

Chapter 5: Planning and Management: Philosophy



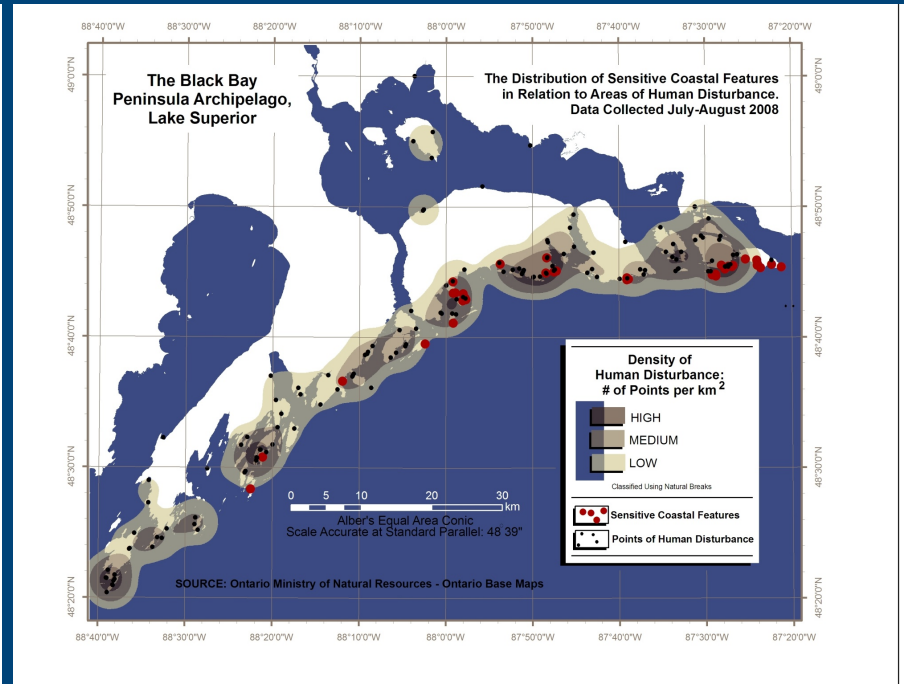
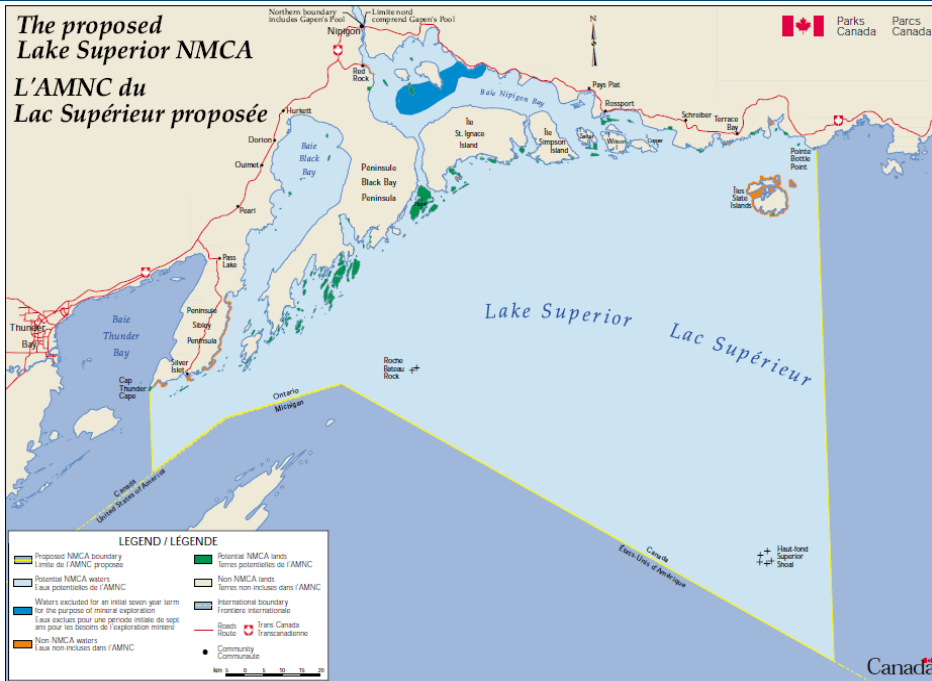
Climate Change Scientific Explanations

- In its 2007 report, the Intergovernmental Panel on Climate Change concluded that worldwide trends in the 20th century consistently and strongly reveal an increase in global surface temperature
- There is strong scientific consensus that the increase in greenhouse gases has been caused by human activities
- Natural and human variables both contribute to climate change, but it is hard to figure out their relative contribution, as they both typically operate at the same time

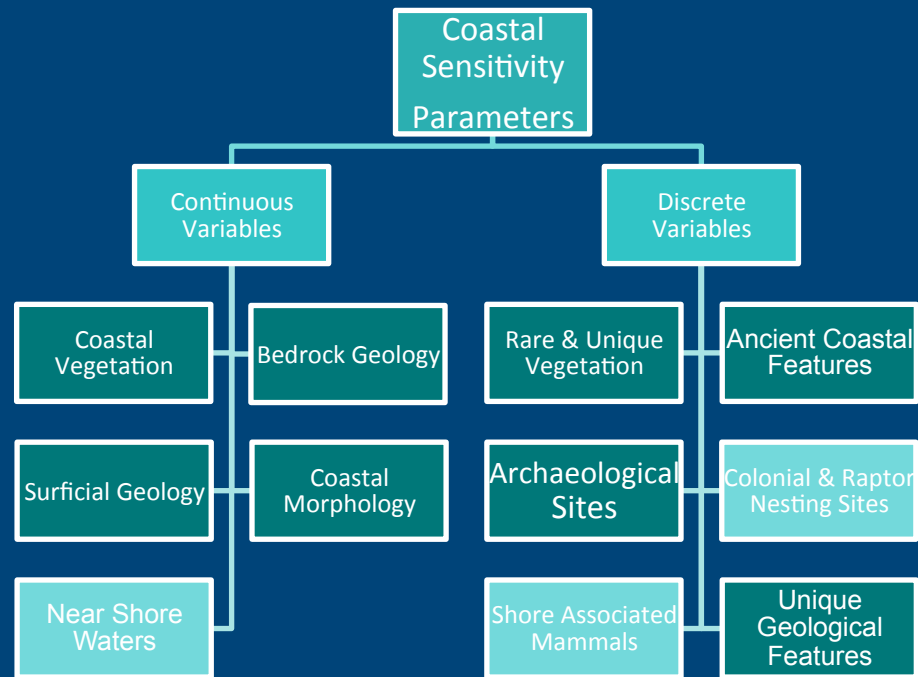
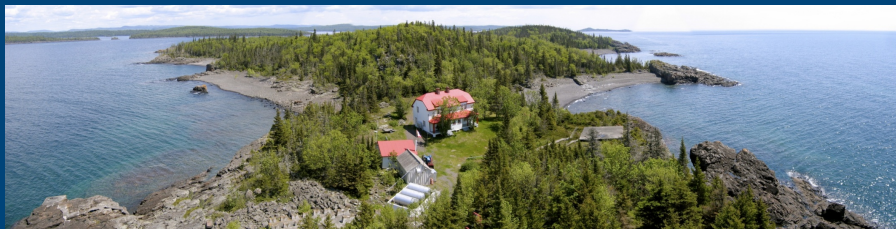
▪ Implications of and Ecosystem Change

● Terrestrial Systems

- It is possible that within your lifetime, many terrestrial systems, along with the associated fauna and flora, will change significantly
- The consequences of change to terrestrial systems could be dramatic
- National and provincial parks, which were created to protect representative ecosystems, may disappear or greatly change as the distinctive ecosystems currently protected by such parks evolve into something completely different



Source: Parks Canada, 2007.



● Agriculture

- One of the major limitations on agricultural activity in most areas of Canada is the climate
- Canada could actually benefit from global warming, since it would extend the growing season and reduce damage from severe cold

● Freshwater Systems

- As a result of the changes discussed so far, every part of Canada except the southern Prairies has become wetter
- These changes may affect tourism in BC, agriculture operations, and shipping patterns on the Great Lakes



- Fisheries

- Fish are vulnerable to changes in temperature, precipitation, wind patterns, and chemical conditions
- If water levels drop or there are more periods of lower water levels, the mortality of spawning salmon in BC rivers is likely to increase

- Cryosphere

- Warmer temperatures in higher latitudes are expected to cause melting of ice, such as the Greenland ice sheet
- As ice in the Arctic melts, there will be consequences, such as a rise in sea levels

● Ocean and Coastal Systems

- It appears that both sea temperatures and sea levels will increase
- This will affect coastal communities, such as those in Prince Edward Island

● Infectious Diseases

- Given the prediction of the IPCC about climate change in North America, Health Canada has indicated that Canadians can expect to experience a greater incidence of disease
- This includes infectious diseases such as Lyme disease, dengue fever, West Nile virus, and malaria

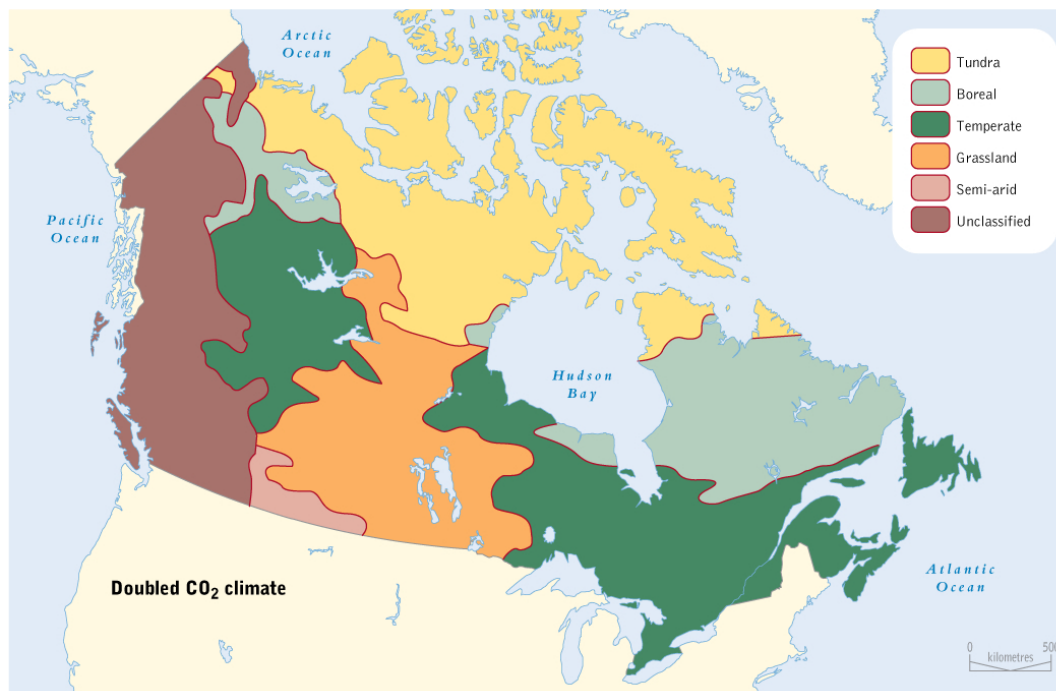
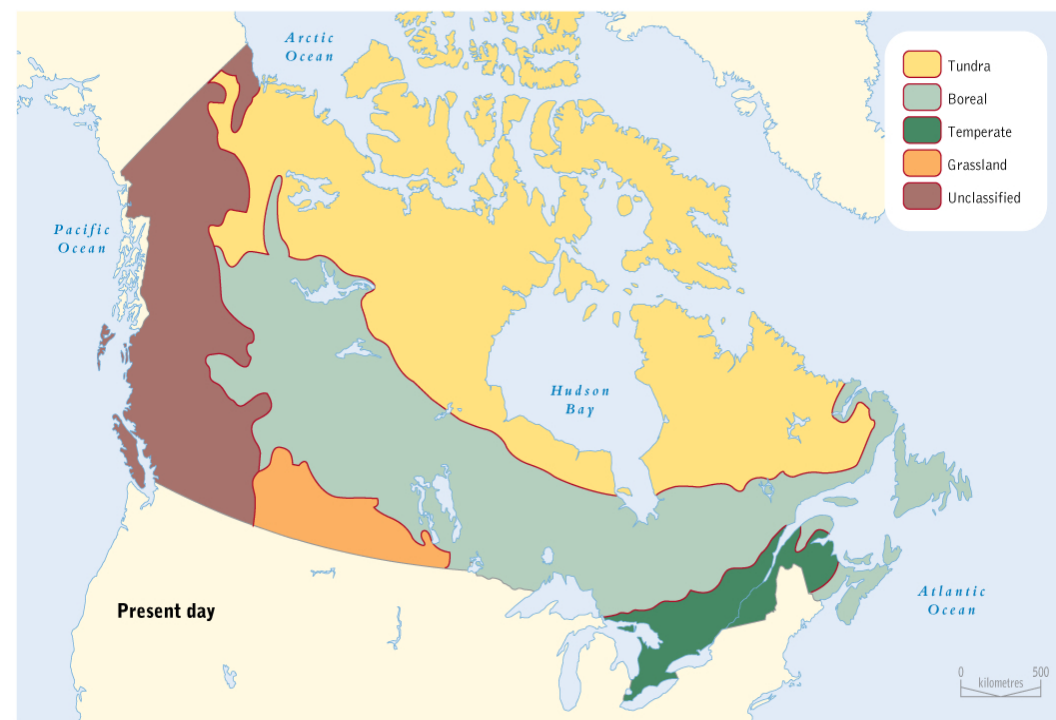


Figure 7.7 Changes in forest and grassland boundaries resulting from a typical doubled CO₂ climate (Hengeveld, 1991)

Climate Change Adaptation: Initial Considerations

- Five types of adaptation are usually recognized:
 - Prevent the loss by adopting measures that reduce vulnerability
 - Tolerate the loss by doing nothing and absorbing the cost of losses when they happen
 - Spread or share the loss by distributing the costs over a larger population, such as through insurance
 - Change the affected activity by ceasing to do certain things or by shifting to other activities; and
 - Change the location of the activity by moving to a less vulnerable location

Introduction: Planning and Management

- Principles of effective resource and environmental management:
 - Science-based decision-making
 - Best planning and management approaches in terms of concepts, processes and methods
- Philosophy of planning and management
 - Best practices and context
 - Vision and viewpoints
 - Systems perspective and timescales

Planning and Management Components

Context

- Context: specific characteristics of a time and place
- Conditions differ in space and time: biophysically, economically, socially, legally, politically
- Context needs to be systematically considered when developing a strategy, plan, or approach for a resource or environmental management problem; **custom-design solutions** are more effective

Planning and Management Components

Context in the Big Picture

- Resource and environmental management involves many organizations whose goals overlap and conflict
- There is growing skepticism about the formal mechanisms of **government** to deliver services effectively, efficiently, and equitably
 - **Governance** of resources and the environment takes place in situations defined by high levels of *complexity* and *uncertainty*
 - Managers must often deal with rapid change
 - Managers often must deal with *conflict*

Planning and Management Components

Context in the Big Picture

- Four other contextual aspects are important for understanding lack of progress relating to managing resources and the environment:
 1. The preoccupation of many national governments with debt and deficit reduction, leading to reduced funding to environmental infrastructure and services
 2. Many national and state governments have been
 - a. downloading responsibilities for environmental services to lower levels of government (subsidiarity / efficiency)
 - b. commercializing such services
 - c. privatizing these services

Planning and Management Components

Vision

- Before deciding how to deal with resource and environmental management problems or opportunities, managers should determine what ends or desirable conditions are sought
- A **vision** represents a realistic, credible, and attractive future for a region, community or group; a sense of direction
- If a shared vision about a desirable future is to be achieved, it is important to involve stakeholders in the management process

Planning and Management Components

Ethics and Values

- To ensure that a shared vision is endorsed by a society, it must reflect their basic ethics and values, OR it must identify the shift in values that is required to achieve the vision
- An **ethic** is ‘a set or system of moral principles or values that guides the actions or decisions of an individual or group’
- It is desirable to have a clearly articulated foundation, based on ethical principles, from which we can make decisions
- We also need to be able to appreciate that the values in different societies usually reflect a mix of explicit and implicit (unstated) principles