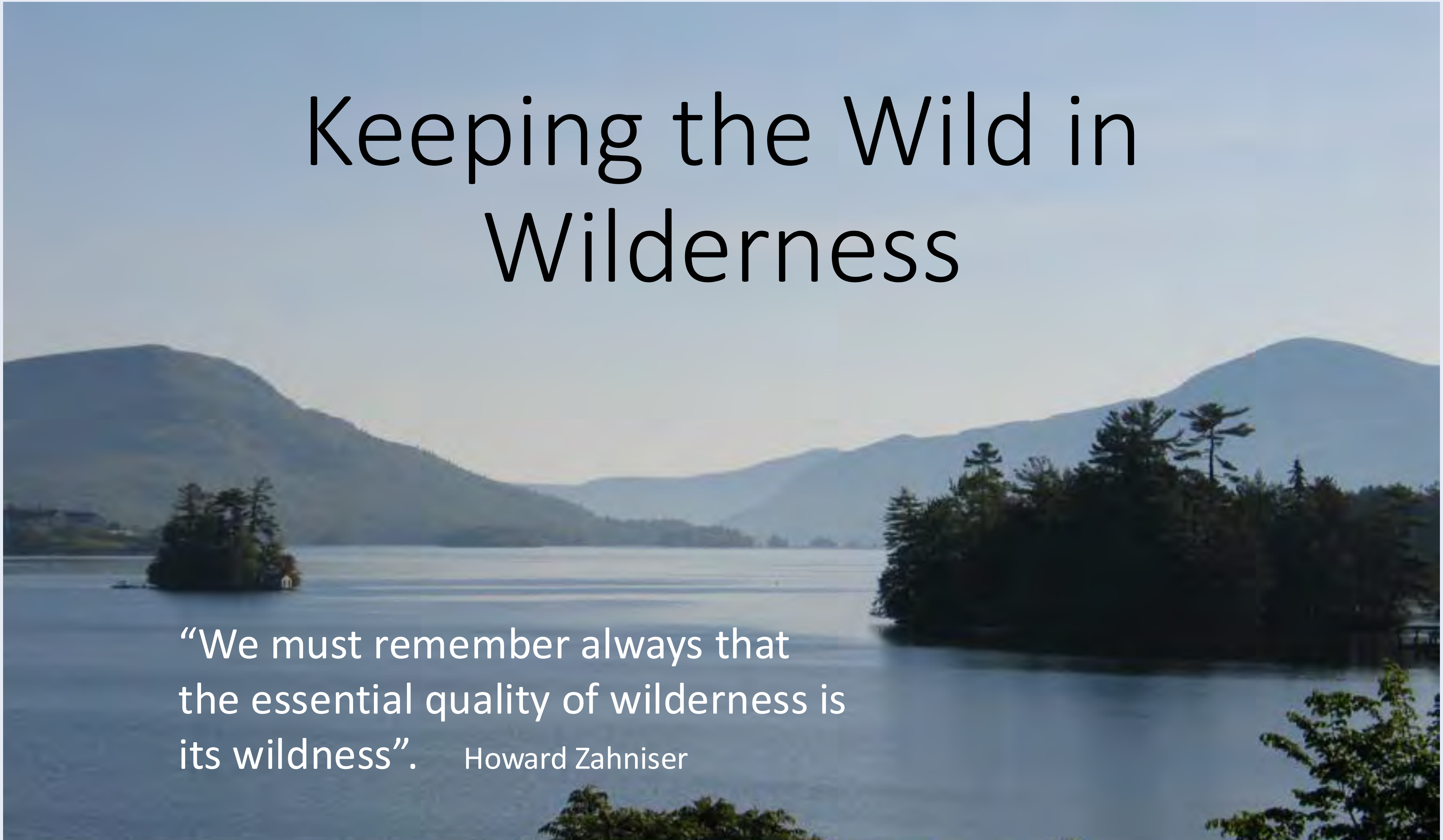
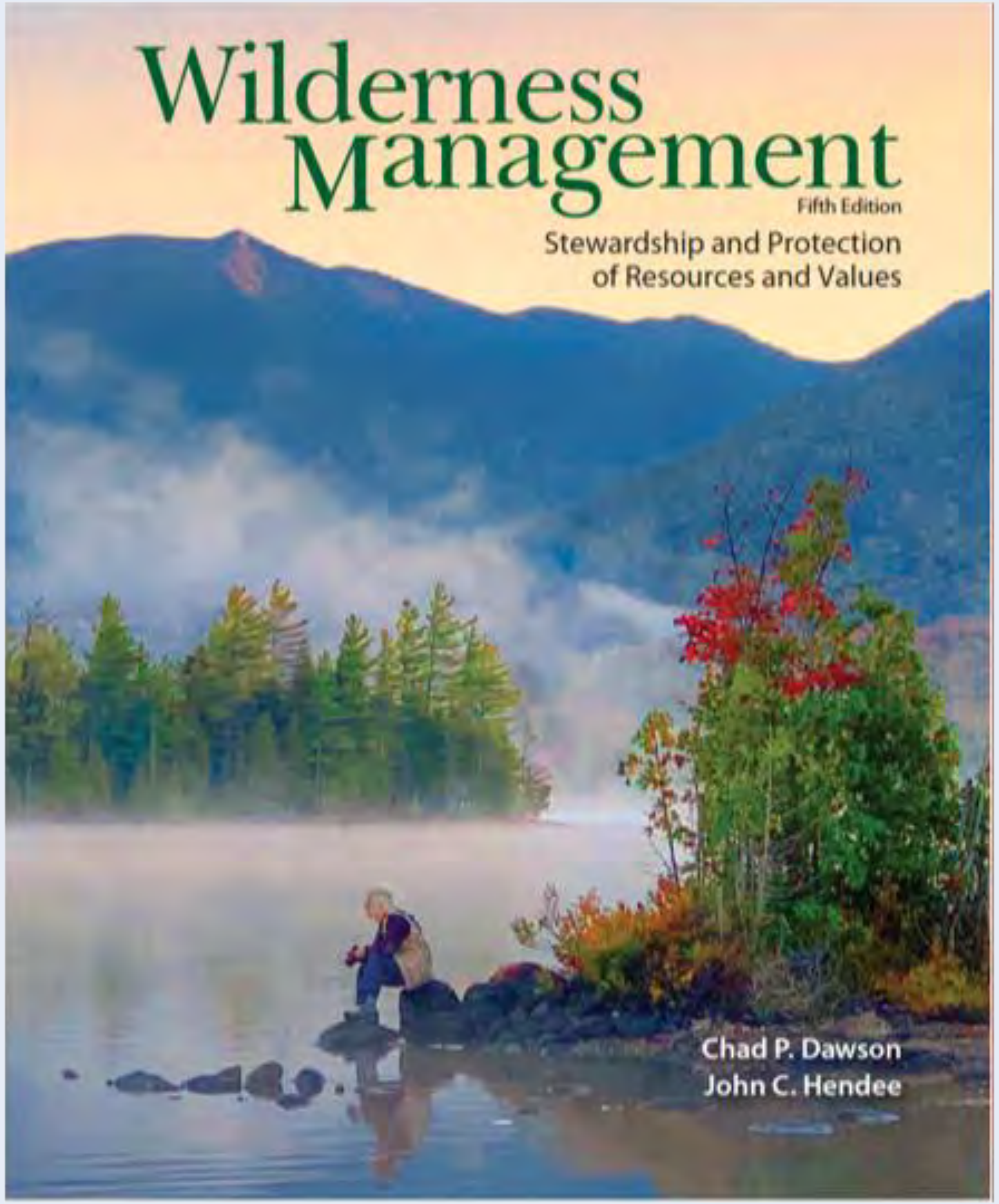
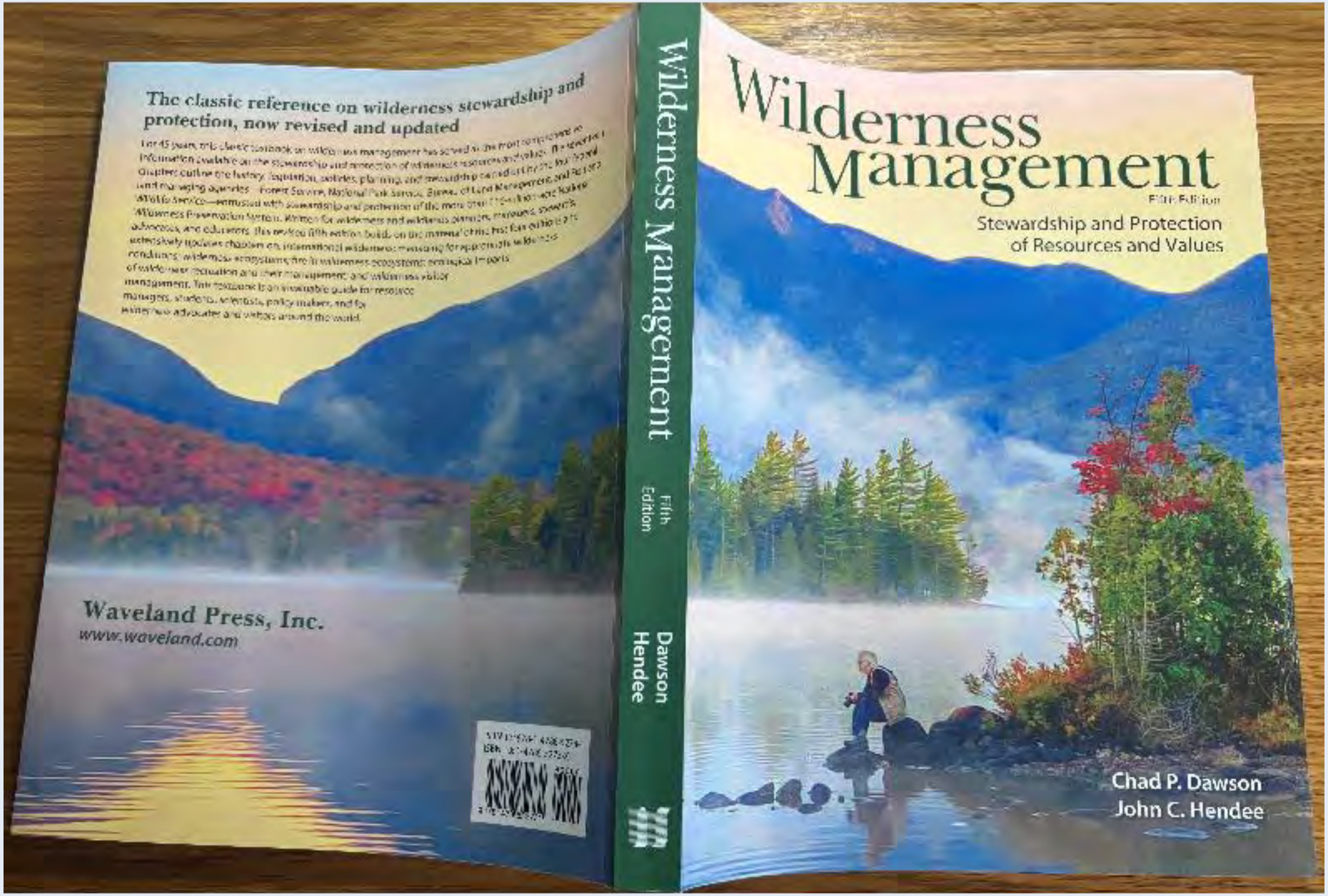


Keeping the Wild in Wilderness

"We must remember always that the essential quality of wilderness is its wildness". Howard Zahniser


Wilderness
Management
Fifth Edition
Stewardship and Protection
of Resources and Values
Chad P. Dawson
John C. Hendee



The classic reference on wilderness stewardship and protection, now revised and updated
Waveland Press, Inc.
www.waveland.com
Wilderness Management
Fifth Edition
Dawson
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Wilderness Management
Fifth Edition
Stewardship and Protection
of Resources and Values
Chad P. Dawson
John C. Hendee

Island at the end of Elk Lake

First edition, 1978

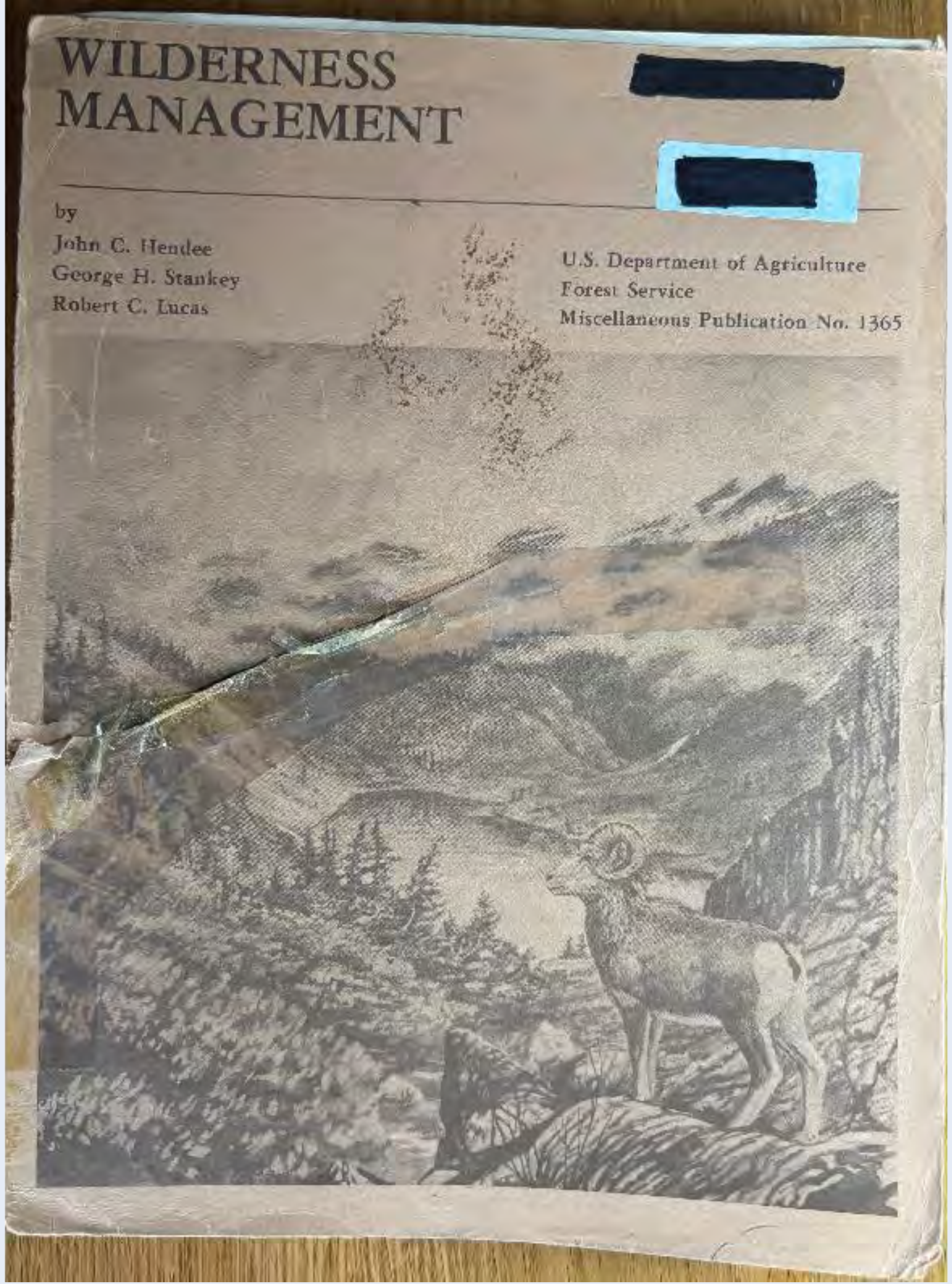
Published by USFS

Based on 1973 Symposium

Extensive supporting author and contributor collaboration

381 pages

USDA /USDI endorsements



National Wilderness Preservation System

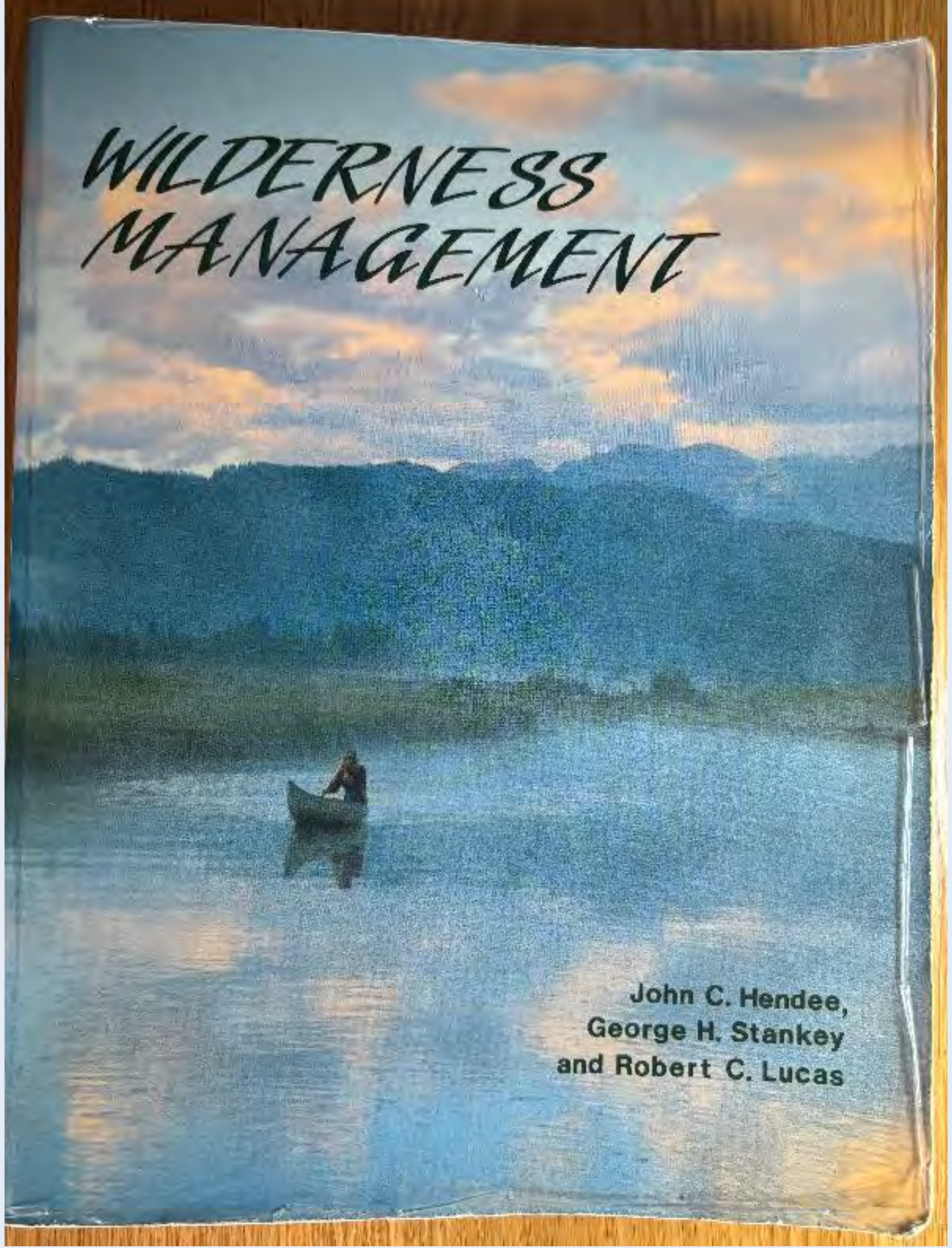
Year	Number Mgt Units	Number Acres (million)	Number Enacted Laws
1964	54	9.1	1
1978	188	20.1	37
1990			
2002			
2009			
2025			

Second edition, 1990

Published by Fulcrum Press

546 pages

Four agency endorsements: NPS, USFS, USFWS, BLM



National Wilderness Preservation System

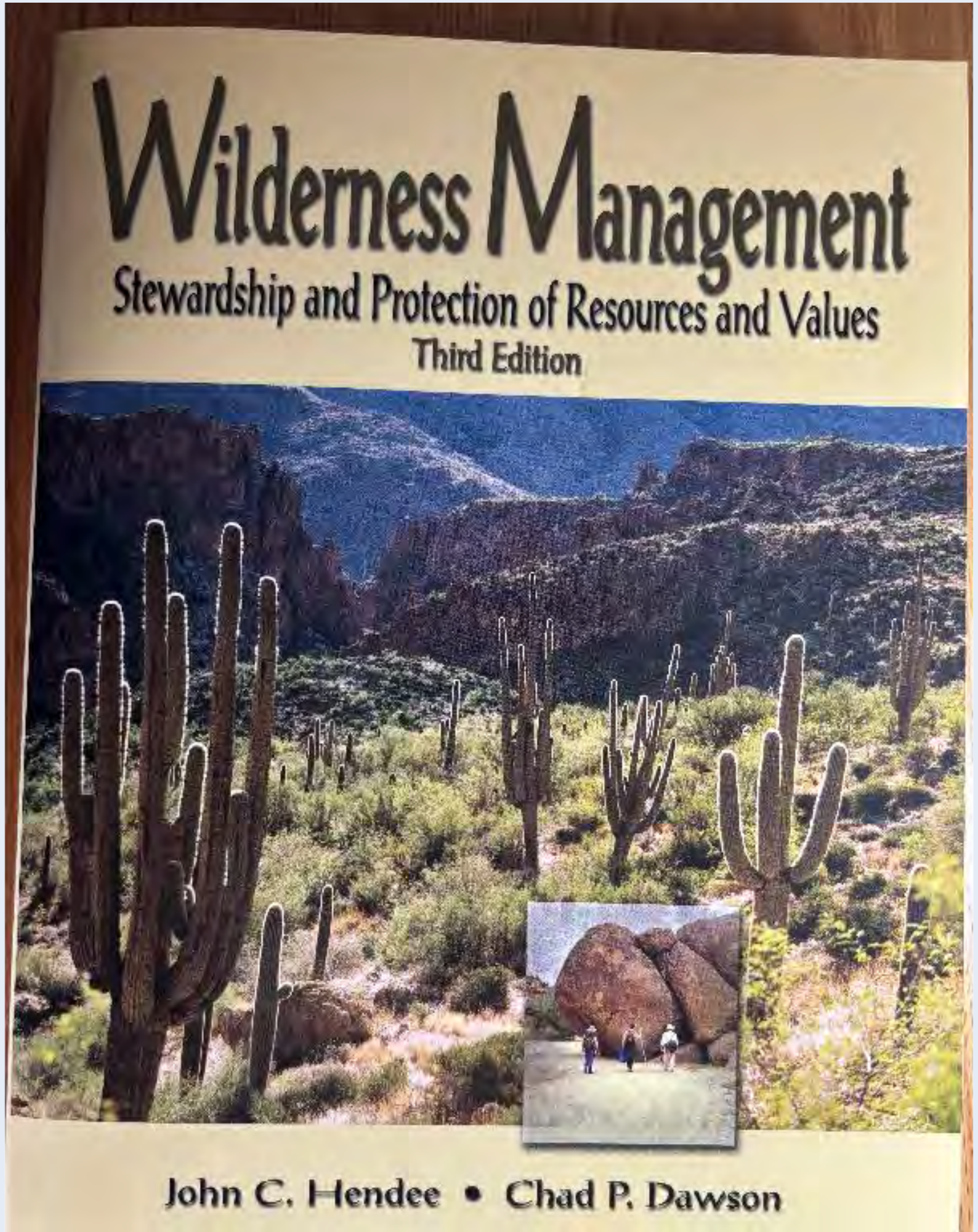
Year	Number Mgt Units	Number Acres (million)	Number Enacted Laws
1964	54	9.1	1
1978	188	20.1	37
1990	541	95.0	95
2002			
2009			
2025			

Third edition 2002

Published by Fulcrum Press

635 pages

Four agency endorsements: NPS, USFS, USFWS, BLM



National Wilderness Preservation System

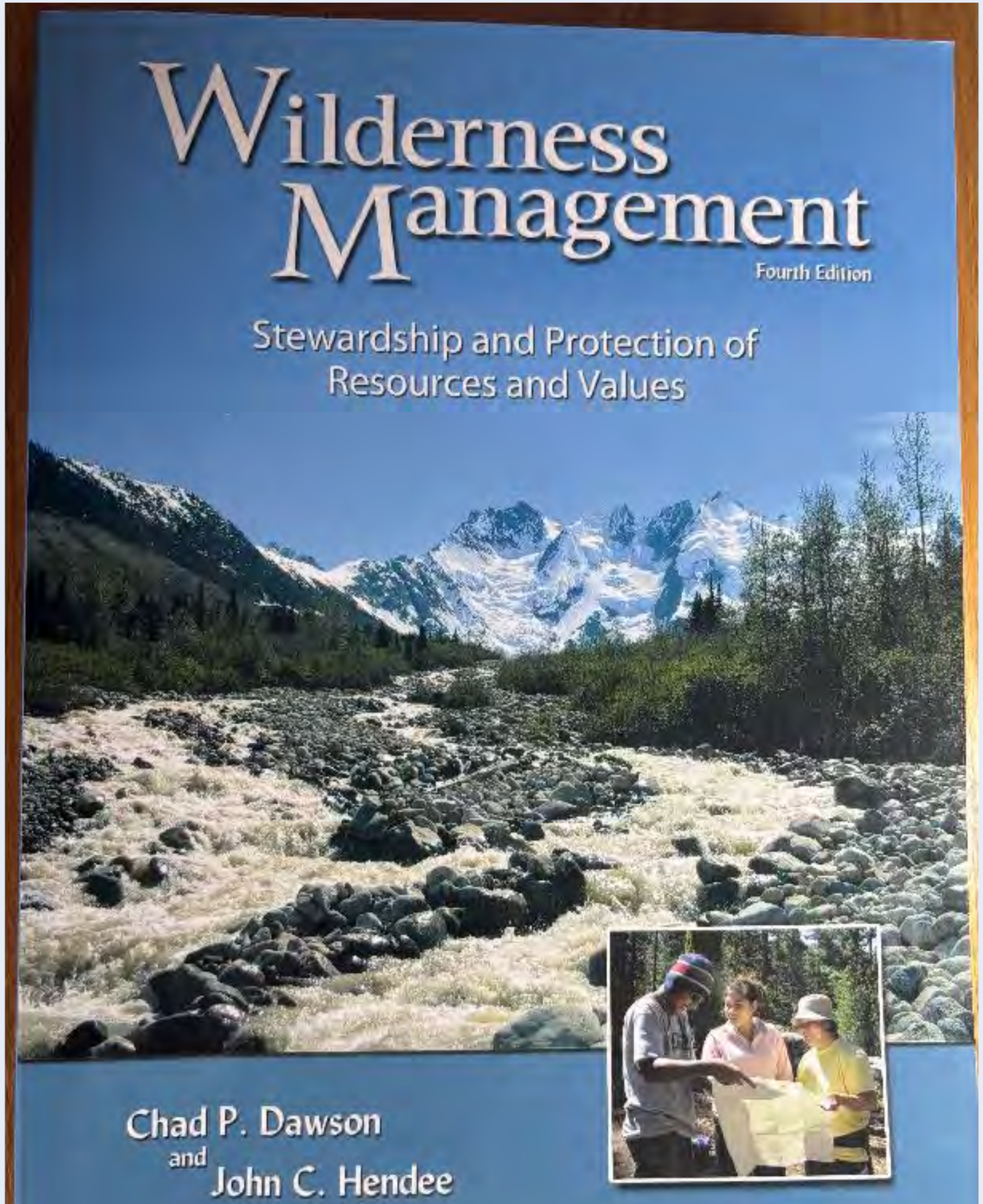
Year	Number Mgt Units	Number Acres (million)	Number Enacted Laws
1964	54	9.1	1
1978	188	20.1	37
1990	541	95.0	95
2002	662	105.5	129
2009			
2025			

Fourth edition 2009

Published by Fulcrum Press

525 pages

Four agency endorsements: NPS, USFS, USFWS, BLM



National Wilderness Preservation System

Year	Number Mgt Units	Number Acres (million)	Number Enacted Laws
1964	54	9.1	1
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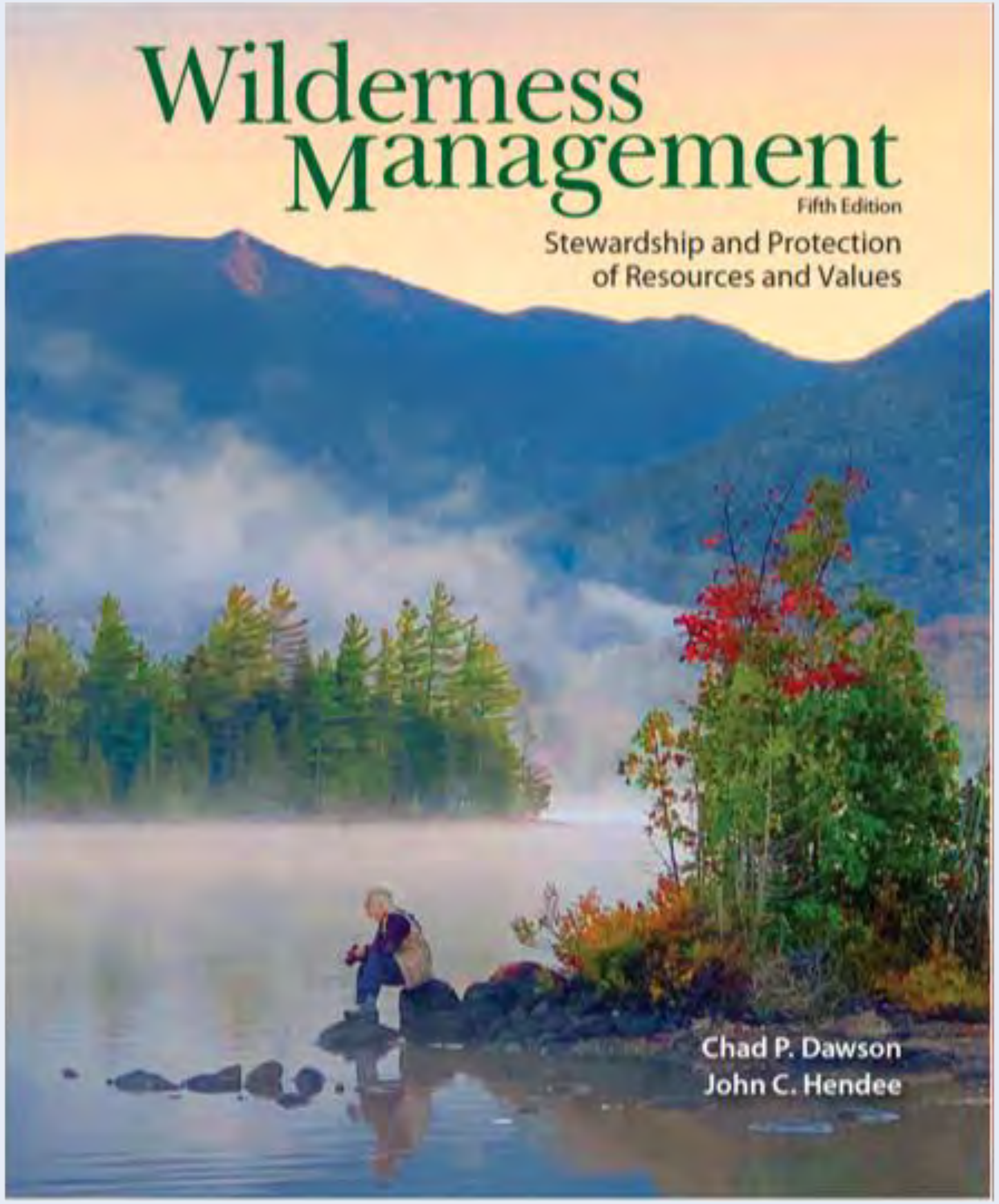
1990	541	95.0	95
2002	662	105.5	129
2009	756	109.5	143
2025			

Fifth edition 2025

Published by
Waveland Press

390 pages

Endorsements not
requested



National Wilderness Preservation System

Year	Number Mgt Units	Number Acres (million)	Number Enacted Laws
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1978	188	20.1	37
1990	541	95.0	95
2002	662	105.5	129
2009	756	109.5	143
2025	806	111.6	160

Stewardship and Protection of Resources and Values

- Subtitle added in the 3rd through 5th editions.
- Main title continued “Wilderness Management” through all five editions.
- All editions refer to the National Wilderness Preservation System.
- All editions include supporting chapter co-authors in 5 or 6 of the 17 chapters.
- All editions include extensive collaboration with scientists, researchers, resource managers, agency administrators, legal scholars, and reviewers.

Global Climate Change Results in Ecological Transformations

- Changes in weather regimes such as temperature, precipitation, and wind patterns, including extreme flooding and storm events.
- Changes in forests and vegetation, forest and vegetation wildfires, and desertification.
- Sea level increasing, and disruptions in ocean currents and temperatures.
- Changes in ecosystems and sustainability, shifts in range and composition of plant and animal communities, and species extinctions.

Cascading Consequences of Climate Change

Western US and Canada -- beetle infestations and forest mortality

Wildfires in Jasper National Park– forest mortality, drought, historic fire suppression, and catastrophic wildfires

Burned trees in Jasper National Park landscape. (J. Rozdilsky), CC BY

A streetlamp lies on the ground in Jasper, outside what remains of the Wicked Cup Café. (J. Rozdilsky), CC BY

Campground in Jasper National Park now a post-fire grassland

Melting Glaciers and Ice Fields

Athabasca Glacier in Columbia Icefield

Climate change threatens both wildness and naturalness. Since changes to natural conditions are easier and more obvious to identify, managers will attempt to restore those conditions even when it requires substantial interventions, alterations, and management actions to do so.

Wildness

- Natural processes.

- The state of a landscape characterized by its freedom from human intent and activities to alter, control, or manipulate its natural components and ecological and evolutionary processes.

Naturalness

- Natural conditions.

- The state of the resource characterized by its component species and relative composition existing within its *historic range of variation* and being free from human effects or impacts.

Multiple Values and Benefits of Wilderness

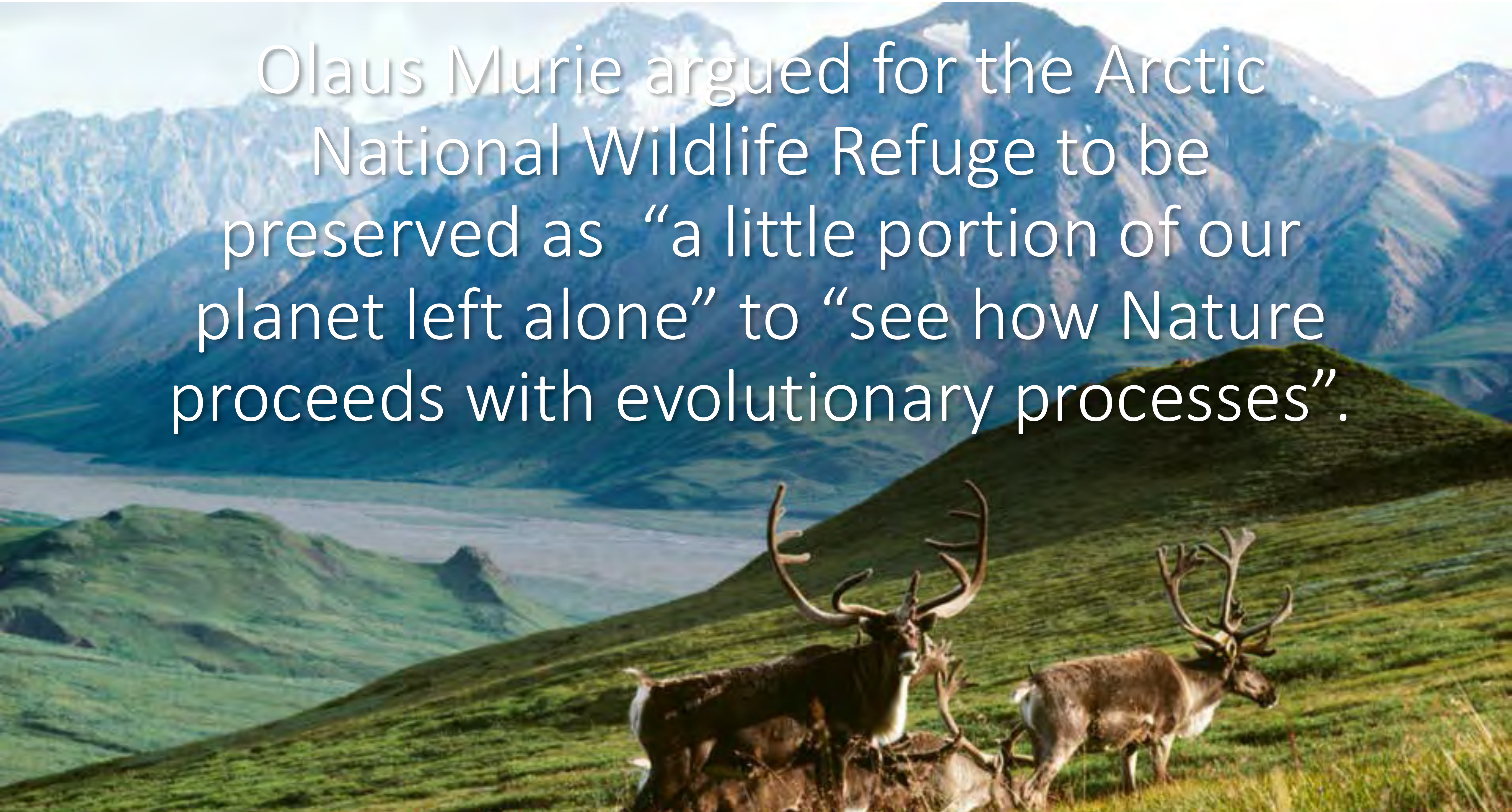
- Protect water quality and quantity
- Protect air quality
- Preserve ecological systems and evolutionary processes
- Provide an environmental baseline for scientific research and monitoring
- Provide animal and plant habitat
- Provide carbon sequestration and buffer climate change
- Preserve opportunities for future generations
- Provide recreation and tourism opportunities and economic benefits
- Provide scenic beauty and opportunities for education and inspiration
- Protect cultural and historic resources and places

Multiple Values and Benefits of Wilderness

- **Preserve ecological systems and evolutionary processes**
- **Provide an environmental baseline for scientific research and monitoring**

Every management action, no matter what natural condition it is attempting to restore, diminishes an area’s wildness and, hence, its evolutionary processes.

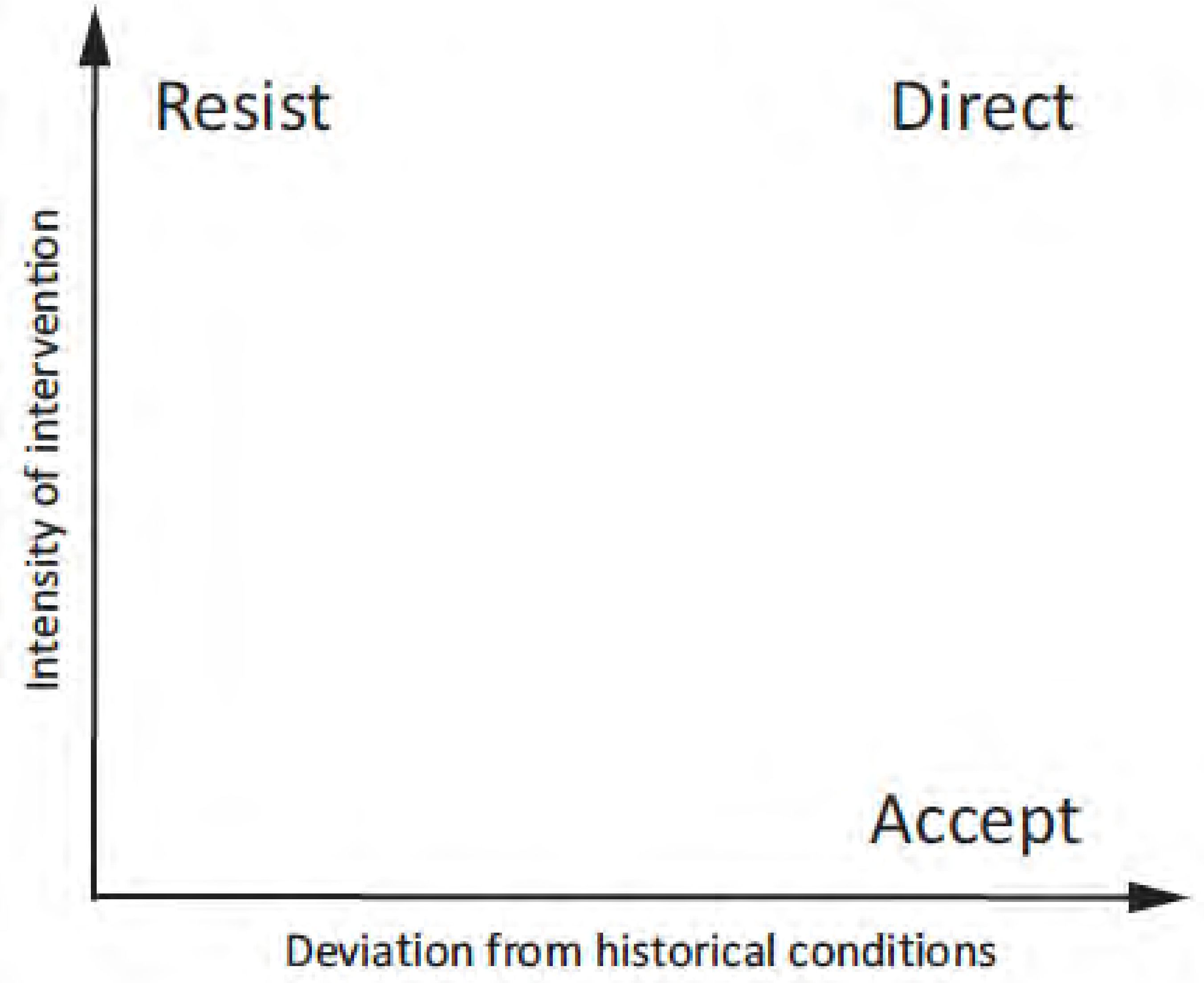
Evolutionary Process: Adapt, Migrate, or Die


Olaus Murie argued for the Arctic National Wildlife Refuge to be preserved as "a little portion of our planet left alone" to "see how Nature proceeds with evolutionary processes".

Resource Management Approaches to Ecological Transformations on National Wildlife Refuges

- Resist – work to maintain or restore ecosystem composition, structure, or function on basis of historical conditions (*prescribed burns to reduce risk of severe fire*).
- Accept – allow ecosystem composition, structure, or function to alter without intervention (*allow lightening caused fires to burn*).
- Direct – actively shape ecosystem composition, structure, or function based on preferred conditions or ecosystem services (*after a fire revegetate with species expected to adapt to emerging and future conditions*).

Resist-Accept-Direct (RAD)



Accept Ecological Transformations

- **Accept** – Allow ecosystems to transform without intervention and accept that existing and historical conditions will be altered.
- **Examples**: Several species of beetle have severely affected forest health and caused mortality in large forested areas in the western US and Canada.
- **Consideration**: an intentional management choice when resistance is not feasible and/or not legally permitted. Requires public education and communication.

Resist Ecological Transformations

- **Resist** – maintain historical or current ecological process and conditions.
- **Examples**: removing invasive species and transplanting native species to restore plant and animal species in former habitat.
- **Consideration**: resistance can be increasingly difficult and expensive as ecological transformation accelerate. Conflicts with “untrammeled” quality of designated wilderness.

Direct Ecological Transformations

- **Direct** – actively plan and guide ecosystem changes toward a preferred ecosystem and conditions.
- **Examples**: – facilitate animal and plant species migration, changing water flow and retention, reforestation to more tolerant species.
- **Consideration**: requires systematic-decision making and strategic planning, pilot testing, and intensive monitoring. Directly conflicts with “untrammeled” quality of designated wilderness.

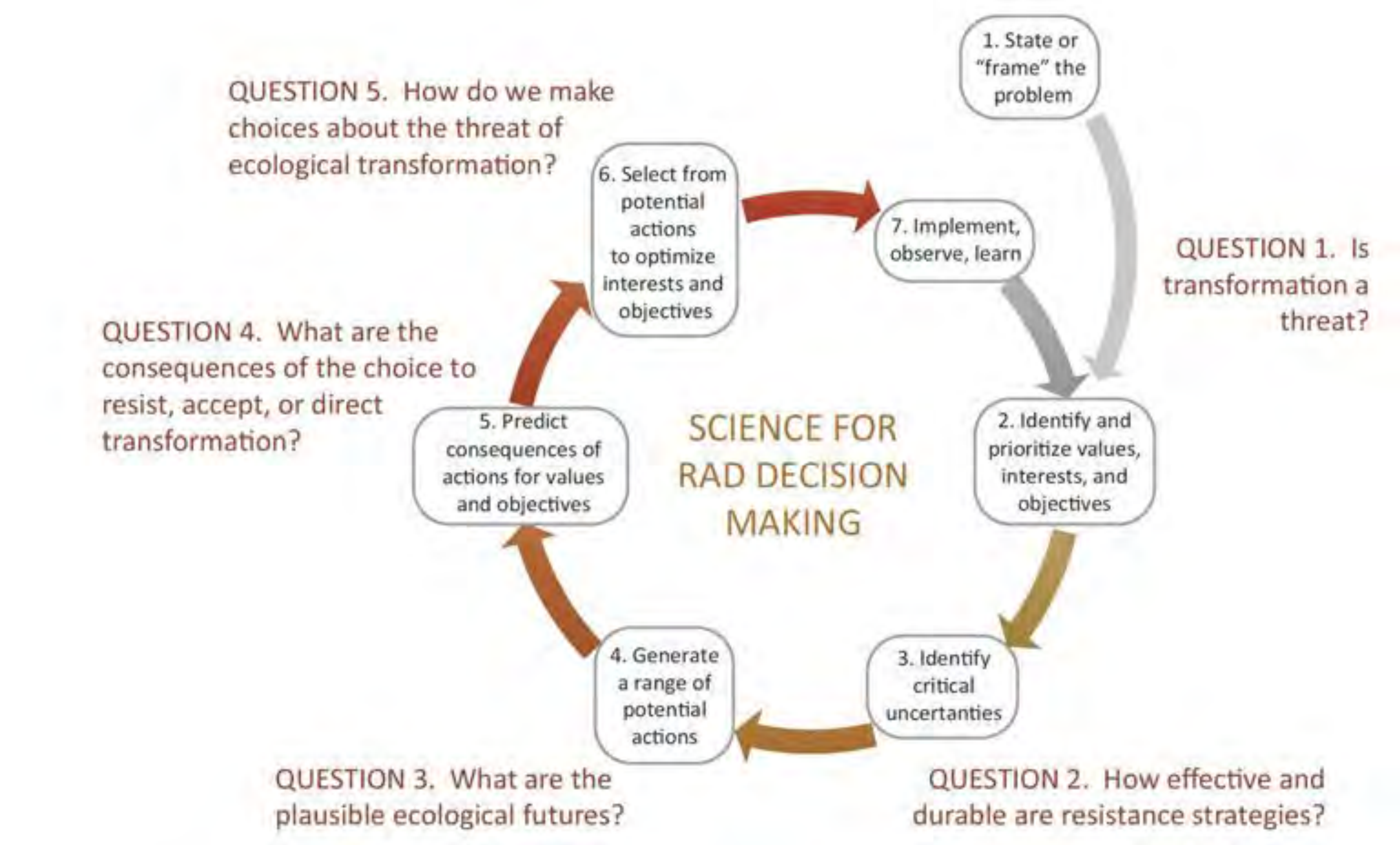
Acadia National Park
Future of Red Spruce Forest

- Following loss of Red Pine forest composition due to an outbreak of nonnative red pine scale, two native fungi, and drought, park ecologists began to strategize about saving the Red Spruce forest.

  Should they:

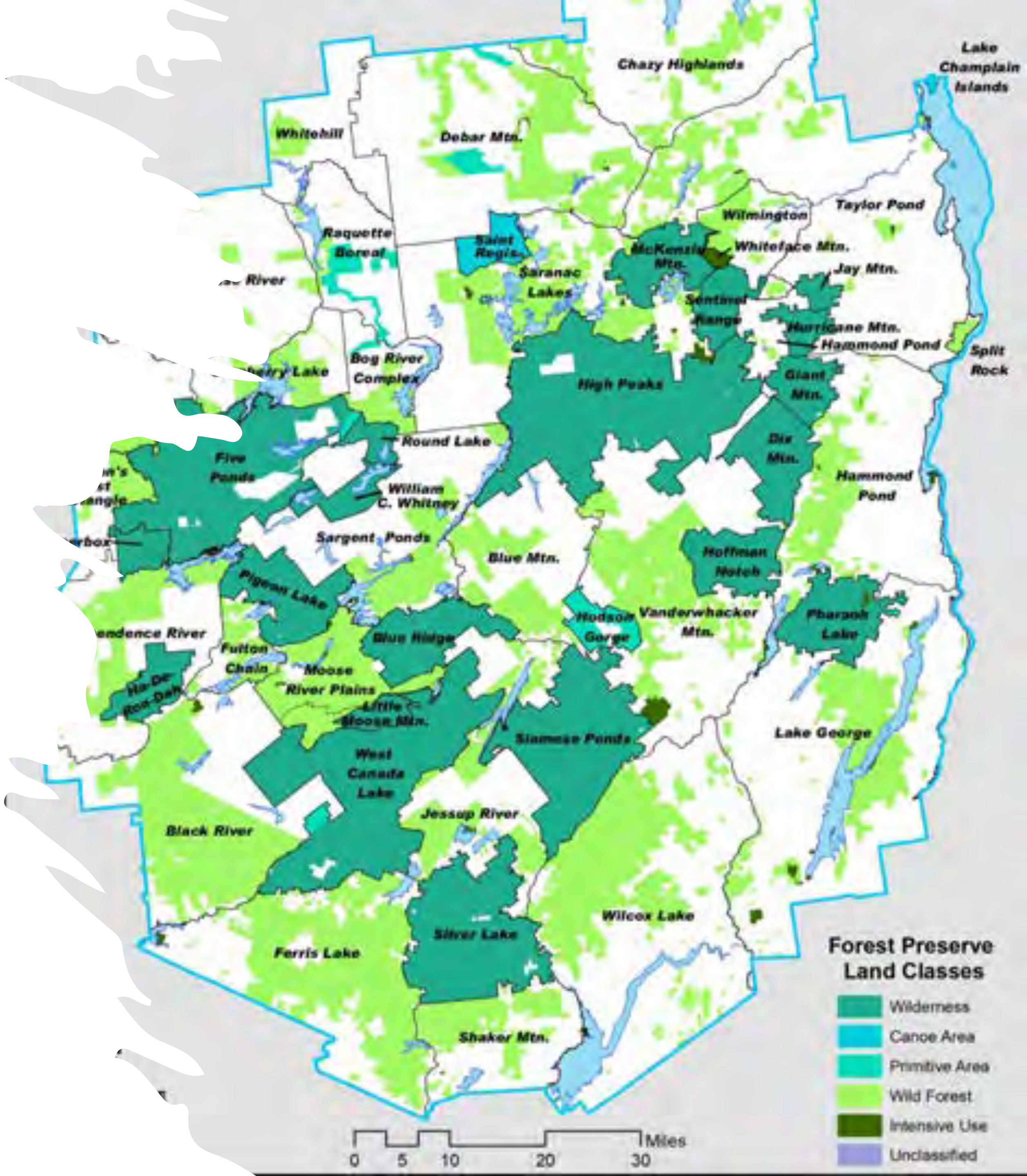
- **Accept** forest dieback and allow invasive species, such as glossy buckthorn, to choke forest regeneration and create shrublands.
- **Resist** dieback through pesticides and invasive plant control to maintain a healthy forest as a climate change refugia.
- **Direct** forest transition to a temperate hardwood forest through vegetation management and seeding native hardwood species.

Iterative and Adaptive Planning



"the primary purpose of wilderness stewardship is to be **guardians and not gardeners**." Howard Zahniser, chief author of the Wilderness Act

Can we rise to that challenge in the Forest Preserve?



Questions?

Discussion?