

NRM 101  
Student Study Guide for Part I of  
*A Sand County Almanac*

I have only typed my notes through page 96, but these might help familiarize you with some of the terms and concepts in the book. Additions, corrections and suggestions are welcome.—Susan Todd

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Leopold was not a "tree-hugger." He advocated restraint more than preservation. He understood that in order to survive, all living things change their environment. He was a forester who enjoyed hunting and fishing and cutting trees for firewood (*before* the chainsaw was invented!). Like his father, he loved camping, canoeing and backpacking. He witnessed the world changing from one big wilderness with a few people to one big mass of humanity with a few "fly-specks" of wilderness.

There are no more profound essays about the natural world than these. They glow with the simple joys of tracking a field mouse, watching the woodcock's mating dance, and gaining courage from tall pines in December. We get to share the thrill he felt when he saw his first Sandhill cranes and we experience his sense of wonder. But there is sadness here also, as he witnessed more and more of his beloved wild places and "wildlings" disappearing.

Leopold's skills as a writer, forester, ecologist, scientist, philosopher and patient observer are unequalled. His simple words, chosen with the artistry of a poet, help us experience his musings as if we were there beside him, observing the world at daybreak. But he does more than help us see the world with fresh, observant eyes, he helps us appreciate its complexity and its many values that remain "as yet, uncaptured by language."

Many lament that Leopold did not live to write more. Others have asked, "What more do we need?"

### Foreword

ix. Leopold writes, "Perhaps such a shift of values can be achieved by reappraising things unnatural, tame and confined in terms of things natural, wild, and free." Thus we learn that his goal in writing the book is to bring about a *shift in values*. Do you agree that such a shift is needed?

### Part I. "Shack sketches" Leopold calls them.

#### General Questions on Part I

What adjectives would you use to describe Part I?

One lesson in Part I is humility. A sense of wonder in the *little* things. He is helping us to *see*, not only in the sense of becoming more observant of the life around us, but also more observant of human nature. We learn about human nature through the actions of mice, grebes, plovers and dogs. We learn that small things like mice, Draba and chickadees, play important roles in ecosystems. Don't let these "cute" little essays fool you—there is considerable science carefully woven into them!

In Part I we also begin to learn the larger lesson that we are but a tiny piece of the "the land organism." Leopold comes across as humble and self-effacing, rather than as a great, innovative scientist.

What emotions do the Part I essays evoke?

Leopold has a subtle sense of humor. List examples.

Time, in Part I, is in terms of the months of the year=time on a *human* scale. This changes in Part 2.

Are the Part I essays fables (fable="a moral tale with animals as characters") or parables that use human terms, emotions, motives, characteristics to teach us about nature? Analogy is said to be the primary way we learn; by drawing parallels with what we already know. How is Leopold using this technique?

What sort of person does Leopold seem to be? What gives you this impression?

What is a metaphor? Give examples of Leopold's use of metaphor. Leopold knew that metaphor is not the normal language of a scientist (he was adept at writing both styles). Why did Leopold use so many metaphors in this book? Leopold was a fan of the German writer Goethe, who said "all things are metaphors." What do you think Goethe meant? Do you agree?

Why does he use so many anthropomorphic metaphors?

p.48 "we grieve only what we know first hand." Like friends or pets, we come to know the personalities of different species. He tells us how he "came to *know Silphium*," an amazing flower somewhat like a sunflower. What species do you *know* in this sense?

What morals is he discussing? What if there were no morals in the tale? Would we be less likely to identify with it; to learn from it? Is this why he uses so many metaphors?

Notice the titles and ask yourself why he chose these. Some, like "January Thaw" are easy to understand, but others, such as "GOOD Oak" are more subtle. Why do you think he called it a "good" oak? Why "*Great Possessions*"? (this was Leopold's favorite essay and at one time his chosen title for the book).

#### Questions on specific essays in Part I

##### "Good Oak"

1<sup>st</sup> 3 paragraphs p.6. Spiritual dangers in not owning a farm. Why are these spiritual dangers? What does it matter if we don't know where breakfast or heat comes from?

3<sup>rd</sup> paragraph, p.7 "thus it lived to garner eighty years of June sun. It is this sunlight that is now being released...to warm my shack." P. 8 lightning put an end to "wood-making" by the oak. These are basic lessons of ecology and survival any farm kid would know, but urbanites no longer understand.

p. 9. Read the two paragraphs "We mourned..." and "We let the dead veteran..." out loud. What points does he want us to come away with from these two paragraphs? "Fragrant little chips of history spewed from the saw...piles of sawdust were *something more* than wood;

“they were the integrated transect of a century...decade by decade, into the *chronology* of a lifetime, written in concentric annual rings of good oak.” Make oak human-like, draws larger lessons from a simple pile of sawdust. Talks about “chronology.” This word or concept comes up again and again throughout the book. Why does he emphasize this? Why does he feel it is important for conservation?

- p.10 “alphabetical conservation” refers to the many agencies of the New Deal in the 1930s, such as the CCC (Civil Conservation Corps) and the WPA (Works Progress Administration) and Soil Conservation Service (SCS).
- p.11 “while one definition of goodness [was written] in the law books, fires were writing quite another one on the face of the land.” Fires do not obey human laws and because we did not have active forestry to cut out dead wood and/or thin the trees, fires would “clean” it for us.
- p.12 Top. Through many extinctions and other environmental calamities, we have “the usual annual ring of oak.” What effect does this have? What is Leopold’s opinion of human activities during this period? What point is he trying to get across—to what end?
- p. 13 “game of wheating land to death” and “sand-blow had origin in over-wheating.” Wheat is an annual crop, hard on soil; it doesn’t hold soil like native perennial grasses.
- p.15 “1860’s when thousands died to settle the question: Is the man-man community lightly to be dismembered?” What war is he alluding to? Leopold refers to our culture as the “man-man community” to highlight that humans are NOT the ONLY community. Then he draws a parallel with man-land community and essentially asks if that is also “lightly to be dismembered.”
- p. 15 bottom of page. John Muir wanted to buy his home farm to make it a sanctuary for the wildflowers that had “gladdened his youth.” Is nature important to aesthetics, joy, even mental health? How would Leopold answer this question? How would you answer it?

P17 bottom. Read out loud in discussion session: “These things I ponder...” The cycle is completed and “will come back to me again, perhaps as red apples...” or a squirrel who “for reasons unknown to himself, is bent on planting acorns.” What point is Leopold trying to make here?

Why was it a “good” oak?

### “The Geese Return”

- p.20. “sad, widower geese.” “The seasoned ornithologist knows, however, that such subjective interpretation of bird behavior is risky. I long tried to keep an open mind on the question...” continue through “It is not often that cold-potato mathematics thus confirms the sentimental promptings of the bird-lover.” Explain how Leopold and his students discerned that these really were bereaved geese. Is Leopold unprofessional when he says “He felt free to grieve with the lone honkers?”

Biology and resource management students refer to the attribution of human characteristics to nonhuman creatures or things as “anthropomorphizing.” Literature students, on the other hand, call it “personification.” Why are science students discouraged from anthropomorphizing about the objects of their study?

Should we follow our own such sentimental promptings about the natural world? Some argue that if resource managers and biologists do so, they will interpret everything just through human eyes and experience. Others claim that such a lack of emotion transforms resource managers into automatons who would simply document the disappearance of a species without doing anything about their decline. What are the pros and cons of such sentimentality? Should resource managers be discouraged from being passionate about the resources they manage?

P.23 The last paragraph before “April” starts “By this international commerce of geese, ... A barter of food for light, the whole continent receives as net profit a wild poem dropped from murky skies upon the muds of March.” This is a wonderful lesson in ecology in one beautiful paragraph. What is the lesson? What do you think of this as a way to teach ecology?

“April”. P.25 A board is a kind of *literature*? A farm is a library? Why these metaphors? Why does he use metaphors that refer to reading and books?

“Draba” p.26. Shortest of the essays, some of Leopold’s friends felt it should be omitted. Should this one have been omitted as they suggested? Is there an ecological message of any importance here? Photo of this unappreciated flower below.



*Draba*

“Sky Dance” p.30. Imagine this essay in the form of a scientific article. How would it be different? How would it be the same? Would one be “better” than the other? For photos of the woodcock, recording of his song and a video of the Sky Dance (I can’t open it, but perhaps some of you can) see <http://www.junglewalk.com/frames.asp>. Search for woodcock.

“Great Possessions” p. 41 This was Leopold’s favorite of the essays and his choice of title for the book. The essay depends on him as a common man, a phenologist (look up PHENOLOGY on the web), lover of land, a man in search of harmony and connection with the natural world. “My emblems of sovereignty, a coffee pot and notebook.” What a way to say he is rich as a king!

p. 43 top. How many birds can you recognize just by their calls? How many can you recognize by sight?

p.43 middle. His dog plays role of ignorant humans who think “any illiterate bundle of feathers can make a noise in a tree.” It’s funny, but it is a quick and gentle lesson. We end up looking down on the ignorant dog (and other species) that do not appreciate the song. Leopold preaches indirectly, which is very effective. How would

the reader feel if he said “some people think any illiterate bundle of feathers...”

“**Prairie Birthday**” p. 44. *Silphium* looks like a tall yellow daisy. It’s very tall, over 6 feet, and there are many species in the genus. Leopold kept detailed phenology records of local species, weather, bloom dates, etc. Have you ever kept track of such things over several years, such as the first robin you notice each year, the first blooming fireweed, the last Sandhill crane... What, if any, value do such records have?

“**Smoky Gold**” note that there is a big tamarack on the east end of the UAF botanical gardens that is a dramatic gold color every fall.

p. 62 **Red Lanterns**. Is it possible that hunting makes one more observant than hiking? Discuss.

Pg.67. **Axe in Hand**. What biases do you have in trees and other species?

Pg. 68. Leopold says that the view from treetops helps determine which tree, if any, needs felling “for the good of the land.” How could felling a tree be good for the land?

His definition of conservationist—“one who is humbly aware that we are writing our signature on the face of the land.” How many of us are aware of this? If we were, would it make a difference in how we treated nature?

p. 69 “pine will live for a century; the birch half that.” How much do trees differ in life spans? How might this affect your definition of what an “old growth” tree is?

p. 71 Aspen will sprout from the stump. How many trees can do this? What is it called? What are the advantages and disadvantages?

p. 71-72. Habitat improvement ideas. Each animal clearly has ‘biases’ also. What happens when a farmer cleans out all this “worthless” brush?

p.73. **A Mighty Fortress**. Why refer to a host of diseased trees as a “mighty fortress?” A fortress protects something. What is this protecting?

He refers to “a seed stock of coons.” What does this mean? How does this relate to sustained yield?

How many species of plants and animals are listed in this chapter? Try writing an essay with this many species and have it sound more like a story than a list.

p.77. “Dead trees are transmuted into living animals and vice versa.” A profound and obvious truth, yet how many Americans really believe it? Would we behave any differently if we did?

p.77 He mentions the prothonotary warbler. Have you seen one? Did you look it up to see what it looks like? Do you own a field guide to birds? What field guides (such as guides to flowers, tracks, rocks, plants, etc) do you own—or would you like to own? Do you know the common mammals, birds, butterflies, animal tracks, plants and rocks of your area? Is it important to know these? Why/why not?



**Prothonotary Warbler**

Is the study of natural history of any use in today’s world?

p.82 “whoever coined the name [candle] had subtlety in his soul.” What does he mean?

p.83 “that dark laboratory we call the soil.” Why refer to it as a “dark laboratory?” Is this accurate?

p.84 Bottom. Shade is generally an “adversity” for pines, but it does help avoid weevil damage. If you wanted to grow pines, would you plant them in sun or shade? Do most of the crops we grow prefer sun or shade? What are the implications of this?

p. 85 “marriageable age” of pines. Jack pines bloom and bear cones in a year or two, while others require 10 to 20 years. What does this mean for someone who wants to grow these different species? Which pine would you expect to have the advantage and why?

p.86 “young white pines grow best in the absence of their parents.” Why would that be? What does this tell you about regenerating white pines? What will they need?

Are pines really “evergreen?”

The dominant conifer in Fairbanks is spruce. What is the difference between pine and spruce? It bothers me when people call them pines. Should it?

p.87 “at such times I feel a curious transfusion of courage.” Have you ever felt a “transfusion of courage” from trees? from other wild species or natural places? Is this an important benefit of natural areas? Studies of hospital patients find that those with a view of natural areas recover faster than those with a view of buildings and traffic. Likewise, students with views of trees appear to get higher grades. Are these just coincidences? To what extent do humans need natural areas?

A friend recently told me that he is not worried about polar bears going extinct because, “We can live without polar bears.” Do you agree? Why or why not?

p.88 Banded birds. China has few songbirds; most are trapped in nets for food. My Chinese friends marvel at the number of birds here and that people *feed* them, but don’t *eat* them.

Why so many references to “time” and “history” and nature as a “history book?” What difference does the historical perspective make? Why does he feel this is important for conservation?

What ecological lessons does he give in Part I that call for changes in standard management practice? To what extent have these changes occurred? Was he right about the need for change?

If you had to name the theme of Part I, what would it be?

What do you think is the overall effect of Part 1 on *most* readers? What accounts for this effect? What effect did it have on you? Explain any differences.

**Part II. SKETCHES HERE AND THERE:**  
***A Vision Quest?***

Leopold's first potential publishers did not like Parts 2 and 3—“no one wants to read stuff like that;” they wanted him to write more essays like those in Part 1. What would we have lost had he listened to them? Which parts do you like best?

What changes are evident in the first 3 paragraphs on page 95 compared to *all* the essays in Part I? What changes in time, subject, voice, tone, word choice, verb tense, etc. can you detect? What effect do these have on the reader? How would the effect differ if Part I were omitted?

In Part 2, Leopold stuns us awake with a grand sweep of millennia, images of ice (very different from mice and oaks), and words like “cold” and “elegy.” He changes from present tense to past tense, from local to regional, from the specific to more general, from first person to first person plural (we, our, you), from *descriptive* essays to increasingly *prescriptive* (what is the difference?). In doing so, he helps us follow his own progression from observation and description to a need to change our relationship with the natural world.

For recordings of the wonderful trumpeting call of the Sandhill crane, search for the species on <http://www.junglewalk.com/frames.asp>

What is the theme of Part II?

In his introduction to this edition (page xxvii), Robert Finch calls Part II a “sojourn in a wilderness of loss, ignorance and self-education” (pg. xxviii) “What [Leopold] sees as necessary to full understanding of who and where we are in the universe—a reunification of poetry and science.” “Becoming whole through his understanding of and relationship with his natural surroundings.”

Why seek a “reunification of poetry and science?” How could this help solve environmental problems?

**p. 95 Marshland Elegy**

According to Merriam Webster, an elegy is 1) a: song or poem expressing sorrow or lamentation especially for one who is dead b: something (as a speech) resembling such a song or poem; 2) a: a pensive or reflective poem that is usually nostalgic or melancholy.

Only 25 breeding pairs of Sandhill cranes were left in Wisconsin when Leopold wrote this. Their recovery did not begin in earnest until the 1970s, and today thousands of cranes pass through the state. Cranes as a group, however, are not faring so well.

Sandhill cranes are members of the oldest family of birds still in existence—they date back to the Eocene. Leopold was aware of this. How does he use this fact in the essay? What effect does it have on the reader?

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Cranes have strong symbolic meaning in many cultures.

**From the International Crane Foundation:**

Cranes are a family of birds that have long been revered by people living near them. In Japan, the cranes are honored as symbols of long life and a happy marriage. In Viet Nam, cranes are believed to carry the souls of the dead to heaven. In North America, Africa, and Australia, native inhabitants have incorporated the crane's graceful movements into their own dances and regard cranes as auspicious symbols.

Cranes have inhabited this earth for the last 34 to 50 million years. Although cranes enjoy a widespread existence (they live on five of the seven continents), many populations are declining due to habitat loss and unregulated hunting. *Seven of the species are currently designated as endangered and four others have been proposed for listing.*

The ICF works worldwide to conserve cranes and the wetland and grasslands communities on which they depend. (<http://www.savingcranes.org>)

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The Eocene epoch is part of the Tertiary Period in the Cenozoic Era, and lasted from about 54 to 38 million years ago (mya). The oldest known fossils of most of the modern orders of mammals appear in a brief period during the Early Eocene and all were small, under 10 kg.

p.96 “values as yet uncaptured by language.” What is he referring to? In the Hindu religion, the spirit of creation is said to be something that “cannot be captured by language.” Is Leopold referring to a spiritual value?

Leopold refers to the crane as “wildness incarnate” and a “symbol of our untamable past, of that incredible sweep of millennia which underlies and conditions the daily affairs of birds and men.” How could the great sweep of millennia condition *our* affairs?

—The following paragraph is from The Wilderness Society's Web Page, about Leopold's most famous essay and the last one in the book: “The Land Ethic”

**A Guiding Light Still Burning Bright** from The Wilderness Society web site, <http://www.wilderness.org>

“In 1949, America was introduced to *A Sand County Almanac*, a remarkable book that would forever change the way many of us think about the land. In 1948, its author, Aldo Leopold, a professor of wildlife management at the University of Wisconsin in Madison and a founder of The Wilderness Society, died. Fifty years later, The Wilderness Society honors the man and his book. In response to the relentless destruction of the landscape, *A Sand County Almanac* redefined the relationship between humankind and the Earth. It described a groundbreaking concept Leopold called a land ethic. This notion has inspired millions to protect our environment, and countless more to live more lightly on the land. The Wilderness Society has a special relationship with Leopold; he was a founder and the first president.

**Structure of the book as a whole:**

In his essay, “Anatomy of a Classic,” John Tallmadge says that all of the essays in the book point to the same core truth, but they move from the concrete (but symbolic) in Part I, to the general/regional in Part II, and finally to the abstract and philosophical in Part III. Do you agree that all the essays point to the “same core truth?” Is so, what is this truth?

**Comparison of the Three Parts of *A Sand County Almanac***

	<b>Part 1</b> <b>“Sand County Almanac”</b>	<b>Part2</b> <b>“Sketches Here and There”</b>	<b>Part 3</b> <b>“The Upshot”</b>
<b>Time:</b>	Present tense. Opens with “cycle of beginnings and ceasings which we call a year.” A pleasant and very personal essay.	Past tense. Opens with the great marsh, takes us back to the ice age that created it. Time is discussed in eons and millennia, not months. Impersonal.	Recent past and future.
<b>Place</b>	Specific, local: His farm.	Regional: “Wisconsin,” “Manitoba”	Abstract and philosophical, beyond time and place
<b>The author is:</b>	Landowner	Member of the “land community”	Moralist
<b>Voice</b>	Personal, uses first person singular “I”, unassuming, not judgmental, we identify with him	Collective “we, you, our” He admits his own change of heart in “Thinking Like a Mountain,” which lends credibility to his conclusions.	Both first person and collective; reader wants to be part of his team.
<b>Members of land community</b>	Introduces the “members” of the land community	Generalizes from them	Leads from members of the community to major concepts and need for change in values.
<b>Themes</b>	How to “read” the land; respect for small things; learning to live humbly, with courtesy and restraint.	Environmental Loss. Is this a vision quest, where the protagonist goes on a journey seeking wisdom?	The need to change our philosophy toward land.
<b>Subjects</b>	Meadow mice, <i>Draba</i> , oak and pine trees, and one special chickadee. The pretty, the charming, the curious.	-Cranes, a symbol of wildness, longevity, an honored messenger, a guide to heroes on their quests. -Ghosts of the passenger pigeons.	Science, conscience, ethics and values.
<b>Description vs. prescription</b>	<b>Descriptive</b> , minute details, nonjudgmental	<b>Prescriptive</b> , judgmental “overgrazing” “misuse” “mindless destruction.” Puts details into perspective. Calls for changes in standard mgmt practice.	Prescriptive: Calls for change in values; a change in society’s relationship to the natural world.

\* For an excellent discussion of how the book was written, see “The Making of A Sand County Almanac” by Dennis Ribbens in *Companion to A Sand County Almanac*, J. Baird Callicott, Editor, p. 91-109. Madison: University of Wisconsin Press. 1987.