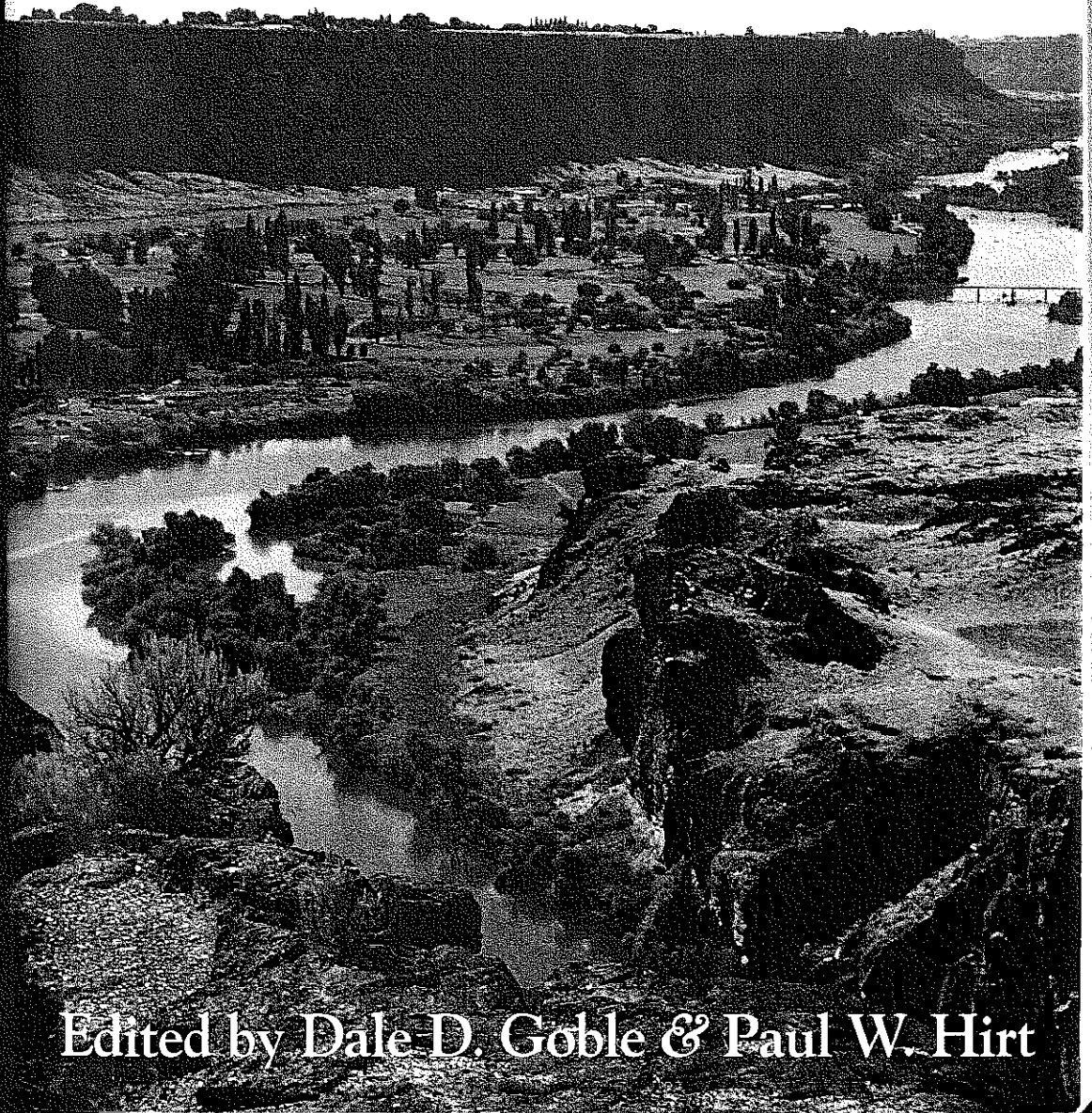


#62

Northwest Lands, Northwest Peoples

Readings in Environmental History



Edited by Dale D. Goble & Paul W. Hirt

Northwest Lands, Northwest Peoples

READINGS IN
ENVIRONMENTAL HISTORY

EDITED BY

Dale D. Goble and Paul W. Hirt

University of Washington Press

SEATTLE AND LONDON

This book has been published
with the assistance of a grant from
the Sherman and Mabel Smith Pettyjohn Fund,
Washington State University.

Copyright © 1999 by the University of Washington Press
Printed in the United States of America

All rights reserved. No portion of this publication may be reproduced or transmitted
in any form or by any means, electronic or mechanical, including photocopy,
recording, or any information storage or retrieval system, without permission in
writing from the publisher.

Library of Congress Cataloging-in-Publication Data
Northwest lands, northwest peoples : readings in environmental history
/ edited by Dale D. Goble and Paul W. Hirt.

p. cm.

Includes index.

ISBN 0-295-97839-2 (alk. paper). — ISBN 0-295-97838-4 (pbk. : alk. paper)

1. Northwest, Pacific—Environmental conditions.
2. Human ecology—Northwest, Pacific.

I. Goble, Dale. II. Hirt, Paul W., 1954-

G155.N75N66 1999 99-27118

333.7'13'09795—DC21 CIP

The paper used in this publication is acid-free and recycled from 10 percent post-
consumer and at least 50 percent pre-consumer waste. It meets the minimum
requirements of American National Standard for Information Sciences—
Permanence of Paper for Printed Library Materials, ANSI Z39.48-1984.



lished
ant from
ettyjohn Fund,
ersity.

Washington Press
America

y be reproduced or transmitted
nical, including photocopy,
stem, without permission in
r.

blication Data
n environmental history
l W. Hirt.

7838-4 (pbk. : alk. paper)
al conditions.
, Pacific.
, 1954-
-27118
CIP

ecycled from 10 percent post-
ste. It meets the minimum
Information Sciences—
als, ANSI Z39.48-1984.

Contents

Preface ix

PAUL W. HIRT AND DALE D. GOBLE

1 / Setting the Pacific Northwest Stage: The Influence of the Natural Environment 1

ERIC C. EWERT

PART I: THIS PLACE 27

2 / Place: An Argument for Bioregional History 31

DAN FLORES

3 / A Natural History of the Puget Sound Basin 51

ARTHUR R. KRUCKEBERG

4 / From Where We Are Standing: The Sense of Place and Environmental History 79

WILLIAM L. LANG

5 / Willamette Eden: The Ambiguous Legacy 95

WILLIAM G. ROBBINS

6 / Footprints and Pathways: The Urban Imprint on the Pacific Northwest 111

CARL ABBOTT

Contents

PART II: FIRST PEOPLES 125

- 7 / Salmon, Sedentism, and Cultivation: Toward
an Environmental Prehistory of the Northwest Coast 129

DOUGLAS DEUR

- 8 / Mobility as a Factor Limiting Resource Use
on the Columbia Plateau 156

EUGENE S. HUNN

- 9 / Unusual Gardens: The Nez Perce and Wild Horticulture
on the Eastern Columbia Plateau 173

ALAN G. MARSHALL

- 10 / Megafauna of the Columbia Basin, 1800-1840:
Lewis and Clark in a Game Sink 188

PAUL S. MARTIN AND CHRISTINE R. SZUTER

- 11 / Land Divided: Yakama Tribal Land Use
in the Federal Allotment Era 205

BARBARA LEIBHARDT WESTER

PART III: RIVERS 227

- 12 / Salmon in the Columbia Basin:
From Abundance to Extinction 229

DALE D. GOBLE

- 13 / The Northwest's Hydroelectric Heritage 264

MICHAEL C. BLUMM

- ✓ 14 / Fish First! The Changing Ethics
of Ecosystem Management 295

CAROLYN MERCHANT

Contents

PART IV: AGRICULTURE 309

15 / Ecological Influences of the Introduction of Livestock
on Pacific Northwest Ecosystems 313

KATHLEEN A. DWIRE, BRUCE A. MCINTOSH,
AND J. BOONE KAUFFMAN

16 / Environmental Change in the Northern Rockies:
Settlement and Livestock Grazing
in Southwestern Montana, 1860-1995 336

WILLIAM WYCKOFF AND KATHERINE HANSEN

17 / Creating a Hybrid Landscape:
Irrigated Agriculture in Idaho 362

MARK FIEGE

18 / Cultural Perceptions of the Irrigated Landscape
in the Pacific Northwest 389

DOROTHY ZEISLER-VRALSTED

PART V: FORESTS 411

19 / Human and Ecological Change
in the Inland Northwest Forests 415

NANCY LANGSTON

20 / Getting Out the Cut:
A History of National Forest Management
in the Northern Rockies 437

PAUL W. HIRT

21 / Changing Forests, Changing Needs:
Using the Pacific Northwest's Westside Forests,
Past and Present 462

THOMAS R. COX

Contents

PART VI: MINING 477

22 / Mining, Environment, and Historical Change
in the Inland Northwest 479

KATHERINE G. MORRISSEY

23 / Western Smelters and the
Problem of Smelter Smoke 502

KATHERINE AIKEN

Epilogue: Environmental History
and Human Perception 523

WILLIAM DIETRICH

Contributors 529

Index 535

est *Journal of Environmental Law*
at between 1980 and 1996 BPA
ich were conservation measures).
3,619 (Snake River sockeye listed
): 14,653 (Snake River chinook
18, 1994): 42,529 (Snake River

ond the Parity Promise," 39-40.
mal *Marine Fisheries Service*, 850
rt for Oregon, 1994); *Northwest*
ing Council, 35 *Federal Reporter*
1994).

ond the Parity Promise," pp. 49-

s Service, Civ. no. 96-384-MA

ie River: *Restoration of Salmonid*
ation copy, 1996), discussed in
ty Promise," pp. 112-17. On the
Laird J. Lucas, Don B. Miller,
River Water and Salmon Simul-
e for Breaching the Lower Snake
Restoring Natural River Flows,"

ating the, hydroelectric system
ration (which is a product more
n and wildlife costs were roughly
ie agency's failed nuclear power
ous years of \$600 million, due to
with, "Beyond the Parity Prom-

izing pursuit of "minimum cost
nd biological alternative").

14 / Fish First!

The Changing Ethics of Ecosystem Management

CAROLYN MERCHANT

"Fish first!"—the slogan has many possible meanings. Is it the most important thing for the individual fisher, for example, to take fish first above every other consideration? Or should fish be caught first for the good of society and only secondarily for the good of the individual? Should the fish themselves come first before all human considerations? Do humans or fish or both have rights? Under what circumstances do fish win by being at the table rather than on the table? Each alternative reading entails a particular approach to management, and each form of management entails an underlying environmental ethic. These approaches may be illustrated by the history of changing policies, ethics, and management strategies for fisheries in the Pacific Northwest from the nineteenth century to the present. By identifying the ethical approaches underlying earlier policies, we can formulate grounds for new ethics to guide future policy and management choices.

The first Euro-American fishery in the Pacific Northwest began in 1823; it was based on the trading and marketing of chinook salmon. Until the 1880s the fishery was marked by the progress of the laissez-faire market economy.¹ Laissez-faire capitalism was rooted in the "egocentric ethic," which pertains to individual fishers' or fishing companies' taking fish from the rivers and seas (see fig. 14.1). An unregulated fishing economy, managed by individual and corporate fishers and based on the freedom of the seas, developed as the West Coast was settled in the nineteenth century. Individual humans had rights of ownership over individual stocks of fish.

FIG. 14.1

Egocentric Ethics: Self

Maximization of Individual Self-Interest:

What Is Good for the Individual Is Good for Society as a Whole

Mutual Coercion Mutually Agreed Upon

Philosophers of Self-Interest

- Thomas Hobbes
- John Locke
- Adam Smith
- Garrett Hardin

Religious Traditions

- Judeo-Christian Ethic
- Arminian "Heresy"

The basic ethical, economic, and policy assumption behind the egocentric ethic was that what is good for the individual is good for society as a whole.²

A second assumption behind the egocentric ethic (and the industrial development and management that reflected it) was that the fisheries were inexhaustible. If one particular fishery lost its productivity and profits declined, fishers could move on to another fishing ground, leaving the first to recover.³

A third assumption of the laissez-faire economic approach and its underlying egocentric ethic was that fish were passive objects. Fish were treated like the gold nuggets that had been discovered in California, serving as the coin of trade.⁴ As passive resource objects that could be extracted from the state of nature, they could be turned into profit. They were not living beings possessing individual spirits; they were entities of lesser value.

The policy of taking fish from the commons—that is, from the state of nature treated as a commons for everybody, as a free-for-all—has been characterized by environmental historian Arthur McEvoy as the "fisherman's problem."⁵ This is the idea of the "tragedy of the commons," popularized by ecologist Garrett Hardin: fishing by individuals for profit degrades the environment.⁶ When fishing is done competitively to produce marketable surpluses, there are powerful incentives to overfish, especially under common property regimes. When resources are owned in common but used competitively, each individual fisher gains by taking an additional fish while the degradation of the commons is shared by all. Hardin's characterization of the "tragedy of the commons" led him to propose extremely tight, coercive regulation—"mutual coercion, mutually agreed upon"—as a solution. His solution, based on the assumption that human beings are an economically maximizing species, ignored the cooperative actions of subsistence-oriented peoples both in medieval Europe and in native and colonial Amer-

ica.⁷ The indigenous peoples of the Columbia Plateau, for example, took salmon from the Columbia for at least 10,000 years without tragic results.

A fourth assumption of the laissez-faire approach to fisheries management was that the fish themselves, once extracted from the commons, were private property—a bundle of human rights and privileges in relation to a thing. These ideas were given their classical shape by the seventeenth-century political philosophers Thomas Hobbes and John Locke. For Locke, private property was created by mixing one's labor with the soil.⁸ Similarly, in the very act of mixing your labor as a fisher with the seas to extract a fish, you create ownership of the fish that are caught. Human property rights take precedence over the rights of fish to continue to exist.

Barbara Leibhardt Wester has proposed an interesting comparison between Western culture's notion of private property as a bundle of human rights and privileges and the Yakama Indian Nation's understanding of a sacred bundle of relationships and obligations between humans and other organisms, such as fish.⁹ The Western idea of property stems from the Roman notion of fasces, bundles of sticks carried by Roman lictors as symbols of authority, power, and justice. This notion was exemplified most blatantly in modern times by the use of a bundle of sticks as emblem of the Italian fascist regime of Mussolini.¹⁰ By contrast, the Yakama believed that there were sacred bundles of magical objects given to individuals by guardian spirits. These bundles were defined not as rights and privileges as in the Western system but as relationships and obligations to other human beings, to the tribe, to nature, and to the spirit world. The difference between the Yakama's bundle of relationships and capitalism's bundle of egocentric rights is the basis of the tragedy of the commons. Thus, under laissez-faire capitalism a very different ethic replaced the Native American belief system for managing the commons in the Pacific Northwest.

Nineteenth-century efforts to extract fish from the oceans and rivers and to export them as marketable commodities under the laissez-faire system led to a collapse of the fisheries on the West Coast. In the 1850s, the first gill nets were used on the Columbia River below Portland. Purse seines, traps, and squaw nets were added during the decades of the 1850s and 1860s. In 1879, fish wheels were introduced on the Columbia River; these were like Ferris wheels with movable buckets, attached either to a scow or to rock outcrops along the edge of the river. They operated day and night, scooping fish out of the river and dumping them into large bins on the shore to be packed and salted. By 1899, there were 76 fish wheels on both sides of the river. In 1866, the canning industry began operating on the banks of the Columbia near

Eagle Cliff, Washington; by 1883, there were 39 canneries shipping to New York, St. Louis, Chicago, and New Orleans.¹¹

What were the consequences of unregulated fishing? In 1894, the Oregon Fish and Game Protector observed, "It does not require a study of statistics to convince one that the salmon industry has suffered a great decline during the past decades, and that it is only a matter of a few years under present conditions when the chinook of the Columbia will be as scarce as the beaver that was once so plentiful on our streams."¹² In 1917, John H. Cobb of the U.S. Bureau of Fisheries pronounced, "Man is undoubtedly the greatest present menace to the perpetuation of the great salmon fisheries of the Pacific Coast. When the enormous number of fisherman engaged, and the immense quantity of gear employed is considered, one sometimes wonders how any of the fish, in certain streams at least, escape."¹³

The solution of "mutual coercion, mutually agreed upon" (Garrett Hardin's approach) to this overfishing would have required extreme policing and strict laws leveled on the fisheries. The idea of a police state was certainly incompatible with the then-current notion of *laissez-faire* and with the idea of freedom of the seas. How, then, was the problem of the decline of the fisheries to be resolved? It was approached by the passage of laws and regulations that would help to manage the fisheries and the fluctuating fish populations.

The new approach exemplified a second environmental ethic, the utilitarian or homocentric ethic: human society first and fish second (see fig. 14.2). This ethic arose in the United States in response to problems of resource management. Responding to the fact that forests, along with fish, wild animals, and birds, were in decline during the nineteenth century, a movement developed to manage and conserve these resources for human needs. The homocentric approach stemmed from the utilitarian ethic of nineteenth-century philosophers Jeremy Bentham and John Stuart Mill.¹⁴ It was concerned with the questions, What is the social good, rather than the individual good? What is the public interest, rather than the private interest of the individual or corporation? The utilitarian approach to conservation ethics, as modified by Gifford Pinchot and W J McGee in the early twentieth century, was based on the concept of "the greatest good for the greatest number for the longest time" and on the idea of duty to the whole human community.¹⁵ But like the egocentric ethic, it gave precedence to the rights of the human species over those of nonhuman species. As applied to fisheries, homocentric ethics underlay the regulation of the *laissez-faire* market.

In the United States, the concept of legal limitation was set out by the Supreme Court, which in 1876 decreed that those businesses "affected with a

39 canneries shipping to New

d fishing? In 1894, the Oregon
not require a study of statistics
suffered a great decline during
of a few years under present
will be as scarce as the beaver
in 1917, John H. Cobb of the
is undoubtedly the greatest
great salmon fisheries of the
f fisherman engaged, and the
ered, one sometimes wonders
, escape.”¹³

ially agreed upon” (Garrett
ave required extreme policing
of a police state was certainly
issez-faire and with the idea of
of the decline of the fisheries
e of laws and regulations that
tuating fish populations.
ironmental ethic, the utilitar-
nd fish second (see fig. 14.2).
onse to problems of resource
rests, along with fish, wild
nineteenth century, a move-
e resources for human needs.
e utilitarian ethic of nine-
nd John Stuart Mill.¹⁴ It was
ocial good, rather than the
her than the private interest
an approach to conservation
McGee in the early twenti-
greatest good for the greatest
of duty to the whole human
ave precedence to the rights
species. As applied to fisher-
of the laissez-faire market.
itation was set out by the Su-
e businesses “affected with a

FIG. 14.2

Homocentric Ethics: Society

The Greatest Good for the Greatest Number for the Longest Time
Social Justice

Duty to the Human Community

Utilitarian

Religious

- | | |
|---------------------|------------------|
| • John Stewart Mill | • John Ray |
| • Jeremy Bentham | • William Derham |
| • Gifford Pinchot | • René Dubos |
| • Peter Singer | • Robin Attfield |
| • Barry Commoner | |
| • Murray Bookchin | |

public interest” could be regulated.¹⁶ Regulation entailed the utilitarian idea of cost-benefit analysis—that is, one must weigh both the benefits and the costs resulting from competing interests. For example, in California, the conflict between mining interests and farming interests, two groups that each had a stake in the quantity and quality of the water flowing out of the Sierra Nevada, was resolved by balancing the costs and benefits of the two groups. Natural resources such as fish were simply ignored; they were treated as externalities.

In the 1870s, California made fish and game state property to be regulated for the public good.¹⁷ The State Board of Fish Commissioners was created “to provide for the restoration and preservation of fish in the waters of this state.”¹⁸ The U.S. government participated in helping to manage and regulate fisheries through the creation of the U.S. Fish Commission. Its first director, Spencer Fullerton Baird, promoted research and development along the Pacific coast to determine the varieties of fish distributed in coastal waters and to map the places where they occurred in greatest abundance.¹⁹ The premise was that if one knew the numbers associated with particular species in a fishery, then one could manage the fishery according to the idea of “maximum sustainable yield.” These ideas were based upon the *logistic curve*, defined by Pierre Francois Verhulst in 1849. The curve was believed to reveal the carrying capacity, the maximum number of individuals that could be sustained without damage to the environment. The *fluctuation point* represented the level of maximum sustainable yield, basically one-half of the number of individuals at carrying capacity.²⁰ Fishers were to take only as many fish as the fish themselves reproduced in a given season.²¹

The idea of maximum sustainable yield embodied the homocentric ethic and was in accord with the rational balancing of costs and benefits that

characterized the conservation movement. During the late nineteenth and early twentieth centuries, fisheries employed the idea of maximum sustainable yield, but fish stocks continued to decline. Regulations were instituted in Oregon and Washington to control the technologies used. In 1877, for example, Washington closed the fisheries in March and April and again in August and September to give the fish a chance to reproduce. Oregon followed suit in 1878. The states also regulated the kind of gear that could be used. The mesh sizes of the nets were specified, and their use was limited to only a third of the width of the river. In 1917, purse seines were prohibited, and in 1948, size regulations were instituted, limiting catchable fish to those above 26 inches in length.²³

A bigger threat to the fisheries, however, began in the 1930s with construction of the first large dams along the Columbia River and its tributaries. Dams for hydropower and flood control are exemplars of the homocentric ethic with its utilitarian ideal and dedication to the public good. But this public good did not coincide with the good of fish. Fish ladders and elevators had only limited effects in sustaining fish migrations and failed to address the downstream migration.²³ The chief engineer of the Bonneville Dam initially proclaimed, "We do not intend to play nursemaid to the fish."²⁴ In 1937, George Red Hawk of the Cayuse Indians observed, "White man's dams mean no more salmon."²⁵ By 1940, the catch of Coho salmon amounted to only one-tenth of that taken in 1890, and Willis Rich of the Oregon Fish Commission noted that "the decline is well below the level that would provide the maximum sustained yield."²⁶ By 1948, the Army Corps of Engineers reported that although more than 300 dams had been built in the Columbia Basin, "only in a few instances has any thought been paid to the effect these developments might have had on the fish and wildlife."²⁷ The utilitarian or homocentric ethic was ineffective: the concept of "the greatest good for the greatest number for the longest time" still meant human society first and fish second.

By the 1950s, the homocentric ethic, although still powerful, began to give way to a third approach—the ecocentric ethic (see fig. 14.3). Aldo Leopold first formulated it as the "land ethic" in 1949.²⁸ The ecocentric ethic is based on the idea that fish are equal to other organisms—including humans—and therefore deserve moral consideration. As Leopold put it: "A thing is right when it tends to preserve the integrity, beauty, and stability of the biotic community. It is wrong when it tends otherwise."²⁹ We could expand his idea of the land ethic and call it a "land and water ethic." As such, "it enlarges the boundaries of the community to include soils, waters,

FIG. 14.3

Ecocentric Ethics: Cosmos

Rational, Scientific Belief-System Based on Laws of Ecology
 Unity, Stability, Diversity, Harmony of Ecosystem
 Balance of Nature

Eco-Scientific

- Aldo Leopold
- Rachel Carson
- Deep Ecologists
- Restoration Ecologists
- Biological Control
- Sustainable Agriculture

Eco-Religious

- American Indian
- Buddhism
- Spiritual Feminists
- Spiritual Greens
- Process Philosophers

plants, and animals [including fish] or collectively: the land."³⁰ It changes the role of *Homo sapiens*, Leopold said, "from conqueror of the land community to plain member and citizen of it."³¹ There is an intrinsic value to all living and nonliving things; all have a right to survive. Fish, as well as humans, have rights and can even have standing in a court of law.

The idea that began to emerge in the 1950s and 1960s was that fish themselves had a right to survive and that one should cooperate with each stock's own strategy for survival. The interaction between harvesting, environmental change, and cooperation with the species' own survival strategy reflected the new ecocentric approach to management. The conclusion that arose from such ecological considerations was that "the benefit to the nation occurs by leaving the fish in the ocean."³² This was a policy of fish first and people second, or fish for the sake of the fish.

The idea of "optimum sustainable yield" (a modification of maximum sustainable yield) was developed in conjunction with the ecocentric approach to management. The optimum level of harvest was the level that could be obtained indefinitely without affecting the capacity of the population or the ecosystem to sustain the yield. The optimum yield was the maximum sustainable yield as modified by any relevant economic, social, or ecological factor.³³ Endangered species must be taken into consideration, and there must be limited entry to the fisheries. The idea of freedom of the seas was challenged. Both the Marine Mammal Protection Act of 1972 and the Fisheries Conservation and Management Act of 1976 were based on the idea of maintaining the health and stability of marine ecosystems with the goal of obtaining an optimum sustainable population.³⁴

What problems arise from this ecocentric approach? One is that the idea of optimum sustainable yield retains certain assumptions. It is based on the idea, current in the 1960s and 1970s, that ecology reflects the balance of nature.³⁵ It retains the assumptions that the fish population will follow the classical logistic curve, that there is a fixed carrying capacity, that there is an absolute maximum sustainable level, and that nature left undisturbed is constant and stable. These are the classical assumptions of the concept of the balance of nature, which was the motivating inspiration behind the ecocentric ethic and the environmental movement of the 1970s.³⁶

But the notion of the balance of nature has recently been questioned by ecologists (particularly population ecologists) and by proponents of the ideas of chaos theory and complexity theory.³⁷ Chaos theory questions the idea of the constancy and stability of nature, the idea that every organism has a place in the harmonious workings of nature, the idea that nature itself is fixed in time and space—like the environment in a petri dish in a modern scientific laboratory—and the idea that the logistic curve is a permanent and final explanation.

The ecologist Daniel Botkin has proposed the concept of discordant harmonies as an alternative to the idea of the balance of nature. Botkin says that we must move to a deeper level of thought and "confront the very assumptions that have dominated perceptions of nature for a very long time. This will allow us to find the true idea of a harmony of nature, which, as Plotinus wrote so long ago, is by its very essence discordant, created from the simultaneous movements of many tones, the combination of many processes flowing at the same time along various scales, leading not to a simple melody, but to a symphony sometimes harsh and sometimes pleasing."³⁸

The idea of discordant harmonies, the notion of the complex and chaotic behavior of nature, and the conclusion that natural disturbances are equally and in many cases more important than human disturbances have led to a wholesale questioning of earlier approaches—not only the egocentric and homocentric but even the ecocentric approach—to environmental ethics and ecosystem management.³⁹

The three dominant forms of environmental ethics, therefore, all have conceptual shortcomings. Egocentric ethics—reflecting narcissistic, cutthroat individualism and competition among individual and corporate fishers—privileges not only people over fish but also, among humans, the few at the expense of the many. Homocentric ethics privileges human majorities at the expense of minorities, to the extent of encompassing environmental racism

FIG. 14.4

Partnership Ethics: People and Nature

The Greatest Good for the Human and Nonhuman Communities
Is in Their Mutual Living Interdependence

- Equity between the human and nonhuman communities
- Moral consideration for both humans and other species
- Respect for cultural diversity and biodiversity
- Inclusion of women, minorities, and nonhuman nature in the code of accountability
- Ecologically sound management is consistent with the continued health of both the human and nonhuman communities

and the subjugation of Indian fishers. Ecocentric ethics privileges the whole at the expense of the individual; it has even been called a sort of holistic fascism that gives precedence to fish over people.⁴⁰ Moreover, egocentric and homocentric ethics are often lumped together (by deep ecologists, for example) as anthropocentrism. But the anthropocentric/nonanthropocentric approach masks the role of economics, particularly the role of capitalism, placing the onus on human hubris and domination rather than on the capitalist appropriation of both nature and labor. Similarly, this approach fails to recognize the positive aspects of the social justice approach of homocentric ethics. The ecocentric approach of many environmentalists, however, suggests the possibility of incorporating the intrinsic value of nature into an emancipatory green politics.⁴¹

In attempting to resolve some of these dilemmas, I propose that we consider a new kind of ethic, which I call a partnership ethic—a synthesis between the ecocentric approach and the social justice aspects of the homocentric approach (fig. 14.4).⁴² A partnership ethic holds that *the greatest good for the human and nonhuman communities is to be found in their mutual living interdependence*. It is based on the idea that people and nature are equally important. Both people and fish have moral standing.

For most of human history, up to at least the seventeenth century, nature had the upper hand over human beings. Humans fatalistically accepted the cards that nature dealt. Harvests, famines, and droughts were considered God's way of punishing humans for acting unethically. Since the seventeenth century, however, the pendulum has swung the other way. Western culture has developed the idea that humans are more powerful than nature and that as European Americans we can dominate, control, and manage it.⁴³

Because humans are above nature, we can control fisheries, for example, through ideas such as logistic curves and maximum or optimum sustained yields. We need to bring the pendulum back into balance so that there is greater equality between the human and nonhuman communities.

The partnership ethic that I propose is a synthesis of the ecocentric approach, based on moral consideration for all living and nonliving things, and the homocentric approach, based on the social good and the fulfillment of basic human needs. All humans have needs for food, clothing, shelter, and energy, but nature also has an equal need to survive. The partnership ethic recognizes the interdependence of these two spheres. It questions the notion of an unregulated market, eliminating the idea of the egocentric ethic, and instead proposes a partnership between nonhuman nature and the human community.

A partnership ethic is based on the following precepts: first, equity between human and nonhuman communities; second, moral consideration for both humans and other species; third, respect for both cultural diversity and biodiversity; fourth, inclusion of women, minorities, and nonhuman nature in the code of ethical accountability; and fifth, the belief that an ecologically sound management is consistent with the continued health of both human and nonhuman communities.⁴⁴ We might come back to the notion that Barbara Wester proposed in her comparison of Native and European Americans—the idea of the “sacred bundle.” Like the Native American sacred bundle of relationships and obligations, a partnership ethic is grounded in the notions of relation and mutual obligation.⁴⁵

What would a partnership ethic mean for ecosystem management? How would it be implemented in the fisheries professions? Each stock of fish has a home spawning stream and an ocean habitat connected with it over many miles of river. Each stock has a season for returning to its primal ecological community to reproduce. Seasonal changes, as well as chaotic disturbances in ocean currents, temperature changes, and predation affect return rates. So do human disturbances, such as timber removal, erosion, watershed pollution, dams, and fishing quotas and regulations.

A partnership ethic means that in each linked human and nonhuman biotic community, all the parties and their representatives must sit as partners at the same table. This includes fishers (individual, corporate, and tribal), foresters, dam builders, conservation trusts, soil and fishery scientists, community representatives, and spokespersons for each stock of fish affected. The needs of fish and the needs of humans should both be discussed. Examples of efforts at such partnerships include resource advisory commit-

control fisheries, for example, minimum or optimum sustained yield into balance so that there is no harm to human communities.

A synthesis of the ecocentric view of living and nonliving things, the intrinsic good and the fulfillment of needs for food, clothing, shelter, and the ability to survive. The partnership ethic bridges two spheres. It questions the traditional idea of the egocentric separation between nonhuman nature and

management precepts: first, equity beyond profit, moral consideration for both cultural diversity and nonhuman nature, the belief that an ecological system's continued health of both might come back to the notion of balance of Native and European. Like the Native American view, a partnership ethic is based on obligation.⁴⁵

Ecosystem management? How do we manage? Each stock of fish has a connection with it over many generations, returning to its primal ecological well as chaotic disturbances and human activities affect return rates. So, erosion, watershed pollu-

linked human and nonhuman representatives must sit as participants (individual, corporate, and community), soil and fishery scientists, and for each stock of fish affairs should both be discussed. The resource advisory commit-

tees, watershed councils, self-governing democratic councils, collaborative processes, and cooperative management plans.

Consensus and negotiation should be attempted as partners speak together about the short- and long-term interests of the interlinked human and nonhuman communities. Seated at the table, participating in the discourse, are not only representatives of human concerns but also representatives of nonhuman entities. The meetings will be lengthy. As in any partnership, there will be give and take as the needs of each party are expressed, heard, and acknowledged. If the partners identify their own egocentric, homocentric, and ecocentric ethical assumptions and agree to start anew from a partnership ethic of mutual obligation and respect, there is hope for consensus. A partnership ethic does not mean that all dams must be removed, that electric production must be forfeited, or that irrigation must be curtailed for the sake of salmon and redwoods. It does mean that the vital needs of humans and the vital needs of trees and fish, along with their mutually linked terrestrial and aqueous habitats, must be given equal consideration. Indeed, there is no other choice, for failure means a regression from consensus into contention, and thence into litigation.

Many difficulties exist in implementing a partnership ethic. The greatest challenge is the free-market economy's growth-oriented ethic, which uses both natural and human resources inequitably to create profits. The power of the global capitalist system to remove resources—especially those in Third World countries—without regard to restoration, reuse, or recycling is a major roadblock to reorganizing relations between production and ecology. Even as capitalism continues to undercut the grounds of its own existence by using renewable resources, such as fish, faster than species can replenish themselves, so green capitalism attempts to Band-Aid the decline by submitting to some types of regulation and recycling. Ultimately, new economic forms need to be found that are compatible with sustainability, intergenerational equity, and a partnership ethic.

A second source of resistance to a partnership ethic is the property rights movement, which in many ways is a backlash against both environmentalism and ecocentrism. The protection of private property is integral to the growth and profit-maximization demands of capitalism and egocentrism and to their preservation by governmental institutions and laws. Although individual, community, or common ownership of "appropriate" amounts of property is not inconsistent with a partnership ethic, determining what is sustainable and hence appropriate to the continuation of human and nonhuman nature is both challenging and important.

As a start, we might propose an ethic for the American Fisheries Society, inspired by that proposed for the Society of American Foresters: partnership with the land and the aquatic habitat is the cornerstone of the fisheries profession; compliance with its canons demonstrates respect for the land and waters and for our commitment to the wise management of ecosystems.

As we move forward in the twenty-first century, we must also move into partnerships between human beings and the nonhuman community in which both are equal and share in mutual relationships and obligations. A partnership ethic will not always work—but it is a beginning, and with it there is hope.

NOTES

An earlier version of this essay was presented at the Pacific Northwest Regional Environmental History Conference, August 2, 1996, and was published in *Human Ecology Review* 4(1) (1997): 25–30. This revised and expanded version is reprinted with the permission of *Human Ecology Review*.

1. Anthony Netboy, *Salmon of the Northwest: Fish versus Dams* (Portland: Binford and Mort, 1958).
2. Carolyn Merchant, "Environmental Ethics and Political Conflict: A View from California," *Environmental Ethics* 12 (1990): 45–68.
3. Arthur McEvoy, *The Fisherman's Problem: Ecology and Law in the California Fisheries, 1850–1980* (New York: Cambridge University Press, 1986), p. 6.
4. *Ibid.*
5. *Ibid.*
6. Garrett Hardin, "The Tragedy of the Commons," *Science* 162 (1968): 1243–48.
7. Susan Jane Buck Cox, "No Tragedy on the Commons," *Environmental Ethics* 7 (1985): 49–69; McEvoy, *The Fisherman's Problem*, pp. 11–12; Richard White, *The Organic Machine* (New York: Hill and Wang, 1995), pp. 39–40.
8. John Locke, *Second Treatise of Government*, ed. R. H. Cox (1690; reprint, Arlington Heights, Ill.: Harlan Davidson, 1982), p. 21; C. B. MacPherson, *The Political Theory of Possessive Individualism: Hobbes to Locke* (New York: Oxford University Press, 1962).
9. Barbara Leibhardt, "Law, Environment, and Social Change in the Columbia River Basin: The Yakima Indian Nation as a Case Study, 1840–1933" (Ph.D. diss., University of California, Berkeley, 1990).

he American Fisheries Society, American Foresters: partnership is the cornerstone of the fisheries. It demonstrates respect for the land and the wise management of ecosystems. In the future, we must also move into the nonhuman community in new relationships and obligations. And now it is a beginning, and with it

at the Pacific Northwest Regional Conference, 1996, and was published in *Human Ecology*. The expanded version is reprinted

1st: *Fish versus Dams* (Portland:

s and Political Conflict: A View of the Pacific Northwest, pp. 15-68.

Ecology and Law in the California Delta (University Press, 1986), p. 6.

ons," *Science* 162 (1968): 1243-48.

Commons," *Environmental Ethics* 1, pp. 11-12; Richard White, *The River*, pp. 39-40.

t, ed. R. H. Cox (1690; reprint, 1963), p. 21; C. B. MacPherson, *The Theory of Property* (New York: Oxford Univer-

1 Social Change in the Columbia River Valley, 1840-1933" (Ph.d. diss.,

10. *Oxford English Dictionary*; *Scott's Standard Postage Stamp Catalogue* (New York: Scott Publications, 1948), p. 510.

11. Netboy, *Salmon of the Northwest*; Courtland L. Smith, *Salmon Fishers of the Columbia* (Corvallis: Oregon State University Press, 1979), p. 104.

12. Hollister D. McGuire, "Decadence of the Fisheries," *First and Second Annual Reports of the Fish and Game Protector to the Governor, 1893-94* (Salem, Oreg.: 1894), quoted in Anthony Netboy, *The Salmon: Their Fight for Survival*, (Boston: Houghton Mifflin, 1974), p. 282.

13. Quoted in Netboy, *Salmon of the Northwest*, p. 29.

14. Merchant, "Environmental Ethics and Political Conflict."

15. Gifford Pinchot, *Breaking New Ground* (New York: Harcourt Brace, 1947), p. 326.

16. *Munn v. Illinois*, 94 United States Reports 113 (U.S. Supreme Court, 1876); McEvoy, *The Fisherman's Problem*, p. 117.

17. McEvoy, *The Fisherman's Problem*, p. 118.

18. *Ibid.*, p. 101.

19. *Ibid.*

20. Daniel Botkin, *Discordant Harmonies: A New Ecology for the Twenty-First Century* (New York: Oxford University Press, 1990), pp. 20-21.

21. McEvoy, *The Fisherman's Problem*, p. 6.

22. Netboy, *Salmon of the Northwest*, pp. 28-30.

23. *Ibid.*, pp. 44-46.

24. Quoted in Netboy, *The Salmon: Their Fight for Survival*, p. 287.

25. Quoted in Netboy, *Salmon of the Northwest*, p. 48.

26. *Ibid.*, p. 39.

27. *Ibid.*, p. 34.

28. Aldo Leopold, *A Sand County Almanac, and Sketches Here and There* (New York: Oxford University Press, 1949), pp. 201-04, 221-25.

29. *Ibid.*, p. 225.

30. *Ibid.*, p. 204.

31. *Ibid.*

32. McEvoy, *The Fisherman's Problem*, p. 227.

33. Botkin, *Discordant Harmonies*, pp. 22-23.

34. *Ibid.*, p. 160; McEvoy, *The Fisherman's Problem*, p. 237.

35. Botkin, *Discordant Harmonies*, pp. 18, 145-47.

36. *Ibid.*, pp. 21-23.

37. *Ibid.*; James Gleick, *Chaos: The Making of a New Science* (New York: Viking, 1987); Robert T. Lackey, "Pacific Salmon, Ecological Health, and Public Policy," *Ecosystem Health* 2 (1996): 1-8, 4; Mitchel Waldrop, *Complexity: The*

Emerging Science at the Edge of Order and Chaos (New York: Simon and Schuster, 1992).

38. Botkin, *Discordant Harmonies*, p. 25.

39. Robert T. Lackey, "Ecological Risk Assessment," *Fisheries* (September 1994): 14-18.

40. On the land ethic as a case of "environmental fascism," see Tim Regan, *The Case for Animal Rights* (Berkeley: University of California Press, 1983), p. 262. For a response, see J. Baird Callicott, *In Defense of the Land Ethic* (Albany: State University of New York Press, 1998), pp. 92-94, and J. Baird Callicott, "Moral Monism in Environmental Ethics Defended," *Journal of Philosophical Research* 19 (1994): 51-60, p. 53.

41. On ecocentrism as the ground for an emancipatory green politics, see Robyn Eckersley, *Environmentalism and Political Theory: Toward an Ecocentric Approach* (Albany: State University of New York Press, 1992), p. 47.

42. Carolyn Merchant, *Earthcare: Women and the Environment* (New York: Routledge, 1996), pp. 216-19.

43. *Ibid.*, p. 218.

44. *Ibid.*, p. 216-17.

45. *Ibid.*, p. 217.