KEYNOTE PRESENTATIONS

The Role of Parks and Protected Areas and the Importance of Scientific Information in Decision-Making

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Ecosystem Management and the New Protected Area Paradigm

Perspectives on the role of parks and protected areas are changing as the concept of ecosystem management — of relating the parts to the whole — takes hold.

Ecosystem management vs. managing ecosystems

- the broad social concept is applicable to protected areas not the production oriented version

Protected areas role in a more sustainable future

- in-situ biodiversity conservation requires protected areas and biodiversity conservation is an essential component of a more sustainable economic and social future

Linked, buffered, and hierarchical parks and protected area networks

- protected areas are a part of the land use mosaic and not 'set-a-sides'; they are connected by compatible land uses and the network is nested spatially

Ecological integrity/ecological health

- ecological integrity is a condition which may be low in urban areas and high in protected areas. At larger scales various areas with degrees of integrity should have overall ecological health.

Ecosystem Management for Ontario National Parks

Parks Canada policy

- the 1989 amendments to the National Parks Act and 1994 Policy open the door to ecosystem management, recognition of transboundary interests/involvement and assessing ecological integrity.

The macro-scale context

- protected areas system plans are boxes without arrows. While more boxes or adjusted box sizes are needed, arrows or connections reflecting macro-landscape functions are needed as well.

Ecological context for Ontario National Parks/Canals

- Point Pelee: movement across Lake Erie and part of the Carolinian Zone;
- Bruce Peninsula: Niagara Escarpment and exchange between Georgian Bay;
- Georgian Bay Islands: south-eastern Georgian Bay and adjacent watersheds over to Lake Simcoe;
- St. Lawrence Islands: the Frontenac Axis and St. Lawrence River Valley;
- Rideau Canal/Trent Severn Waterway: a set of watersheds along the 'compression zone' of southern remnants at the Canadian Shield interface;
- Pukaskwa: part of the Lake Superior watershed that links to the Hudson Bay watershed.

Research and Decision-Making Implications

Protected area management goals must be at landscape/ecosystem scale

- site, issue, or population specific goals must be complemented with goals reflecting higher levels of ecological organization

Previous approach (species/communities, sites) must continue

- these studies must integrate with larger scales and goals

Need to identify Greater Parks Ecosystems (GPE), ecological indicators (data, interpretation, refinement.)

- A GPE is the flip side of Areas of Co-operation and ecological indicators must allow comparison of the protected area in its geographical context vis-à-vis the goals

Also means integration of social-cultural, economic factors

Also means application research - share and communicate to influence values, resource/use allocation, land-use/practices, integrated planning

This is not new - but its context, the urgent need to move towards greater sustainability, is recent.

Ontario protected areas don't presently have this capability

- collectively provincial, federal, and private protected areas do not include connections and integration with their surroundings. This is a major shortcoming.

Research plus what makes it useful, is it used, does it have effects?

- knowledge for its own sake is recognized but if it doesn't contribute to better understanding by decision-makers/public, changes in values/attitudes and subsequently in improved land use or resource allocation decisions have not reached the level necessary for conservation of protected areas and in-situ biodiversity

The challenge is to re-focus research that is future oriented and develop mechanisms to make it happen.

- this forum can develop into a significant vehicle to improve, co-ordinate, and use research in Ontario parks and protected areas.

Role of a Park and Protected Area Network

Secure high quality protected areas should be the core of a hierarchically connected network including satellite natural areas, linkages, and compatible surrounding land and water uses. This network would

be designed as part of a planned land use mosaic, and along with contributions from agricultural, forestry, and human settlement lands, would ensure in-situ biodiversity conservation.

Protected areas of appropriate size usually provide habitat for widely dispersed, sensitive, or rare species, large-scale natural processes, and more complex, less disturbed ecosystems than elsewhere.

They act as baselines for change, controls for the land use experiments in their region and future pools from which natural resources may be drawn. As parks, they are also associated with a range of spiritual, educational, experiential, and economic benefits.

Ecosystem Management vs. Managing Ecosystems

Ecosystem Management:

- human biosphere paradigm
- multi-partner
- inclusive
- complex goals and objectives
- science based

Managing Ecosystems:

- production paradigm
- jurisdictional control
- exclusive
- simpler goals and objectives
- science dominated

Shifting Our Reality Paradigm Towards a More Sustainable Society

Dysfunctional human-biosphere relationship - *ecosystem management* - is a more functional relationship

Ecosystem Management to include:	biodiversity conservation population control concern for quality of life non-profit economy

Leading to a more sustainable society with a conservation based land use mosaic

Biodiversity Conservation includes:	in-situ conservation land use patterns role of protected areas
Protected Areas Network elements:	representation, designation, protection, hierarchy, scale, core areas, buffers, linkages, compatible resource use

Ecological Integrity and Ecological Health

The aggregate of various local degrees of ecological integrity results in a regional landscape with ecological health

Decision-Making Model

Informs adaptive management for goals, objectives and implementation as part of the decision-making environment

- conservation goals and objectives
- select/design ecosystem integrity indicators
- information to monitor: conservation data base
  ecological/human dimensions
  information to update
- assess ecosystem integrity indicators

Prerequisites

- recognize protected areas role in more sustainable future
- accept linked, buffered, hierarchical network of protected areas
- contribute to goal/objective assessment
- work in multi-interest/jurisdictional context

Types of Research

- landscape scale ecological processes, effective ecological integrity indicators, responses to management
- human dimensions: compare economic scenarios, determine values/quality of life
- communications: increased understanding, help adaptive decision-making, shift values