists use it today includes the breeding and wintering grounds and most of the migratory paths that connect them" (*Parker River 2*). She explains there are "four great geographical divisions into which the continent of North American may be divided according to the ways of waterfowl" (2): the Mississippi, Central, Atlantic, and Pacific (*Chincoteague 2*). To this foundational information, Carson connects many of the other topics included in the *Chincoteague* and *Parker River* texts. Both refuges were created because of their geographical relation to flyways, and, as the first two booklets in the series, these refuge texts acted as models for the ones that followed. However, none of the series' other authors presents the reader with as many opportunities for learning about conservation concepts as Carson does.

What is noteworthy about Carson's anthropocentric discourse is the thoroughness with which she incorporates information about flyways. The logic of migratory patterns is the basis for many of the topics in the *Chincoteague* and *Parker River* booklets. I argue that this thoroughness connects to Carson's training as a biologist and her understanding of the importance of the science behind conservation practices. Carson uses the language of conservation science to explain and illustrate flyways in multiple ways, helping readers understand what flyways are and why they are important. The discussion of this conservation topic is embedded in the texts in several ways, and whatever part of the booklets appeals to and captures the attention of individual readers, information about the role of flyways is likely to be woven into it.

First, Carson describes flyways using metaphors, visual diagrams and maps, and multiple specific examples. All of these ways of describing—relating the familiar to the unfamiliar, using the language of maps and diagrams, and narrating individual flight patterns—offer the reader different, concrete ways of understanding and knowing. Second, she connects the concept of flyways to other conservation topics, including unmanaged waterfowl hunting and habitat destruction. Persuading readers about the destructive influence of habitat encroachment and waterfowl hunting depends upon their understanding flyways and how human activities collide with these age-old environmental patterns. Carson's explanation of flyways also involves both ethnocentric (human-focused) and ecocentric (wildlife-focused) issues. Understanding bird migration is crucial to helping maintain waterfowl populations—which is a priority of recreational

hunters. Waterfowl depend upon flyways; human activity interrupts and damages that dependency through killing waterfowl as they travel migratory pathways and by developing and making uninhabitable nesting and wintering areas; therefore, we are morally responsible for creating waterfowl sanctuaries on migratory pathways. No other conservation topic is included with such depth and focus in the series, especially in the *Chincoteague* and *Parker River* booklets.

Carson's use of the language of conservation science in regard to flyways influences the texts in three primary ways. First, flyway information (nature as object) is an integral part of the *Chincoteague* and *Parker River* texts and connects the main arguments. Anthropocentric discourse, using scientific understandings of migratory pathways, explains (among other things) improvements in recreational hunting but also argues the need for protected waterfowl areas for resting, finding safety, and raising young. The practice of bird banding helps wildlife biologists trace migratory patterns, and Carson details how banding is a part of refuge research. Additionally, descriptions of refuge sights and sounds are explained through recurring migratory arrivals and departures as well as the value of the refuge to amateur and professional ornithologists. Basing the texts' content on biological phenomena invites understanding and identifications among readers with competing needs—amateur ornithologists as well as hunters, the casual visitor or the dedicated collector. In spite of conflicting ideologies, readers visiting the refuges for disparate reasons could experience consubstantiality by agreeing on the efficacy of conservation work and the importance of specific sites—

sponsored by the uniting concept of flyways explained through the language of conservation science.

Second, Carson's attention to didactic content in the form of diagrams, lists of specific flight patterns, and descriptions of the relationships between habitat destruction, unmanaged hunting, and flyways invites a type of consubstantiality based on visitors' willingness to invest energy and to experience the refuge intellectually as well as aesthetically. In other words, Carson could have discussed flyways with less depth, attention, and consistency, and focused on the sensory experience of the refuge. Instead, she invites the reader to see refuge locations, practices, and wildlife by understanding how they are connected through migratory patterns. Thus, Carson argues through a logical appeal based on the relevancy of scientific fact and the importance of continuing research and inquiry. She constructs an audience who is willing and able to understand the refuges in a rationalistic and logically demanding way.

And, third, Carson's consistent inclusion of the topic of flyways and the manner in which she presents information about the subject indicates her faith in the scientific accumulation of knowledge, even while she acknowledges its limitations. Much as in *Silent Spring*, Carson balances between criticizing unrestrained and irresponsible progress while exhibiting a faith in humans' ability to work with and for nature. For example, in *Chincoteague*, she explains why waterfowl need sanctuaries, saying, "Once there were plenty of natural hostelries for the migrants. That was before our expanding civilization had drained the marshes, polluted the waters, substituted resort towns for

wilderness" (1) Then, in *Parker River*, she explains how biologists are "trying an interesting experiment in the management of a northern coastal marsh—building up potential nesting sites in the marshes by creating artificial 'islands,' which will rise above the level of the highest tides" (9). Again, as in *Silent Spring*, she both criticizes and celebrates technology and development, trusts and mistrusts its uses. Each of the ways Carson explains and includes flyway-related terms and information does additional rhetorical work in the texts, adding logos-centered, anthropocentric motives to a literary, governmental narrative.

In the opening of the *Chincoteague* text, Carson describes flyways metaphorically through an historic lens: "The migration of birds is one of the *ancient spectacles of earth*, and one of the most mysterious" (italics added) (1). She continues to explain that the reasons for migration and how birds travel over "enormous distances" still are to be discovered, but the fact of migration means birds need "places where they can stop in safety for food and rest" (1). Thus, she early establishes why flyways are crucial, in spite of our limited understanding.

Carson then describes flyways in the *Chincoteague* and *Parker River* texts in different ways, each of which increases the potential for readers to grasp and relate to the phenomenon. The opening sentence of the *Chincoteague* booklet describes the refuge as "one of the newest in a chain of sanctuaries" and explains that the refuges are "principal links on the chain" (1). The chain metaphor alludes to the characteristics of flyways that Carson will emphasize, their contiguous, navigable, and traceable nature.

Her metaphors relate to human-established means of travel: Flyways are “flight lanes,” “migration routes,” and a “complex system of migration paths” that form “great highways” (*Chincoteague* 1-2). The Chincoteague refuge is located “where heavily traveled lanes of waterfowl traffic converge” (2). She uses naturally-formed structures as metaphors: the flyway is a “tributary from the west [. . .] like a river that has many different headwaters scattered over a vast territory” (2). Lastly, she compares the Atlantic flyway to a “huge, distorted funnel with a long slender stem” (*Parker River* 2).

These metaphors of roads, rivers, and funnels connect to recognizable physical representations. Although the term “flyway” and the existence of distinct, antediluvian migratory patterns may be new, the language used to explain this conservation concept is based in common experience, making the unfamiliar familiar and memorable.

Carson also uses visual representations to explain important aspects of flyways and offer a different type of understanding or way of identifying with the information. These visuals in the *Chincoteague* and *Parker River* booklets explain 1) the relationship between refuges and the need for safe wintering grounds and rest areas on the flyways, and 2) information about flyways provided by bird banding research.

In *Chincoteague*, Carson uses a map to show the difference between the very minimal waterfowl wintering grounds compared to the vast nesting areas on the section of Virginia coastline which includes the refuge. She explains the wintering areas are “small and lie in a densely settled part of the United States” and uses this diagram to explain why “refuges are particularly needed within the Atlantic flyway” (3). A map in

Parker River specifically focuses on the plight of the black duck population, presenting a visual representation of the need for safe areas during migratory flight (4) (Figure 5).

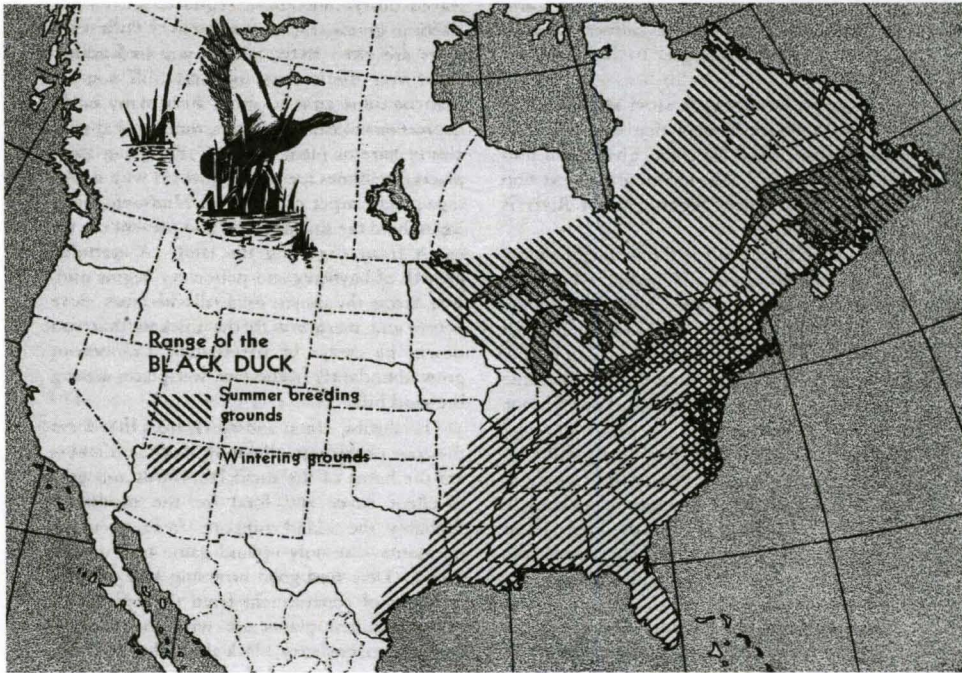


Figure 5: Illustration from *Parker River* comparing the summer and wintering grounds of the black duck.

The third visual is in the *Chincoteague* booklet and shows a diagram illustrating how the recovery of banded birds helps define and explain migratory patterns (6) (Figure 6).

These diagrams incorporate additional affordances and semiotic systems. As an alternative to strictly language-centered text, they create spatial, geographical representations appropriate to the subject matter through a different language of conservation. Radiating lines of flight, vast national expanses, and individual

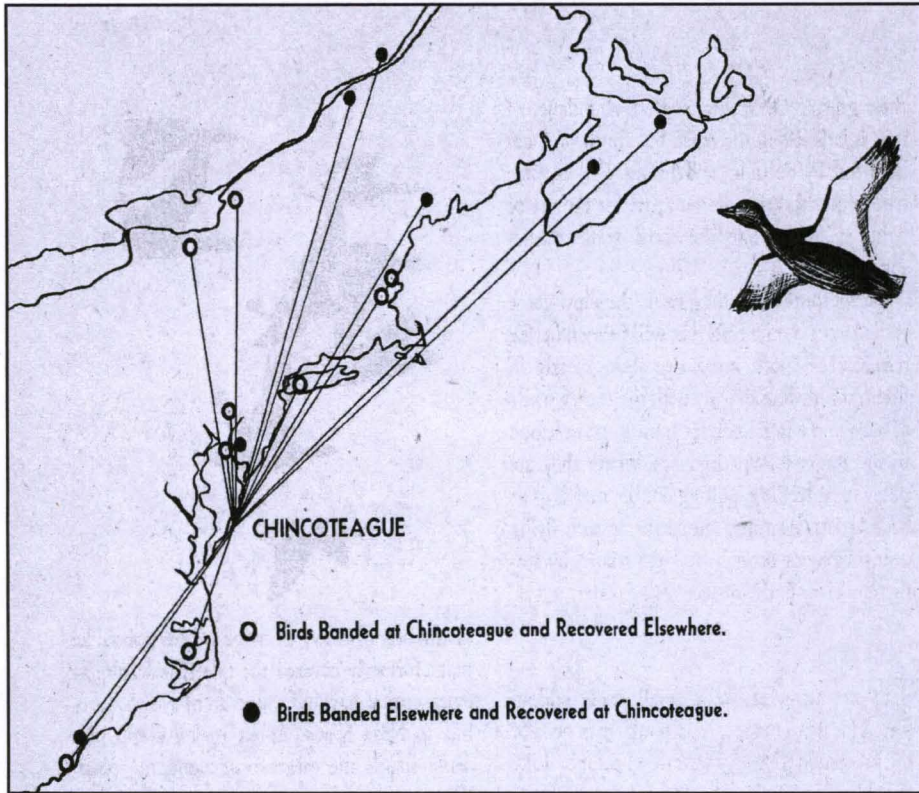


Figure 6: Illustration from *Chincoteague* illustrating the lines of migratory flight shown by bird banding.

geographic areas important to meeting the needs of bird populations present a visual argument not replicable through alphabetic description. Functioning in a manner similar to metaphor, the diagram and maps explain the conservation challenges the USFWS tries to meet. Explaining flyways through different metaphorical constructions and visual representations increases the likelihood a reader will connect to the concept in a memorable way, the understanding making its way through what Burke calls the terministic screen.

Additionally, Carson informs the reader about flyways in the *Chincoteague* and *Parker River* narratives by describing various migratory flight lanes, of both generalized and of individual species. These examples work in two distinct ways. First, they emphasize that individual refuges are indeed links in a chain. Carson emphasizes the reality of “long transcontinental journey[s]” (3) in the opening paragraph of *Chincoteague*, stating, “Coming down from the north the principal links of the chain are Parker River, Montezuma, Susquehanna, Brigantine, and Bombay Hook. Then from Chincoteague the links run south, through Back Bay and Pea Island, Mattamuskeet and Cape Romain” (1). This naming of individual sites acts as a litany, representing historic, aerial journeys. Carson also uses lists of refuge names in *Parker River*, explaining precisely how the refuge is linked to other sites on the Atlantic flyway (2-3). This concrete listing and naming emphasize the tangible, localized nature of each site on the flyway.

Specific examples also are used to discuss the migratory patterns of individual species, often illustrating the extreme nature of their flight, which, in turn, clarifies the need for sanctuaries. For example, Carson describes the journey of the Atlantic brant and the greater snow goose, explaining,

One of these routes begins at the very top of the world—the summer home of the Atlantic brant in northern Greenland and the islands of the Arctic Sea. As the snow geese and brant come down by this route across northeastern Canada, they are joined by Canada geese and black ducks and other waterfowl from the shores of Hudson Bay and the Maritime Provinces of Canada. (2)

These descriptions are evidence of the USFWS's conservation knowledge. The dramatic and perilous truths of the flyways create another strand in the argument for conservation efforts. The descriptions function as synecdoche, the listings of journeys conceptually representing flyways.

In addition to the conceptualization of flyways, Carson explains their connection to other conservation issues. She argues the relatedness of destructive human practices and waterfowl's dependence upon flight lanes directly in the *Chincoteague* and *Parker River* texts. Refuges are needed because of the dangers waterfowl face as they travel migratory pathways. The availability of nesting and wintering areas diminishes as human-centered land use increases. Additionally, waterfowl populations (and those of other birds) suffer due to unmanaged recreational and market hunting. Waterfowls' biological affinity to flyways places them at risk: hunters know where and when to find their quarry, and when the land is altered, birds must find alternative sites for nesting, resting, and wintering—a challenge with increasing industrialization, urbanization, and suburbanization, environmental destruction, and growing human populations. As Carson explains,

It is a peculiar fact of bird biology that waterfowl have a hereditary attachment for one particular flyway, and with rare exceptions never transfer from one to another. This means that each flyway must provide everything the birds need—suitable breeding areas, ample wintering grounds, and safe migration routes connecting them. (*Chincoteague* 2)

In *Chincoteague* and *Parker River*, flyways are discussed in relation to the negative impact of hunting and diminishing habitat. This integration creates logical connections to these conservation issues and the concerns of the *CIA* texts. Carson narrates stories about how human activities clash with the needs of wildlife, situations making refuge work critical. Human actions result in reactions and consequences often unseen and unintended but possibly susceptible to mitigation through the work of wildlife refuges and the support of environmental advocates.

In *Chincoteague*, Carson explains the consequences of hunting, stating, "During the 1800's and early 1900's the shore birds were all but destroyed by heavy shooting. They were the favorite target of the sportsmen of that generation; they were also the quarry of market gunners [. . .]" (10). She continues to explain that because birds' migratory patterns result in their traveling "in dense flocks over the open seacoast," they were not able to "long withstand the pressure of modern shooting" (10).

Waterfowl suffer not only through unmanaged hunting but also through the destruction of their habitat; populations are at risk from the reduction of nesting and wintering areas by agricultural development (*Chincoteague* 10). Carson refers to the disappearance of "natural hostelries" (1), and in the *Parker River* text, she uses individual species, such as the black duck, to explain the consequences of habitat destruction: "Many areas in northeastern United States where black ducks once nested have been drained out of existence as breeding grounds. Innumerable pot holes have been filled for suburban residential sites and for industrial use" (5). In order to decrease the negative

impact on waterfowl and “to make up for part of these areas,” it is necessary that “as much nesting territory as possible must be provided within the refuges” (9).

In the *Chincoteague* and *Parker River* texts (and other booklets), topics connected in conservation science (such as decreased habitat, hunting, and flyways) converge and support arguments for refuge work. Understanding and using flyway information helps determine when refuges are needed, where to place them, and how to manage them. This biology concept, therefore, intersects with ethnocentric motivations, explaining how conservation work uses flyway information to manage and increase waterfowl population—a subject of vital interest to waterfowl hunters. Understanding migratory pathways also helps explain why we need refuges and shows ecocentric motivations: to provide for waterfowl what all living creatures need—a safe place to rest, eat, and raise young. Conservation language integrating flyway information emphasizes and explains the impact of this natural phenomena and how it affects contemporary conservation efforts. Even the descriptive and sensory passages describing the refuges’ seasonal sights and sounds are formed around this conservation subject.

Carson’s consistent use of conservation language describing flyways privileges nature as object discourse and relies heavily on appeals to logic. The result is cogent and cohesive narratives in the *Chincoteague* and *Parker River* texts. Whereas Carson’s discussion of commercial practices and ethnocentric arguments are presented in discrete segments and, in large part, to specific, identifiable audiences, her discussions of flyways weave through much of both texts. Waterfowl migration and all it entails are

often the focus. Carson's personal opposition to hunting on refuge lands and to the sport in general may have meant that the arguments directed to hunters in the *Parker River* text were to her a necessary evil. The material dealing with flyways, on the other hand, is consistently, almost ubiquitously, integrated into both texts, indicating Carson's greater investment in the topic.

Carson's placing flyway information at the center of the *Chincoteague* and *Parker River* texts suggests that her subject position as a scientist plays a larger role in her creation of the *CIA* series than her position as an employee of the government agency sponsoring the texts—an argument substantiated by her post-USFWS employment criticisms of the agency's policies and her use of logical argumentation in the much researched and information-based *Silent Spring*. However, for Carson, encouraging support for the refuges meant developing appeals to reach not only groups not sharing each other's environmental interests and beliefs but also those whose ideologies and practices conflicted with her own. Flyway information and its connections to conservation work created a foundation allowing readers and visitors with divergent interests to identify with this natural phenomenon and how it explains what they saw at the refuge and what they read about in the texts.

Madison describes Carson as a "consensus builder" and argues that she "underplayed tensions in the multiple use practices of the refuge system" in the *CIA* series (interview). He explains that in the USFWS's view, Carson understood that many different populations were "managers of the landscape": fishermen, hunters, farmers,

and government employees. They had similar goals: to use refuge land wisely, proactively, and on behalf of both humans and wildlife. In the *CIA* texts, both ethnocentric and anthropocentric arguments work to meet the rhetorical goals of the project, and both connect to ecocentric considerations. No one way of talking about the environment functions or can be explained in isolation. Through the rhetoric of the *CIA* texts, Carson creates government-sponsored narratives that inform, educate, and invite readers to support the refuge system.

Understanding the rhetorical power of using multiple environmental perspectives and discourse categories can help us understand why so few environmental texts seem to resonate with wide audiences. So often, environmental arguments speak through the rhetoric of moral superiority and contain narrowly defined ways of explaining and persuading. Carson created specific arguments in order to reach stakeholders whose environmental ideologies differed from her own and who felt economically threatened by the refuge. This reaching out to populations with whom we seem to have little in common in the desire to reach a common goal is an important lesson for those creating environmental discourse. Moreover, Carson's use of logical appeals through her treatment of flyways illustrates the major role evidence-based argumentation must play in environmental communication. In the next chapter, I argue that nature as spirit perspective, ecocentric discourse, and pathetic argumentation play an even larger and integral part in Carson's narrative and rhetorical strategies.

NOTES

¹ Copies of these documents were obtained at the NARA.

² This edition of *Conservation News* was copied at the NARA and is dated December 1, 1945.

³ Both anecdotal and textual sources show how Rachel Carson felt personally about hunting. In a letter from Carson to an editor at Oxford University Press, who had asked her for her opinion of Aldo Leopold's *Round River*, Carson reveals her attitudes towards hunting and what she describes as a "very deep conviction" about the topic. Carson opens the letter describing the book as "truly shocking" and explaining a feeling of "cold anger that I haven't experienced in many a day." She writes, "Notwithstanding the pious sentiments on conservation expressed elsewhere in the book (and in the light of the journal entries they become disgusting hypocrisy), Mr. Leopold was a completely brutal man." She continues the letter quoting passages that particularly enraged her, such as "The bobcat trap contained a small coon. He looked very wet and lonesome . . . we skinned him out and reset" and "A [snowshoe] rabbit hopped across the trail. We all popped at him with our slingshots . . . It was such a funny performance to kill a rabbit with a rubber gun that we all roared with laughter." She describes her frustration with conservation philosophy as she had encountered it: "Oxford has done a service in revealing one of the things that is wrong with conservation—that so much of it is in the hands of men who smugly assume that the end of conservation is to provide fodder for their guns—and that anyone who believes otherwise is a sentimental fool." Carson concludes the letter with this statement:

[Until] we have the courage to recognize cruelty for what it is—whether its victim is human or animal—we cannot expect things to be much better in the world. There can be no double standard. We cannot have peace among men whose hearts find delight in killing any living creature. By every act that glorifies or even tolerates such moronic delight in killing, we set back the progress of humanity.

Although this document is not dated, *Round River* was published by Oxford University Press in 1953. Carson left the USFWS in 1952, and the last *CIA* text she authored was published in 1950. So, Carson's attitudes about hunting found in this letter surely represent the personal feelings she felt on the subject while engaged in writing the *CIA* series. A copy of Carson's letter to "Dear Fon" was copied at the BRBML.

I found additional evidence to support Carson's disapproval of hunting, especially in regards to wildlife refuges, during my interview with Katherine Howe Roberts. She explained Carson's disgust that hunting was allowed on some of the refuges they visited, stating "It always angered Rachel that hunting was permitted on the refuges. It was tension very difficult for her to reconcile. The purposeful killing of any creature was something she didn't understand" (interview).

⁴ In later *Parker River* leaflets (1958, 1966), economic practices are briefly mentioned. However, there is no attempt to directly address or persuade the clamming industry or waterfowl hunters.

Possibly by then the refuge was securely established and its perceived threat to industries minimized or proved wrong. These booklets were copied at the NARA.

⁵ Two documents were copied at the BRBML: 1) a letter to Rachel Carson from Adrian Berwick, Chief News and Feature Bureau, dated November 22, 1944; 2) a letter to Rachel Carson from F.A. Hardy, Lieutenant, U.S. Navy Recruiting Station Officer in Charge, dated December 9, 1944.

CHAPTER 4

NATURE AS SPIRIT: PATHETIC ARGUMENTS AND APPEALS

FOR WATERFOWL CONSERVATION

The third environmental discourse category, *ecocentric*, a nature as spirit perspective, is constructed in the *Chincoteague* and *Parker River* texts in ways less immediately detectable than the texts' *ethnocentric* or *anthropocentric* discourses. However, I argue the category appropriately describes the content of the booklets and explains much of the texts' rhetorical strength.

Herndl and Brown describe nature as spirit or *ecocentric* discourse as "language we use to discuss the beauty, the value, and the emotional power of nature" (12). As their example of this discourse, they point to poetic texts that work to locate the "human value in a harmonious relation with the natural world" (12). The *CIA* texts do contain poetic language, despite the fact that they are primarily informational texts. Moreover, in the tradition of nature writing and through her observations as a naturalist, Carson skillfully describes the aesthetic appeal of refuge landscapes and inhabitants. But the other terms Herndl and Brown use to explain *ecocentric* discourse ("value," "harmonious relationships") make it more difficult to identify *ecocentric* discourse in

the *CIA* texts. How is nature constructed as having value? How does Carson represent a state of being in “harmonious relation with the natural world” (12)?

As environmental scholars have shown, arguments based on the spiritual or emotional “value” of specific places is risky. In her analysis of the Hetch Hetchy Valley debate, Oravec explains how preservationists’ arguments on the “value of wilderness” failed to convince voters invested in the concept of resource use as consumption (18-9). In the 1980s and 1990s controversy pitting preservation of North American old-growth forests and the spotted owl against the timber industry and its employees, environmentalists argued for the value of the owls’ existence and the irreparable harm done when a species becomes extinct (Lange, 1997; Moore, 1997). These arguments failed to convince those invested in the immediate economic benefits generated from logging and resulted in slogans such as “Save a Logger, Eat an Owl” (Lange 137).

Carson’s arguments and evidence in the *CIA* texts do not directly incorporate the term *value*, nor are human/nature relationships discussed as such. Instead, Carson defines value, illustrates aesthetic qualities, and imagines positive human/nature relationships through emotional arguments and appeals. She describes these ideas and develops content that supports their importance. Herndl and Brown further explain that ecocentric discourse uses pathos or pathetic proofs and results from “aesthetic or spiritual responses to the rhetorical notion of pathos, or appeals to the emotions of the audience” (12). I argue that in the *Chincoteague* and *Parker River* booklets, Carson creates multiple appeals not based *primarily* on highly emotive or pathetic language—though

there are instances of those in the texts. With the subject of waterfowl destruction, pathetic examples could have been exploited more often and more extensively. Instead of depending upon pathetic examples, she methodically builds emotional appeals that address questions of value and positive human/nature relationships, creating additional ways for readers to respond to the texts and refuge conservation work. Carson uses four main types of emotional appeals and strategies in the two booklets: 1) details of the sensory experiences of the refuges; 2) statements of risk—what potentially could be lost without refuges; 3) language of inclusion directly involving the reader in the texts' content and arguments; and 4) language of accountability to encourage readers' understanding of human culpability in creating the need for refuges and their responsibility to support conservation efforts.

When Carson argues what must be done for waterfowl conservation, she doesn't depend upon a single type of appeal or strategy to convince readers. It is the accumulation of these appeals and language that create rhetorical power. Slovic argues that the "strident presentation of ideology or environmental information" may result not only in "[driving] nonenvironmentalists further away from an environmentally concerned attitude [but also] to produce a response of denial even among an environmentally attuned audience" (105). An alternative to this overt arguing is a "subtle 'embedded' rhetorical mode" (104). I argue Carson's approaches in the *Chincoteague* and *Parker River* texts result in an argument for waterfowl conservation that is embedded throughout the content in the various emotional appeals.

The variety of emotional appeals is created because Carson incorporates elements of jeremiad, epideictic, and naturalistic rhetoric. As Opie and Elliot explain, the genre of the environmental jeremiad uses “what may be termed evocative strategies to persuade the reader to act in a certain way by means of associations that are [. . .] pathetic” (10). Examining the work of environmental writers such as Carson, Emerson, and Muir, they argue jeremiad texts “move an audience to fear, pity, or compassion” (10). Because primarily they are informational and educational, the *CIA* texts Carson authored and co-authored are not pure examples of environmental jeremiad. Nevertheless, they do contain elements of jeremiad rhetoric. Additionally, because the texts are celebratory and praise the refuges, their inhabitants, and the success of conservation work, they have epideictic qualities.¹ Epideictic rhetoric draws attention to and embraces what is important to see. Moreover, using poetic language to describe the site and refuge wildlife allows Carson to create the intimate reader experience that is characteristic of nature writing—a genre that traditionally combines presenting information about the environment with descriptions or explanations of human reactions. Nature writing, that is, explains *how* and *who* we are when engaging with the natural world.

Creating ecocentric discourse with jeremiad, epideictic, and naturalistic characteristics represents the blending of genres suggested by Rosteck and Frenz (16). They argue that genre mixing potentially creates multiple perspectives for multiple audiences. That this blending is found in a government-created text written under the

constraints of competing exigencies and bureaucratic parameters argues the potential for more creative appeals in contemporary environmental texts—appeals with the ability to move audiences other than those already invested and convinced of the need for environmental activism. Ecocentric, epideictic discourse that describes nature as spirit can, as in Carson’s case, produce a flexible rhetoric capable of persuading multiple stakeholders. Such a rhetorical blending avoids apocalyptic scenarios and instead helps readers understand the value of what we have and how it is at risk. Carson, that is, does not avoid discussing human complicity in environmental destruction or what we have to lose, but she balances that truth by including her readers, describing the value of our resources, depicting scenes of beauty, and arguing what a positive human/nature relationship entails.

Killingsworth and Palmer describe nature as spirit discourse as “[wrapping] the human and the nonhuman in an indissoluble unity with definite ethical consequences” (12). The *CIA* texts as a whole elicit sympathy and describe the closeness of human and animal populations—a pattern created and illustrated by Carson through the first two texts.

Sensory Experiences

A large portion of the *CIA* texts Carson authored describes the refuges and their inhabitants, and her position as a naturalist and nature writer helps explain much of the series’ content. When she began visiting refuge sites to prepare to write the *CIA* series, *Under the Sea-Wind* (1941), a narrative of the life of three sea animals, had already been

published. Although not a financial success, the book was well-received by critics.² Lear describes how the book contains aspects of both Carson as biologist and naturalist and how she copes with the challenges of nature writing:

[Carson gives] the processes of nature metaphorical and spiritual meaning without compromising the scientific accuracy of biological events, structures, or behaviors. [. . .] her voice is that of both scientist and poet, in love with the wonder of nature that she has discovered. (104)

Another Carson biographer, Mark Hamilton Lytle, claims that in the book she “preached a message of optimism: while individual life may be finite, life in nature cycled in enduring rhythms” (51). Carson’s narratives in the *CIA* series also detail nature’s rhythms: seasonal changes to the refuge and the arrivals, departures, mating, and nesting of the birds that find sanctuary there. Her logos-centered content in the *Chincoteague* and *Parker River* booklets centers on flyways, the timeless cycles of migratory patterns, and she describes the migration of birds as “one of the ancient spectacles of earth, and one of the most mysterious” (*Chincoteague* 1). This description connects to one of Carson’s main themes in *Silent Spring*, the brevity of human habitation on earth compared to that of non-human inhabitants and to the Earth itself. Nature’s cycles, if not interfered with by human influences, do change but gradually through the slow progress of centuries.

In analyzing Carson’s writing in her third book, *The Edge of the Sea*, Slovic argues her nature writing “[instills] protective concern among the audience [. . .] helping readers to look more carefully, more knowledgeably at the world (101). Carson brings

this same attention to detailing the sensory experiences of the refuges in the *CIA* series. She spends considerable time describing the refuges' geological histories, landscapes, wildlife, plants, sights, and sounds. She describes the lives of the birds visiting the sites. The booklets Carson wrote are considered by the USFWS to be "among the best natural histories of the refuges that the service ever produced" (Lear 145), and Carson's use of poetic and artistic language is evident in her descriptive passages:

Back from the beach the sand mounts into low dunes, and the hills of sand are little by little bound and restrained by the beach grasses and the low, succulent, sand-loving dune plants. As the vegetation increases, the dunes fall away into salt marshes, bordering the bay. Like islands standing out of the low marsh areas are the patches of firmer, higher ground, forested with pine and oak and carpeted with thickets of myrtle, bayberry, sumac, rose and catbriar. Scattered through the marshes are ponds and potholes filled with wigeongrass and bordered with bulrushes and other good food for ducks and geese. This is waterfowl country. This is the kind of country the ducks knew in the old days, before the white man's civilization disturbed the face of the land. This is the kind of country that is rapidly disappearing except where it is protected in wildlife sanctuaries. (*Chincoteague 2*)

She exhibits her knowledge of nature through her listing of plants, here and in many places in the texts. Her alliteration, "bordering the bay," "bordered with bulrushes," "back from the beach," "succulent and sand-loving," lends continuity and fluidity to the passage. These alliterative pairings also bring attention to the details of the site and makes them memorable. Her active and strong verbs (bound, restrained, forested, carpeted, filled, and bordered) give the scene animation and vitality. Metaphor and simile offer alternate ways for the reader to see the subjects; the land has a face that is damaged, and higher ground is "like islands standing out of the low marsh areas." The

use of anaphora with the repeated “this is” emphasizes both how waterfowl have benefitted from the land long before “man’s civilization” disrupted it and the rapidness of the current destruction. “This is” works as a refrain, using a “before-and-after” approach to describe environmental damage and the need for wildlife refuges.

Examples such as the above passage show Carson was a careful and meticulous writer. Lear explains how she read aloud her writing and worked diligently to revise:

Carson [preferred] to revise paragraph by paragraph, sometimes even sentence by sentence [. . .] Conscious of the impact of alliteration and rhythm to create atmosphere, she read passages aloud to herself before she asked her mother to read them to her again. Each draft was read aloud, over and over, until Rachel was satisfied with the way it sounded as well as the way it read to the eye. (100)³

Her crafting of language works to explain carefully what the visitor could see and to encourage an intimate knowledge of the site, increasing the potential for a deeper, richer experience. Her language is more detailed than sentimental, showing knowledgeable appreciation and valuation. Explanations of the sensory experiences of the refuge promote the value of the land and the bird species using it. The picture is one of botanical and geographical bounty worth protecting. Using second person in her descriptions, Carson walks the reader through the seasons of the refuge and the life cycles of the shore birds and waterfowl. Lear writes that “Carson’s ultimate purpose of getting people to recognize their personal connection with nature is never obscured by the other [. . .] requirements of a government publication” (146).

Carson describes the aesthetic and spiritual value of the sites, arguing that refuges are places offering sanctuary not only for waterfowl but also for the human visitors stopping there. In *Chincoteague* she writes, “[The refuge] has preserved, in a wild and unspoiled state, a stretch of typical Atlantic seacoast for the enjoyment of those who find relaxation and refreshment in wilderness areas” (17). She describes *Parker River* as a site where visitors can “find in this outdoor recreation a welcome and refreshing release from the tensions of modern life” (12).

Carson doesn’t argue value but describes in detail the things she finds that are worth valuing. She doesn’t state her desire to encourage human/nature relationships but does encourage human interaction with nature through her comprehensive descriptions of the sites. Carson’s nature writing in the *Chincoteague* and *Parker River* texts accomplishes what Ann Zwinger argues nature writers should do:

My theory is that we should try to get the reader to really look at the natural world. If you once look at something, really *see* it, ask a question about it, get an answer, learn something about it, it become yours. And once it becomes yours, you’ll never destroy it. (72-3)

Statements of Risk

Carson constructed another pathetic or emotional appeal in the *Chincoteague* and *Parker River* texts by explaining what is at risk without refuge conservation work. Sometimes statements of risk argue how resource use could be affected without refuge protection or, in the case of clamming, how a site improves industry stability. The

commercial language of waterfowl conservation explains how hunting is improved because of refuges and what lack of waterfowl protection would mean for sporthunters: "A serious reduction in the populations of black ducks would mean the end of waterfowl hunting for the majority of the New England sportsmen" (5). However, most of Carson's statements of risk are not resource arguments but a general call for conservation support.

In the opening page of the *Parker River* text, Carson explains the "three major declines in waterfowl population" (1). She then explains possible consequences if the demands of waterfowl conservation are not met: "The downward sweep of such a cycle decline—perhaps this, or the next, or the next—may reduce flocks of waterfowl to so low a point that there can be no recovery" (1). In *Chincoteague* she argues that "Unless some natural marsh areas are set apart for the use of wildlife, species like the snow goose cannot survive" (5). The contingent language and arguments constitute what Cox explains as the "locus of the irreparable," "a way or organizing our perceptions of a situation involving decisions or actions; its use calls attention to the *unique* and *precarious* nature of some object or state of affairs, and stresses the *timeliness* of our relationship to it" (3). Carson's statements of risk in the *Chincoteague* and *Parker River* texts evoke questions of uniqueness, precariousness, and timeliness, identifying what is at stake without waterfowl conservation. Moreover, the simplicity and brevity of the statements avoid giving the narratives apocalyptic tendencies or stridency. Placed within the context of the conservation information Carson provides, they argue that the need for

waterfowl conservation is the logical conclusion to the history of destructive human practices.

When Carson describes the danger to individual species of waterfowl, such as snow geese and black ducks, she is arguing for the uniqueness of what is endangered. Cox describes uniqueness in terms of the irreparable as “aspects of experience and the environment which cannot be restored, if ‘lost’ are seen in their singularity—as distinct, original, rare, or exceptional” (3). The extinction of individual waterfowl species would clearly be irreversible, and though Carson doesn’t argue the possible extinction in great detail using overly emotional language, her statements convey to the reader urgency and potential loss. Uniqueness thus has connotations of value and of worth.

Cox also states that appeals to irreparability refer to precariousness or how the existence of what is unique is “open to challenge” (3) and is opposite to “what is plentiful, permanent, or enduring” (4). Perelman and Olbrechts-Tyteca define this opposition as the *loci* of quality, stating “as we know, anything that is threatened acquires great value” (91). Carson’s narratives repeatedly describe how waterfowl are threatened: by overdraining, heavy shooting, industrialization and destruction of natural habitat, and damage to natural food sources. She includes before and after examples, denying permanency and plenty in waterfowl populations: “In those days our waterfowl probably numbered 200 million. Now only a small remnant of this number is left” (*Chincoteague* 1). She uses statistics to present evidence of the contingent nature of waterfowl survival and to support her emotional narrative of the brant’s disastrous

circumstances and the species' possible rapid decline, reporting that ornithologists' count of brant numbers, 28,000 in the winter of 1927-1928, decreased to 2,320 in 1932-1933 (5). These concrete examples speak to the reality of diminishing populations; Carson's statements of risk are supported by the logic of numbers.

The quality of fragility and the state of being threatened by radical intrusion are other ways of defining precariousness and irreparability. The *locus* of the irreparable "requires protection or an agent's active intervention to ensure its continued existence" (Cox 4). Though the statements of risk are few in the *Chincoteague* and *Parker River* texts, the arguments defining the history of human's destructive environmental practices—the threat of radical intrusion to waterfowl—are woven throughout the texts. If Carson explains refuge landscapes and waterfowl behaviors in terms of broad expanses of time, human destructive behaviors occur in the recent past. Moreover, in the common introduction to the texts, human interference in the conditions of waterfowl is constructed in present tense: civilization "takes away, little by little, that land that is suitable for wildlife." The need for refuges to protect and preserve waterfowl populations is urged in definite terms, while her statements of risk are posed as possible outcomes—what may or might happen. Her arguments work to create a sense of opportunity for the reader: the hope that the results of human interference are reversible.

To illustrate and explain the potential for positive human/nature relationships, Carson presents examples of refuge successes, how endangered waterfowl populations

have begun to increase and gain ground. These offer evidence of how waterfowl refuges mitigate the risk to waterfowl populations. Using Bombay Hook National Wildlife Refuge as an example, she explains how the refuge has seen an increase in wildlife numbers:

Management [. . .] has increased the use of the area by ducks and geese more than 400 percent over a 10-year period. Records show that approximately 30,000 waterfowl were using this area during the fall months [. . .] By the fall of 1942, this figure had been doubled. By the fall of 1945, more than 137,000 waterfowl were stopping for food at the Bombay Hook Refuge [. . .]. (*Chincoteague* 15)

Here, as in other places in the text, logical evidence supports Carson's use of emotional appeals—the evidence of numbers supporting her discussions of risk and human/nature relationships.

Although statements of risk occur in only a half dozen discrete segments of the *Chincoteague* and *Parker River* texts, they carry rhetorical weight, explaining what is at stake without waterfowl refuges. They create openings for the reader to envision what the reverse of conservation might be—a version of a silent spring—when the “whistle of the yellow-legs, high and clear but with a particularly soft quality” (*Chincoteague* 11) is silenced and the V-shaped shadow of snow geese disappears. The overall attitude of the *CIA* texts is celebratory, but potential future scenarios balance this positive side to suggest that conservation battles are not over. Historic environmental battles, such as the Hetch Hetchy Valley dispute, and modern battles, such as the controversy over drilling in the Arctic National Wildlife Refuge, show that legislated protection is not

permanent. Carson argues wildlife legislation managing hunting is not enough to protect waterfowl populations and refuges are a crucial part of conservation efforts in which everyone has a stake.

Language of Inclusion

Carson uses language of inclusion by incorporating the terms *we*, *us*, *you*, and *your* into *Chincoteague* and *Parker River's* arguments and descriptions. Carson is the only author in the *CIA* refuge texts to join with and include her readers through these terms.⁴ This separates her appeals from other authors and addresses the need to incorporate audiences in environmental conservation. Instead of being spoken to, audiences can be included in and become part of discussions, encouraging relationship building and decreasing opportunities for ecospeak. Carson's language of inclusion evokes consensus building, as she states what *we* know and what *we* still need to discover. Readers are placed in direct conversation with her as a representative of refuge conservation work, shortening the discursive distance between them, Carson, the USFWS, and the wildlife the refuge protects. By default, everyone falls into the category that Carson and the agency inhabit—stakeholders concerned with creating proactive and productive relationships with nature.

In other *CIA* texts, authors avoid directly addressing readers in various ways. For example, many use passive constructions: "green herons can be seen fishing" (*Aransas* 7). They also categorize visitors according to occupation (bird watchers, fishermen, hunters) or by vague, general designations: "the summer motorist" (*Wheeler* 1) or "the

daylight visitor" (*Okefenokee* 6). Some use the hypothetical "one": e.g., "one could hear the swans' resonant trumpeting" (*Red Rocks Lake* 1). Carson instead addresses readers and absorbs them into a discourse community by using the terms *we*, *us*, *you*, and *your*.

In the *Chincoteague* and *Parker River* texts, Carson's language of inclusion works in multiple ways. First, she shares conservation knowledge and invites the reader to discuss that knowledge. For example, in *Parker River*, she describes a flyway as "a huge, distorted funnel" (2). She asks the reader to "Imagine that for one-half of the year all the contents of the funnel have to be contained within the stem and you can understand the compression of birds within their winter range" (2). Requesting readers to focus on the metaphor, Carson pushes them to visualize the crowded conditions of wintering waterfowl and the importance of the Atlantic flyway refuges to alleviate crowding. She invites the reader to invest in the metaphor, which, in turn, encourages comprehension and information retention. She uses the same strategy when she asks waterfowl hunters to use an investment metaphor to understand how refuges improve hunting: "Let us say," "just as money you invest," and "your pocket" (*Parker River* 10).

Similarly, Carson uses language of inclusion to portray readers as holders of conservation knowledge. For example, she explains that to understand their dwindling numbers "We need to know more about the biology of [black ducks]" and continues with "But this much we know" (*Parker River* 5). As she lists the causes of diminishing black duck territory, Carson implies that the reader, along with the agency, understands the facts of habitat encroachment. Moreover, the agency and the reader/refuge visitor

share the need for more knowledge. Carson presents both agency and readers as actively seeking answers to conservation questions.

Additionally, Carson uses language of inclusion in her details about the sensory aspects of each site. In *Chincoteague*, she takes the visitor month-by-month through the seasons of the refuge, addressing the reader in second person. She describes what birds are at the refuge, their arrivals and departures, and in what activities they are engaging:

In April you might have found [black ducks] nests here and there under the bayberries; in June the broods of ducklings, with their mothers, begin to appear in the slashes. Around the Levels there are a few broods of the blue-winged teal, making its first slow comeback as a nesting bird in this region after years of scarcity. And early almost any morning of the summer you could see a bittern slinking through the tall salt meadow or hear the sharp clatter of the rails. (12)

Carson places the reader into refuge activities and scenes, including them in the descriptions of recurring, cyclic, natural patterns. She also uses second person to describe how visitors would see the land itself: “As your eyes range from east to west, you see five totally different kinds of country as the birds would classify it [. . .] and as you look southward over the expanse of sand hills you see that the dune zone is pitted with many sandy depressions [. . .]” (3). The inclusive language engages readers, deepening their understanding of and experience with the physical reality of the refuge.

Carson’s language of inclusion in her narratives encourages reader identification with the refuge site and the USFWS’s work. Carson decreases the reader’s emotional and intellectual distance from the text by encouraging an intimate, experiential reaction

to the site. Nature is focus of these sections, but Carson's use of inclusive language positions humans and non-human agents close together. She is not a distanced, objective narrator but one who includes herself and invites the reader into the text. Moreover, when inclusive language is combined with language of accountability, the use of the terms *we* and *us* closely positions reader and author and encourages their identification in response to waterfowl conservation efforts.

Language of Accountability

The rhetorical goal for the *CIA* series was to inform the public about the refuge system's conservation work. However, a secondary goal for the waterfowl conservation refuge booklets (*Chincoteague, Parker River, Mattamuskeet, and Bear River*) was to argue the vital role these sanctuaries played in the survival of waterfowl. Dolin explains the criticalness of waterfowl's plight: "By one estimate 1934 marked an all-time low for migratory populations—twenty-seven million. And with every passing month, more valuable waterfowl habitat would be plowed under, developed, or dried up [. . .]" (*Smithsonian* 90). He narrates how the refuge system experienced immense growth in the early decades of the 20th-century but explains that the threat of development is always present (95-122.) In the *CIA* texts, Carson argues the major part humans play in creating the need for waterfowl refuges—accountability for the consequences of our actions. She then argues what must be done or what must happen to protect waterfowl—a different call for accountability. No other *CIA* author uses the same degree of insistency and urgency to explain the need for waterfowl sanctuaries.

This aspect of Carson's rhetoric and appeals shows the need for balance in environmental texts that discuss environmental destruction. How can advocates address human culpability without prompting audiences to resist the responsibility of environmental guilt? Carson explains human complicity—but from a distance, and she uses that discussion as a springboard for change.

I use the term *accountability* instead of *blame* because of how Carson explains human culpability for environmental damage and our responsibility for reparation. Blame holds connotations of a direct (oftentimes temporal) connection between actors and consequences—an actor is responsible for a situation or the consequences of an action. Accountability is being held liable. To use a current example, the oil company British Petroleum is responsible for the 2010 oil spill in the Gulf of Mexico. President Obama is holding himself and his cabinet accountable for controlling damage, trying to repair the environmental destruction, and minimizing the economic consequences.

In this section, I discuss how two of Carson's strategies lead to feelings of accountability instead of blame and encourage acknowledgment instead of alienation. First, she uses passive voice when describing harmful activities and avoids naming actors. Notably, in these passages she doesn't use inclusive terms, such as *we*, which she does employ when urging what must be done. Second, Carson constructs harmful behaviors as historic activities instead of contemporary events, placing a rhetorical distance between readers and past destructive practices. When she describes what wildlife need, what *we* are *accountable* to provide, she creates opportunities for readers to

identify not only with her, the USFWS, and other refuge supporters but also with non-human actors for whom the refuges are created. Carson's arguments based on accountability invite readers into a community of proactive conservation supporters that is the USFWS. She includes them into calls for what must be done. The work of the agency becomes a conduit through which sustainable human/nature relationships can be developed.

Carson also involves the reader in the ethics of conservation by describing our moral obligations to non-human populations. She argues that waterfowl have a right to the basic necessities for life: safety, food, and shelter. Just as in definitions of blame and accountability, I use the term *ethics* purposefully, even as it may complicate the idea of accountability and the way the terms converge in conservation discussions. I use the term ethics to mean a set of moral principles—how communities and individuals define the way other humans (and sometimes non-humans) should be treated. Moving from a way of thinking and towards the realm of activity, accountability is a state of being liable and a call for commitment to certain behaviors or actions. I see accountability here as being subsumed under the category of ethical behavior, a way of assuming personal responsibility and of being answerable. Helping provide waterfowl with the means for survival is ethical behavior as is supporting the refuges that offer them sanctuary.

Carson identifies non-human needs with those of humans and encourages the reader to identify with non-human agents: "Wild creatures, like men, must have a place to live" and "Common sense tells us this: like human travelers, birds must have places

where they can stop in safety for food and rest" (*Chincoteague* introduction, 1)). In *Parker River*, she writes, "Waterfowl sanctuaries must be located in the kind of country that attracts birds, provides proper food for them, gives them suitable places to rest before making the next hop on the long migratory flight" (3). The comparison with human travelers and the allusions to journeys help the reader see the refuges as sanctuaries or hostelries. Readers are accountable to provide what they themselves desire and enjoy.

In multiple passages of the first two *CIA* booklets, Carson explains how refuges are working to provide these "simple and necessary creature requirements" (*Chincoteague* 1). The exact phrasing changes, but, repeatedly, Carson lists what waterfowl need to live: food, rest, security. A refuge must be a "small, separate world in which all these things exist in greater abundance than in the world outside" (*Parker River* 9). Her consistent use of the term *must* denotes moral imperative.

Carson's rhetoric in the series argues the closeness and inseparability of human/nature relationships, encouraging readers' consubstantiality with the non-human actors they help protect. When readers identify with waterfowl by recognizing the commonalities of human and non-human needs, there is engagement. Consubstantiality is a heightened engagement combined with a sense of sameness and commitment. When readers accept the invitation to be part of the *we* and *us* of Carson's rhetoric, they share a discursive space that enables a consubstantial relationship with the non-human agents served by waterfowl sanctuaries.

Carson's descriptions of wildlife needs as reflective of basic human needs constitute an environmental rhetoric with a nature as spirit perspective and illustrates another way of explaining the needs for refuges that sets Carson's rhetoric apart from other *CIA* authors. It is also indicative of the agency's move away from conservation of resources for human use to a heightened concern with preserving the land and resources to preserve wildlife populations. The embedded appeal of this rhetorical move is subtle. It brings attention to the obvious—ducks and geese, like us, have basic needs; we have the power to provide those needs and means for survival. Through this argument, Carson doesn't directly address the audience; she doesn't use a strident tone or build an obvious platform to discuss animal ethics. Instead she includes the succinct statement that people and wildlife need the same basic requirements to survive. This appeal works to rebuild positive human/nature relationships that have been traditionally been destructive ones.

Chincoteague's opening paragraphs illustrate Carson's consistent strategies in discussing environmental destruction—presenting damaging practices as past events and avoiding naming perpetrators by using terms denoting but not naming human actors. She writes, "Once there were [. . . natural hostilities.] That was before our expanding civilization had drained the marshes, polluted the waters, substituted resort towns for wilderness" (1). Using past tense and the term "once" indicates these are historic actions. The destructive agent is "our expanding civilization," which both contains and denies the complicity of contemporary readers. The blanket term

“civilization” has a sense of inevitability and an unstoppable, self-propelled force; this sense is supported by her refusal to name specific players or communities.

In *Parker River*'s opening page, Carson positions specific environmental assaults as those of “generations”:

During the several generations in which the United States has been converted from a land preeminently wild and unsettled into an industrial and agricultural country, the waterfowl have been driven from most of the areas where they once lived. During the same span of years, we have seen the rise and decline of market gunning and the steady and continuing rise of hunting for sport. (1)

Here Carson avoids naming any actors. Consistently using terms denoting temporality (during, generations, once, span, years, rise and decline), she narrates a cycle of past events spanning decades of time. This phrasing places both the actions and the consequences as part of a history unrelated to contemporary readers. Her use of the term *we* in this example unites her and the reader in examining the past. Other active phrases are constructed to evoke a sympathetic response from readers: “waterfowl are driven” and are victims of “market gunning” and “hunting for sport.” When Carson discusses the plight of the blue-winged teal, a “small and beautiful duck,” her language describes clearly how the breed has suffered but her narrative does not involve human actors. The bird “was driven from the Eastern States,” “encroaching agriculture menaced it,” and “drought destroyed its broods” (*Parker River* 8).

When Carson does specifically name sportsmen and market hunters, it is only in terms of the past:

During the 1800's and early 1900's the shore birds were all but destroyed by heavy shooting. They were a favorite target of the sportsmen of that generation; they were also the quarry of market gunners, who shot them for the morsels of food their small bodies yielded. In the 1880's and later, the craze for feathers to adorn women's hats played its part in the slaughter. (*Chincoteague* 7)

These activities are part of an historic narrative, and she uses pathetic language to provoke reader responses: "heavy shooting," "morsels of food," "small bodies," "craze," and "slaughter." The language presents a pathetic picture of killing and irrational behavior. There is little payment in terms of resource for the mutilation of shore birds. Additionally, Carson's only example of modern "heavy shooting" of shore birds in the two texts is not on North American soil but in the West Indies and South America—a geographical distancing from *CIA* readers.

When Carson writes, "This is the kind of country the ducks knew in the old days, before the white man's civilization disturbed the face of the land" (2), she is able to make vague indictments (land is "disturbed") and use anonymous actors ("white man's civilization"). "Disturbance" is a metaphor for destruction; "civilization" acts as metonymy for destruction. These are symbolic representations for destructive land use narratives. They stand for converging human influences: urban sprawl, the creation of suburbs, and the increasing development of land for industrial and agricultural use.

Making clear human involvement in wildlife life destruction leads to Carson's rhetoric of accountability, as she argues what must be done to help waterfowl, what we are accountable to provide. Here she uses the inclusive *we* to incorporate the reader in

this imperative: "If we are to preserve the remaining waterfowl [. . .] we must set apart refuges like Chincoteague" (*Chincoteague* 1). In *Parker River*, Carson argues the essentialness of waterfowl sanctuaries to conservation efforts:

To save the wild fowl, one of the most important things we can do is to reserve for their use areas which provide them with the marshes and ponds, the natural foods and the sanctuary that they need in order to live in the midst of our civilization. [. . .] Whatever else waterfowl conservation demands, this is essential. (*Parker River* 1)

Carson's uses these statements in only a few places in the first few pages of both the *Chincoteague* and the *Parker River* texts, but I argue that they are statements encompassing the various emotional appeals of the texts, culminating in a call for accountability. Carson encourages our understanding of value, uniqueness, and fragility through her intimate descriptions of waterfowl through their seasonal activities and the ecosystems of which they are a part. She explains the risks waterfowl face and the reasons for those risks through her narratives. Her use of *we* and her explanations of the alignment of human and waterfowl needs lead to this call for what is essential and what must be done. She creates an appeal for a different, productive type of human/nature relationship based not on human needs but on nature's. Moreover, Carson's appeals explain the benefits to humans—the protection of what is inherently valuable, the move to repair instead of destroy, and places to find refuge from the pressures of modernity. Contemporary readers had the opportunity to envision their role in conservation and preservation as different from those of the past.

Carson's language of accountability, however carefully phrased, potentially creates persuasive obstacles. To 21st-century readers conscious of environmental guilt and knowledgeable about environmental abuses, Carson's references to excessive hunting and to the draining of marshes may seem mild and even naïve, but, some refuge visitors, such as hunters or farmers, had competing needs, making identification with Carson and her arguments unlikely or impossible. The likelihood of some readers feeling alienated was decreased but not eliminated. Those interested specifically in aesthetic descriptions, information about specific refuge animals, or the recreational or the economical opportunities of the sites might well have disengaged with Carson's descriptions of human complicity in environmental destruction. Through guilt or the unflattering presentation of human behaviors, opportunities for identification or consubstantiality could have been blocked or refused.

Describing the transgressions in past terms without specifying contemporary actors meant readers could distance themselves, avoiding accountability. Her readers could experience dis-identity, deny complicity, and avoid Carson's call for waterfowl conservation support. Carson engages in rhetorical balancing: explaining the truth behind the need for refuges while avoiding alienating those she wants as supporters.

Moreover, her language of accountability, her descriptions of what must be done, provide no specific direction or suggested actions for those she persuades or moves. Her attempts to convince end with education and explanation, and readers who identify

with conservation needs and ethics might experience frustration without directions for action.

A clue to what Carson might have meant when she argues that refuges must be supported is found in an essay she wrote in 1946 while engaged in research for the *CIA* series. She was selected as the winner of a “Conservation Pledge Competition” held by the magazine *Outdoor Life*. In “Why America’s Natural Resources Must Be Conserved,”⁵ Carson discusses “the status of America’s natural resources,” what she describes as “ominous reading.” In her conclusion, Carson elaborates on her philosophy of accountability that would become part of the rhetoric and language of the *CIA* series. She explains her belief that conservation must involve many different stake-holders:

Conservation of the dwindling natural wealth of our country will not be accomplished by leaving the job to the other fellow. Our cherished dream of our country can be made true only if each of us will recognize his personal obligation to play an active role in conserving our natural resources, by his own acts and through his influence on his fellow citizens and his lawmakers.

I argue she is describing the accountability of each citizen—to recognize an obligation, take an active role, and influence legislation—and including everyone in the category of stakeholder.

Language of accountability contributes to readers’ understanding and experiencing the need to enact change or take action, but accountability alone does not explain the insistence and urgency of Carson’s advocacy on behalf of waterfowl in the *CIA* texts. Between the description of the wrong and the mandate to repair the wrong is

a gap. Understanding culpability does not logically result in one feeling the need to alleviate consequences, much less act upon the feeling. The existence of healthy waterfowl populations doesn't have "value" in tangible ways for most people. Carson fills the gap between the ethical "should" and the "must" of accountability in waterfowl conservation with other appeals describing what is of value, what is at risk, and who is included in the invitation. Refuges are spaces where the interests of human and non-human agents converge. Carson's ecocentric discourse is a pathos-centered discussion encouraging readers to focus on the affective and aesthetic aspects of conservation and arguing that nature is not only a resource to be used or an object to be analyzed—it is to be experienced and felt.

NOTES

¹ Aristotle leaves open the subject of epideictic rhetoric by explaining praise is “[not] always of a human or divine being but often of inanimate things, or the humblest of the lower animals” (56).

² The publication of *Under the Sea-Wind* was one month before the bombing of Pearl Harbor, and Carson felt that in some degree those events “deprived her of commercial success” (Lear 105). Lear quotes Carson as stating, “The world received the publication of *Under the Sea-Wind* with superb indifference” (105).

³ Lear narrates how during the last stages of writing *Silent Spring*, Carson, already suffering from cancer, developed iritis and was nearly blind for weeks. Her assistant, Jeanne Vance Davis, read the drafts aloud for Carson to revise. Lear speculates on the effects that experience had on the final product: “Forced to listen to her words with a different intensity [. . .] Carson altered cadence and rewrote passages. She struggled in a different mode for clarity and simplicity. Who can say what the result would have been, had Carson not been forced to listen with different ears?” (394).

⁴ One exception is Ward M. Sharp in the *Red Rock Lakes* booklet. He uses *we* one time, stating “we learn that the swans nested there [. . .]” (3). In the three refuge booklets Carson authored and the one she co-authored, the term *us* is used twice, *we* 9 times, *you* 29 times, and *your* 4 times.

⁵ This document was copied from archives at the BRBML.

CONCLUSION

The year 2012 will mark the 50th anniversary of *Silent Spring*. As global citizens who face environmental crises that threaten our planet, we should celebrate Carson's book and what, in the eyes of many, it accomplished: the birth of the modern environmental movement. However, the anniversary will, undoubtedly, result in environmental scholars and advocates heightening their consideration of current environmental discourse's failings.

Part of understanding our present environmental issues and ways of talking about them depends upon our understanding the past. Rhetorical analyses of historic environmental texts, in this case, the *CIA* series, are important to environmental scholarship because they explicate how environmental issues were formed and argued. Determining the successes and failures of past environmental discourse--and the resulting environmental impact--can help to warn or guide current rhetors, writers, and policy makers. Additionally, uncovering the exigencies surrounding the development of specific examples of environmental discourse, identifying stakeholders and how the motives of the text resulted in textual structures and rhetoric, helps us continue to trace our environmental history and understand the players, situations, and issues leading to current philosophies and policies.

Carson is an important writer and creator of what are overwhelmingly considered “effective” environmental arguments (especially *Silent Spring* and *The Sea Around Us*). Examining how she used evidence and appeals in her government writing leads to a different understanding of how future informational and persuasive environmental discourse can be constructed. Through my archival research, I did not locate specific evidence that the *CIA* series was “effective” in increasing numbers of refuge visitors or public awareness of or advocacy for the refuge system. However, the Government Printing Office did show that many of the booklets Carson authored were still being printed almost 20 years later—an impressive span in the context of generally short-lived agency publications. This is evidence the USFWS valued the series’ communicative power. Carson’s writing is still used as an exemplar of literate and persuasive environmental writing for agency training.

I was introduced to the *CIA* series by USFWS historian, Mark Madison, and I began my research hoping to understand two elements of Carson’s texts that initially struck me and have continued to keep my attention through close readings. They are elements which, to me, make the texts “successful.” First is the celebratory voice in the text—Carson’s voice. She brings to the booklets the wonder and awe of a naturalist in her chosen milieu. Also, I continue to be curious about how she reaches out to everyone through the rhetoric of the series, promoting her valuation of the refuges through her detailed descriptions and urging the need for waterfowl conservation. Having witnessed over and over again how environmental debates turn into dichotomous, over-simplified

ecospeak, I was impressed with how Carson's rhetoric sought to exclude no one. In this project, I don't argue Carson's "effectiveness," but I do argue that she creates various appeals within the *Chincoteague* and *Parker River* texts, increasing the chance for audiences to identify with her and refuge conservation work. Identification, in turn, leads to increased chances for advocacy and eventual environmental reform.

The *CIA* series is a blend of nature writing, environmental advocacy, and science/conservation information. It operates on what Ulman calls "discursive borderlands" which are "rich sites for rhetorical investigation, ethical judgment, literary representation, and political action" (46). When Carson combined agency goals for the series and her own goals, she created an original government series. In this project, I analyze the *CIA* series, specifically the *Chincoteague* and *Parker River* booklets, to determine how Carson met the exigencies of her discursive situation and addressed the concerns of the various stakeholders, human and non-human, involved in the development and practices of wildlife refuges. My analysis explains how Carson approached the subject of conservation work and human/nature relationships in different ways: through perspectives of nature (as resource, object, and spirit); using environmental discourse categories (ethnocentric, anthropocentric, and ecocentric); and arguing through rhetorical proofs (ethos, logos, and pathos). Carson was able to write about the refuge system from multiple (and occasionally competing) positions because of the variety of ways she encountered the natural world as a nature writer, zoologist, and government employee. These elements of her personal and professional

background enabled her to construct the *CIA* series in ways that considered readers from multiple backgrounds and varying ideologies, developing appeals that helped them identify with and experience the sites.

The series indicates the potential flexibility of environmental discourse, even when produced by government agencies, and Carson's rhetoric suggests how current environmental discourse could be created to be more effective: acknowledging and explicating the complexities of environmental conflicts and issues; considering and addressing the needs of various stakeholders; describing and arguing environmental issues from the different perspectives and discourse categories; and creating appeals through ethos, logos, and pathos. Carson's attention to language, argument, and audience make the texts she authored an original contribution to early environmental rhetoric, largely because of her attention to promoting the need for productive human/nature relationships through emotional appeals. As Slovic argues, Carson sought to explain the spiritual relationship between human beings and the natural world and to "persuade an audience to embrace a set of attitudes toward the environment and potentially to implement these enlightened attitudes in the form of relatively nondestructive behaviors" (84).

The *Chincoteague* and *Parker River* texts show that multiple views of nature and ways of describing and arguing environmental issues can work together in a synergistic fashion, producing texts that are persuasive, inclusive, and multi-faceted in their appeals and positive and proactive in their rhetorical strategies. Most importantly, Carson's

discursive structures illustrate how ethos, logos, and pathos each depend upon the other to potentiate their rhetorical power. Killingsworth explains this dependency, stating “Technological and bureaucratic solutions to environmental problems will be ineffective—or impossible—unless accompanied by free and broad access to special knowledges and relevant information as well as by psychological and social adjustments” (2). The emotional appeals in the texts particularly speak to the expansive nature of pathetic proofs, how they can be developed in nontraditional ways not dependent upon the use of overly emotional language and apocalyptic or jeremiad arguments.

As I began to better understand, through Carson’s *CIA* texts, the potential creative and persuasive power of environmental discourse, I found I examined the environmental texts I encountered through different lenses. I wanted to understand the motives behind the texts: who was addressed, who was excluded, how was nature viewed, discussed, and argued, and was complexity explored? Additionally, I wanted to see how emotional appeals were used in combination with other appeals.

Here I briefly discuss two examples of recent environmental communication that represent my new understanding of the potential for non-traditional types of environmental discourse. First, I examine a work of creative non-fiction considering the environment in the manner of Carson, using a variety of perspectives and appeals and considering various stakeholders. The author emphasizes, especially through pathetic appeals, the need for dialogue in local and global environmental issues. Second, I briefly

discuss symbol use in a multi-modal program designed to decrease energy consumption and develop environmentally responsible behaviors. The persuasive power of the program works primarily through the emotional appeal of a polar bear.

In "Spectral Light: Beyond Black-and-White Thinking in the New, Old West," Amy Irvine tells the story of a black bear attack at their small southwest Colorado ranch and her family's reactions to the event. Through her subsequent reflections, she explores the convergence of "wilderness" and "civilization" and the complexities of human/nature relationships. She narrates how, in a prolonged confrontation, her husband eventually shot and mortally wounded a three-hundred-pound bear that climbed the fence enclosing their small herd of goats. She describes her family as members of the "new West," who seek a peaceful co-existence with the area's predators, explaining, "Looking back, I think [my husband and I] took a certain pride—and a smug one at that—in having no need for guns in what is largely a gun-toting community of roughneck ranchers" (43). Searching for answers to why the bear, having "the luxury of keeping almost exclusively to [himself]," attacked their herd, Irvine explains the possibility it was "part of an escalating and global trend—for some biologists say animals everywhere appear to be changing in new and unsettling ways" (44). Reacting to climate change and development of their habitat, animals are "adapting fittingly to a drastically altered environment." She argues, "[The] more we push out into the last wild places for recreation and real estate, the more we are finding ourselves back on the food chain" (44).

Through this non-fiction narrative, Irvine addresses the needs of and shows respect for the many environmental stakeholders involved in issues surrounding the competing demands of humans and wildlife: the ranchers who are long-time members of the community—the “old West,” the new residents seeking to escape from the pressures of modernity, and the wildlife whose habitat is diminishing. She explores nature as a resource to manage, an object to observe and research, and as a spirit to experience. The narrative defines ethos arguments in resource battles “where predominantly well-heeled, left-leaning residents supported the Colorado Division of Wildlife’s termination of the spring bear hunt” and rural residents argue that, by making it illegal to “hunt bears with hounds,” bears have learned to forage on developed land with impunity. She uses logical evidence as she quotes research studies and uses expert evidence to explain increased predator attacks. However, primarily, her argument is one of pathos, as she grapples with the complicated environmental issues her family’s encounter with the grizzly emphasized and made horribly relevant.

When a neighbor and long-time rancher criticizes Irvine’s philosophical and political beliefs arguing for the protection of North American predators, Irvine describes, though she does not use the term, the dichotomy of ecospeak:

Each side is glaring, garish even, in its shriek of righteousness—and so it is with bears the ways it is with everything else: we respond from a black-and-white paradigm, the potent dualities of us versus them resound with a faint, prehistoric echo. Instead of man against weather, or man against beast, though, it’s Republicans vs. Democrats, tree-huggers vs. wise-users, Buddhist vs. Bible thumpers. The appeal of such binary thinking is that we are able to name not only who we are, but also what we are not. (45).

Irvine describes how she found herself “willing to consider my neighbor’s perspective, to extend an open-mindedness toward his knowledge and experience” (47). Echoing Cantrill and Oravec’s description of the “constitutive and constructive role of communication in approaching environmental issues” (2), Irvine argues that meeting the needs of complex environmental situations will require special consideration: “We’ll need a language of delicacy to articulate [. . .] thoughts and feelings [. . .] that can carry us across the muddy mire of moral, spiritual, political, and environmental ambiguities. And if we wield our words with heartfelt compassion and respect, it just might be enough to repair the psychic fissures we have suffered in this age of sharp division” (48).

Environmental texts, such as this essay, have the power to bridge ecospeak and to express complex environmental exigencies. Though Irvine’s essay appears in *Orion*, dedicated to exploring “Nature/Culture/Place,” she speaks to a larger audience than those who subscribe to this environmentally-focused publication. Like Carson’s *CIA* texts, this essay also exists on “discursive borderlands,” blurring the genres of nature writing, deliberative discourse, and environmental advocacy. Moreover, Irvine expresses much of the philosophy of Carson’s texts, using the power of emotional appeals to describe the ultimate inseparability of human/non-human actors and the heightened need to address the ethics of human/nature relationships.

My second example of current environmental discourse, illustrates that, like environmental rhetors and writers, behavioral scientists and researchers are becoming increasingly aware of the importance of emotions in the development of

environmentally responsible habits. Lorie Loeb, computer science professor at Dartmouth College, and her co-researchers are focusing on how to harness the power of emotional appeals in information visualization systems or “dashboard grids” that make real-time energy consumption information available to the user. Loeb argues, “While supply side and technological innovations are critical, behavior has become increasingly important in the fight against global warming and the pursuit of a sustainable energy future” (1). Loeb’s company *TellEmotion* is piloting two programs, at Dartmouth College and Brooks School (a boarding high school), using their *GreenLite* system, *Bear-O-Meter*, to increase students’ awareness of their schools’ energy consumption. In this system, images of a polar bear reflect energy use (plug load, overhead lighting, and, in some dorms, heat, water, and hot water use): when energy use is down, the polar bear is happy; when energy use is up the polar bear is drowning (Figures 7 and 8).



Figure 7. Happy 2D Bear

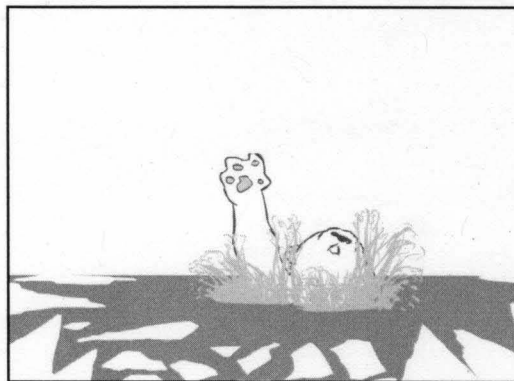


Figure 8. Distressed 2D Bear¹

The polar bear goes through several stages representative of energy usage, and using kiosks positioned in dormitory halls, websites, and desktop widgets, students access 2-D

or 3-D visualizations or graphs and charts to monitor their dorm's current and past energy statistics. They are provided with documents explaining the project and outlining tips for energy conservation, and the program is supported and sponsored by both schools' green initiatives and administration. These students, and most members of the public, have been long exposed to arguments supporting sustainable environmental practices, and Loeb and her colleagues are particularly interested in how to create environmentally responsible behaviors when there is no direct financial incentive or tangible reward. In these pilot programs, the reward for keeping energy use down is the image of a polar bear, named Sula by Dartmouth students and Sasha by Brooks's students, sleeping or watching a butterfly. Loeb states, "Students expressed feelings for the animated bear and a deepened emotional connection to the impacts of climate change on the environment—by creating an emotional connection to the real-time feedback data, student attitudes changed" (11). Brain Palm, Brooks's sustainability director and science department chair, explains the program "brings concrete behaviors to wide audiences in a digestible and personal way" and students have learned "small actions can lead to big results" (interview). Since the beginning of the *GreenLite* program, energy consumption at the two schools decreased 9-11 percent (11).

There is considerable temporal and textual distance between Carson's *CIA* texts, Irvine's work of creative non-fiction, and the multi-modal *GreenLite* Program. But all three represent symbol use incorporating argument through ethos, logos, and pathos—especially using pathos as the essential or motivating appeal to persuade wide audiences

and create stakeholders. The *Bear-O-Meter* and Irvine's essay lead us to consider how future "effective" environment will be constructed. What traditional and untraditional forms will deliberative discourse take as environmental advocates, researchers, and policy-makers endeavor to change persisting, dangerous environmental behaviors? I suspect that the future of environmental rhetoric will be constructed in multi-modal forms incorporating various affordances and blurring traditional genres. Digital productions and documentaries (*Trashed*, *An Inconvenient Truth*, *The Story of Stuff*, and *Everything's Cool*) and movies aimed at young audiences (*Happy Feet* and *Wall-E*) may be best suited for our increasingly digitalized society. However, environmental writing by authors like Carson still has much to teach us about how to persuade and move the public.

On the opening page of Shellenberger and Nordhaus's *The Death of Environmentalism* is a Chinese ideogram. They describe it as the symbol for "crisis" and explain it "is comprised of the characters for 'danger' and 'opportunity.'" This representation of hope for the future combined with the element of risk explains much of what the rhetoric of the *CIA* texts can teach us: how to admit the destructiveness of our human/nature relationships; how to open the call for environmental responsibility to everyone; how to teach and to persuade through multiple appeals instead of narrowly defined arguments; and, most importantly, how to experience and to value the natural world for which there is no man-made substitute.

NOTES

¹ Used with permission from Lorie Loeb, President, Co-founder, TellEmotion, Inc.

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- . "Defining Sustainable Development: A Case Study in Environmental Communication." *Technical Communications Quarterly* 4.2 (1995): 201-216. Print.
- . "Perils of a Modern Cassandra: Rhetorical Aspects of Public Indifference to the Population Explosion." 1994. *Landmark Essays on Rhetoric and the Environment*. Ed. Craig Waddell. Mahwah: Lawrence Erlbaum Associates, Inc., 1998. 55-74. Print.

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APPENDIX A

List of Archives

BRBML	Beinecke Rare Books and Manuscripts Library, New Haven, CT
LLCSCA	Linda Lear Center for Special Collections and Archives, New London, CT
NARA	National Archives and Records Administration, College Park, MD
NCTC	National Conservation Training Center, Shepherdstown, WV

APPENDIX B

**Conservation in Action Booklets Series Number, Title, Author(s), and
Date of Publication**

#1	<i>Chincoteague: a National Wildlife Refuge</i>	Rachel L. Carson	1947
#2	<i>Parker River: a National Wildlife Refuge</i>	Rachel L. Carson	1947
#3	<i>Federal Duck Stamps and their Place in Conservation</i>	Edna N. Sater	1947
#4	<i>Mattamuskeet: a National Wildlife Refuge</i>	Rachel L. Carson	1947
#5	<i>Guarding Our Natural Resources</i>	Rachel L. Carson	1948
#6	<i>Okefenokee: a National Wildlife Refuge</i>	J. Clark Salyer II and Frank Dufresne	1948
#7	<i>Wheeler: a National Wildlife Refuge</i>	Thomas Z. Atkeson	1949
#8	<i>Bear River: a National Wildlife Refuge</i>	Vanez T. Wilson and Rachel L. Carson and	1950
#9	<i>Stillwater: a National Wildlife Refuge</i>	LeRoy W. Giles, David B. Marshall, and Will Barker	1953
#10	<i>Red Rock Lakes: a National Wildlife Refuge</i>	Ward M. Sharpe and Winston E. Banko	1953
#11	<i>Aransas: a National Wildlife Refuge</i>	Julian A. Howard	1957
#12	<i>Fur Seals of the Pribilof Islands</i>	Ralph C. Baker	1957

CURRICULUM VITAE

CYNTHIA E. BRITT
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EDUCATION

ABD University Fellow, Ph.D. program in Rhetoric and Composition, University of Louisville (Defense scheduled for August 2010)

M.A. English, Western Kentucky University, 2003. Rhetoric and Composition Specialization GPA 4.0

Thesis: "Midwife and Mother: Maternal Metaphors in the Composition Classroom"

Director: Jane Olmsted

Oral Examination: Pass with Distinction, Fall 2003

B.A. English, Western Kentucky University, 2000, Magna Cum Laude

A.D. Nursing, Western Kentucky University, 1988

DISSERTATION

Rachel Carson and Nature as Resource, Object, and Spirit: Identification, Consubstantiality, and Multiple Stakeholders in the Environmental Rhetoric of the *Conservation in Action* Series.

Committee: Debra Journet (chair), Susan Ryan, Beth Boehm, Paul Griner, and H. Lewis Ulman

PUBLICATIONS

Narrative: Rhetoric, Race, and Knowledge. Eds. Journet, Debra, Beth Boehm, and Cynthia Britt. Hampton Press. (publication Winter 2011)

Wolfe, Joanna, Kara Alexander, and Cynthia Britt. "Teaching the IMRaD genre: Sentence-Combining and Patter Practice Revisited." *JBTC* (Accepted for publication April, 2011).

"An Evaluation of the Kentucky Writing Projects." *The Collaborative Center for Literacy Development*. <http://www.kentuckyliteracy.org/> (Winter 2005).

"The Love of Hospice." *Kentucky Living Magazine*. (Dec. 2000): 24-32.

TEACHING EXPERIENCE

<u>Western Kentucky University</u>	<u>Part-time Instructor</u>
Fall 2010	Junior English Writing within the Discipline (two on-line sections)
Spring 2009	Junior English Writing within the Disciplines Junior English Writing within the Disciplines (on-line)

<u>University of Louisville</u>	<u>Graduate Teaching Assistant</u>
Spring 2007	Freshman Research Writing
Fall 2006	Scientific and Technical Writing
Summer 2006	Business Writing
Spring 2006	Scientific and Technical Writing
Fall 2005	Introduction to College Writing
Summer 2005	Scientific and Technical Writing

<u>Western Kentucky University</u>	<u>Part-time Instructor</u>
Summer 2004	Junior English Writing within the Disciplines
Spring 2004	Freshman English Introductory Composition Junior English Writing within the Disciplines Junior English Writing within the Disciplines

<u>Western Kentucky University</u>	<u>Graduate Teaching Assistant</u>
Spring 2003	Freshman English Introductory Composition
Fall 2003	Freshman English Introductory Composition

CONFERENCE PRESENTATIONS

"Multimedia Technology: Meaningful Integration to Promote Learn Preparedness." Kentucky Conference of the Council of Postsecondary Education, Lexington, KY, May 2009.

"Rachel Carson and the Conservation in Action Series: Rhetorical and Vocational Exigencies in the Creation of a Government Text." Conference on College Composition and Communication, San Francisco, March 2009.

Digital Installation: "Silent Spring and the Power of Multi-modality." 2008 Thomas R. Watson Conference in Rhetoric and Composition. Louisville, KY. October 2008.

Panel Chair "Technology and Knowledge in Science and Medicine." 2008 Thomas R. Watson Conference in Rhetoric and Composition. Louisville, KY. October 2008.

Participant at the Research Network Forum. Conference on College Composition and Communication. New Orleans, LA. April 2008.

"Rachel Carson: Reluctant Reformist and Role Model." Conference on College Composition and Communication. New Orleans, LA. April 2008.

"Successful Recruiting for the Summer Invitational Institute" Site Development Workshop. National Conference of Teachers of English. NWP Annual Meeting. New York, NY. November 2007.

"Vision and Realities: Designing Digital Arguments in the Freshman Classroom." The 20th Penn State Conference on Rhetoric and Composition. State College, PA. July 2007.

"Sponsorship and Silent Spring." Conference on College Composition and Communication. New York, NY. March 2007.

"Writing Literary Analyses: Strategies for Students and Teachers." Kentucky Council of Teachers of English and Language Arts. Lexington, KY. February 2007.

Panel Chair "Narratives as/of Science." 2006 Thomas R. Watson Conference on Rhetoric and Composition. Louisville, KY. October 2006.

"Considering the Narrative in Narrative Medicine." Conference on College Composition and Communication. Chicago, IL. March 2006.

"Hoop Dreams: Stories and Strategies for Student Success." Kentucky Council for Teachers of English. Louisville, KY. February 2006

"Negotiating Boundaries: 19th Century American Women and a Culture of Change" accepted for Feminism(s) and Rhetoric(s) Conference. Houghton, MI. October 2005.

"The Mirrored Self: Lighting the Way to Reflective Practice for Teachers and Students of Literature and Composition." Kentucky Conference of Teachers of English/Language Arts. Bowling Green, KY. February 2005.

"Translating the Myth of the Double Helix." Society for Literature and Science in the Arts. Chicago 2005

"Virginia Woolf's *A Room of One's Own* and *Three Guineas*: The Rhetoric of Anger." Lafayette, LA. April 2003.

WORKSHOPS

Graduate/Faculty Workshop: "Hillocks' Teaching Writing as Reflective Practice." University of Louisville. November, 2004.

Workshop for K-12 Teachers: "Tackling Tough Texts: Strategies to develop/support analytical thinking and writing." With Susan Smuskiewicz. Louisville Writing Project. September, 2007.

HONORS/AWARDS

M. Celeste Nichols Professional Development Award November 2007

Outstanding Graduate Student 2003-04 Potter College of the Arts and Humanities of Western Kentucky University

Outstanding Graduate Student 2003-04 in the English Department of Western Kentucky University

Bowling Green Rose Society Award 2003-04

ADMINISTRATIVE AND PROFESSIONAL POSITIONS

Research Assistant to Dr. Susan Griffin, English Department Chair, University of Louisville, Fall 2010

Editorial Assistant to Dr. Sun Zhihui, Assistant Professor of Engineering, University of Louisville, Spring 2010

Editorial Assistant to Dr. John A. Busch, Associate Professor of Sociology, University of Louisville, Summer 2009

Editorial Assistant to Dr. Ivy Lingfang, Assistant Professor Economics Department, University of Louisville, Spring 2008

Editor for 2008 Carnegie Foundation Community Engagement Application, Provost Office, University of Louisville

Researcher and Evaluator for the Jefferson County Public Schools and University of Louisville Partnership Program, 2006-2007

Co-Director for the University of Louisville Thomas R. Watson Conference for Rhetoric and Composition, October 2006.

Coordinator of the development of a data collection tool for the Kentucky Writing Project through funding from the Collaborative Center for Literacy Development Participation, Spring 2004

Assistant to Dr. John Hagaman, Director of Western Kentucky University Writing Project. August 2002—July 2003

Office associate for the 2003 Western Kentucky University Writing Project Summer Institute

ACADEMIC SERVICE AND PROFESSIONAL DEVELOPMENT

Participant at the Digital Media and Composition Institute, Ohio State University, June 2008.

Brown School Senior Research & Culminating Projects Boards, Mentor/Advisor, 2007

Intern Director for the Louisville Writing Project, June-July 2007

English Graduate Organization, Executive Board, 2006-2007

Co-director for and presenter at Fall and Spring Louisville Writing Project Mini-conferences 2006-2007

English Graduate Organization, Book Sale Committee Co-chair, 2006-2007

Facilitator of grant-funded Study Group for the Louisville Writing Project, Spring 2007

Intern Director for the Louisville Writing Project June-July 2006.

English Graduate Organization, Graduate Student Representative to the Faculty, 2005-2006
Co-director for and presenter at Fall and Spring Louisville Writing Project Mini-conferences 2005-2006

Contributing member of a professional writing group funded by grant from the Western Kentucky Writing Project, Spring 2005

Western Kentucky University English Department's Composition Committee, Spring 2003 and Spring 2004

Assisted with planning and implementation of the Western Kentucky University's 2nd Annual Undergraduate Literature Conference, May 2003

PROFESSIONAL MEMBERSHIPS

National Council of Teachers of English

The Association for the Study of Literature and Environment

GRANT WRITING

Grant Writer for Phoenix House of Bowling Green (Recovery and Housing Program for Women Recovering from Substance Abuse and their children)

United Way of Southern Kentucky \$22,000 for salary and benefits for full-time case manager, February, 2003

United Way of Southern Kentucky \$10,000 for salary and benefits for full-time case manager, February 2002

Kentucky Housing Corporation \$10,000 bricks and mortar project

Bowling Green Warren County Community Foundation \$5000

Bowling Green Warren County Enterprise Zone \$2500

Bowling Green Warren County Enterprise Zone \$2500

Grant to Kentucky Council for the Arts for Potter-Gray Elementary for a three-month Artist-in-Residence

ADDITIONAL EMPLOYMENT HISTORY

October, 1988—August, 1992.

Nashville Memorial Hospital, Madison, TN.

Pediatric/ENT Floor Nurse, ICU Stepdown/CCU

floor nurse, Office Nurse for Dr. Arthur Cushman,

Neurosurgeon, Cardiac Rehabilitation Education

Nurse, Basic Life Support Instructor and Advanced

Cardiac Life Support Instructor