

Environmental Impact Assessment (EIA) as a management tool for protected areas: Canada and Mexico

Angeles Mendoza

angeles@angelesmendoza.com

IAIA'04, April 26, 2004

Faculty of Environmental Design
University of Calgary



Outline

- Background
- Research questions & methods
- Results and discussion
 - EIA in Canada and Mexico
 - review of EIA reports
 - interviews
- Conclusions
- Recommendations

Background

Scope of this presentation

- What is the current experience in Mexico regarding the use of EIA as a tool for protected areas management
- What elements from the Canadian experience could help improve the use of EIA for protected areas in Mexico

Why Canada and Mexico

- Protected areas are seen as a strategy to protect biodiversity and promote sustainable development
- Presence of shared species
- EIA in Canada since the 1970s
- EIAs in Mexico since 1988
- EIA as a tool to reconcile environmental protection and sustainable development
- Cumulative Effects Assessment is integrated into EIA
 - “Cumulative effects assessment is...merely EIA done right” P.N. Duinker

Research questions and methods

Research questions

- What are the main similarities and differences between Canada and Mexico's legislation regarding EIA and cumulative effects (CE)?
- Are CE considered in EIA reports?
- What do managers think about the use of EIA -and CE- for improving management of protected areas?

Methods

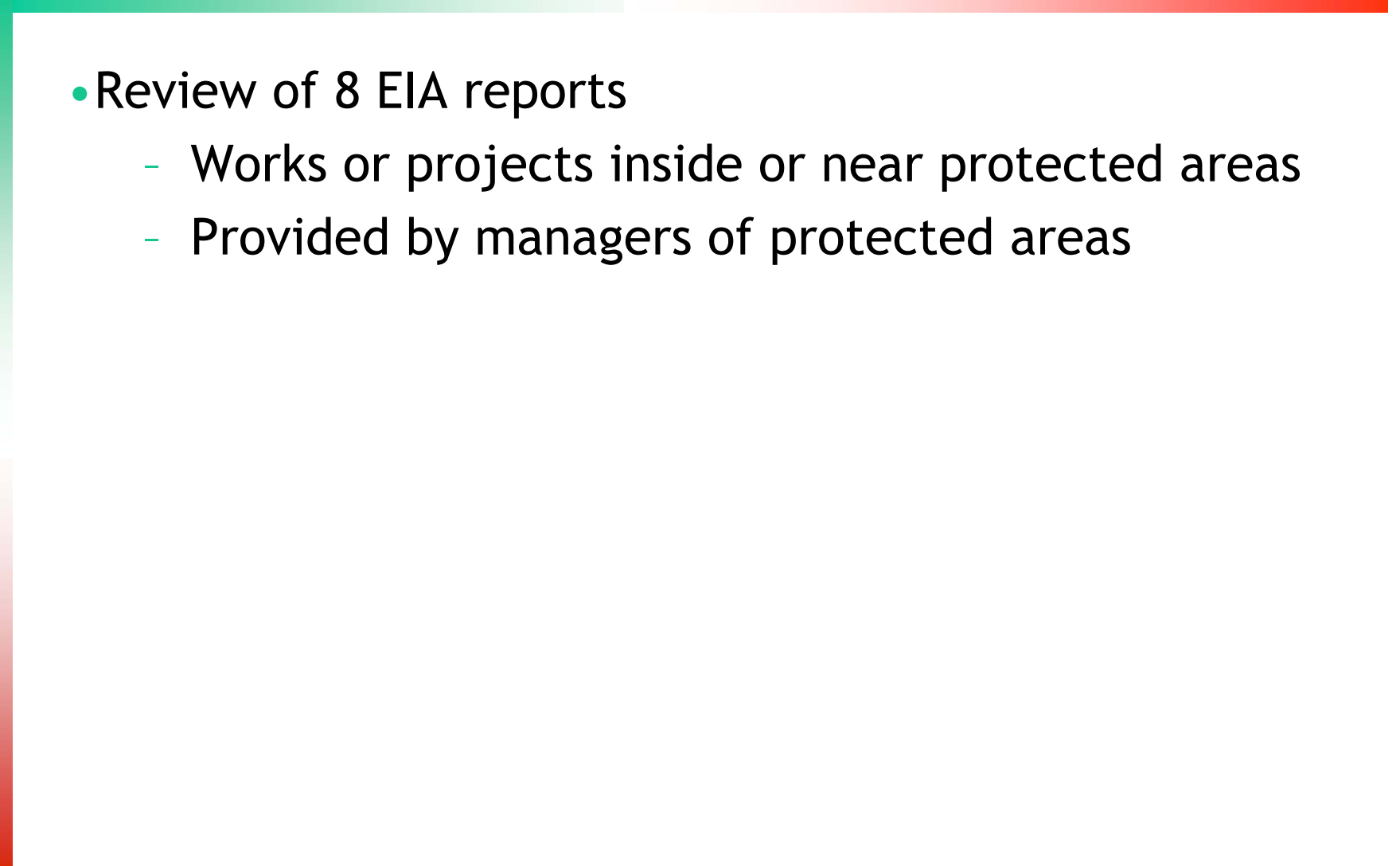
- Review of laws and regulations
 - EIA
 - Canadian Environmental Assessment Act
 - General Law of Ecological Equilibrium and Environmental Protection (LGEEPA)
 - LGEEPA Regulation on Environmental Impact Assessment
 - Protected areas
 - Canadian National Parks Act
 - LGEEPA Regulation on Natural Protected Areas

- Selection criteria for protected areas:

- Existence of a management team and management plan
- Presence or records of populations of shared species:
 - bald eagle
 - burrowing owl
 - peregrine falcon
 - piping plover
 - monarch butterfly
- Listed as Important Bird Areas or Biological Corridors

- Areas selected:

- 2 Biosphere Reserves
- 1 National Park
- 1 Wildlife Refuge

- 
- Review of 8 EIA reports
 - Works or projects inside or near protected areas
 - Provided by managers of protected areas

Year	Project	Author
1992	Modification of a canal, Yucatán	CINVESTAV
1994	Rehabilitation of a salt mine, Yucatán	Salinera de Yucatán
1997	Copper Mining, Sonora	Minera Teck
1998	Valuation of a limestone mining deposit, Sonora	Americal
2000	Extraction of material for road construction, Sonora	ARL Construcciones
2000	Town expansion, Rio Lagartos, Yucatán	Consultores en Ecosistemas
2000	Construction of transmission towers, Sonora	Movitel del Noroeste
2001	Town expansion, San Felipe, Yucatán	Consultores en Ecosistemas

- Interviews

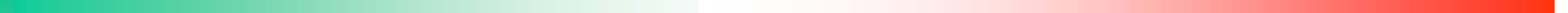
- Twelve interviews with managers and staff from the four protected areas
- Four interviews with directors of the National Commission on Natural Protected Areas

Results and discussion

Environmental Law

	Canada	Mexico
Definition environmental impact	Changes that a project may cause on the environment	Modification to the environment caused by action of man or nature
Types of EIA	Screening Comprehensive Class screenings	Particular Regional Preventive report
Cumulative effects	For both screening and comprehensive	Only for regional EIA
Transboundary effects	Considered	Not considered

	Canada	Mexico
Precautionary principle	Yes	No
Public involvement	Early in the process	After EIA has been submitted
Panel Review	Yes	No, only a 1-day public meeting
Public registry	Yes	Yes

- 
- 
- Cumulative effects are stressed more in Canada than in Mexico, with clear requirements to consider ecological integrity and apply the precautionary principle
 - EIA process is more preventive and participatory in Canada than in Mexico

EIA Reports

Characteristics

- Comparison with model by Mendoza, Spaling, and Ross
 - 61 elements, scored from 0 to 4
 - Scoping
 - Project, methods, regional context, and significance
 - Management of cumulative effects, mitigation, implementation and follow-up

Results

- Scores of the 8 Mexican reports ranged from 3 to 17 out of 128
- The elements treated with more detail were the description of the project and of the locality where it would take place
- The elements not considered were implementation of mitigation measures and follow-up
- Scores of 13 Canadian reports from the years 1994 to 1998 ranged from 20 to 65

- Only one project used indicators
 - It provided quantitative information on the state of indicators but did not assess how the project would affect them
- Spatial or temporal boundaries were not defined
- Most common method to determine significance was a list of impacts with a matrix of interactions
- Analysis was descriptive
- Only two reports related likely impacts to mitigation measures

Cumulative effects (CE)

- Reports evaluated only one phase of a major project
- CE were not evaluated
 - Only one report mentioned they might occur
- Analysis and mitigation measures focused on direct impacts of proposed works or activities
- Residual effects were not evaluated
- Two assessments located the proposed project outside a protected area when it was inside, at least in part (different requirements apply)

Interviews with Mexican managers

Purpose of conducting EIAs

- To prevent environmental damage
- To reconcile interests
- To move towards sustainable development

Main Problems regarding quality of EIA reports

- Consultants do not have enough knowledge of EIA, the project, or the receiving environment
- Reports may omit information about the project or the environment
- Recommended mitigation measures may not be feasible for proponents or useful for park management

Other problems affecting quality of EIA process

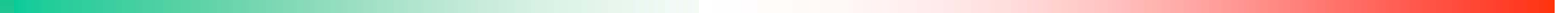
- EIA may be done at the last minute, when most decisions have been made
- Few staff and resources to review EIAs
- Decisions are made at other levels, protected areas only give a recommendation about the project
- Not enough collaboration among proponents, consultants, and park staff
- EIA is more a reactive than a proactive tool

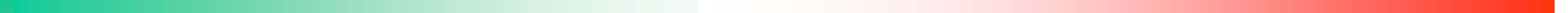
Consideration of Cumulative effects (CE)

- Protected areas are affected by CE; however,
 - EIAs do not include analysis of CE
 - Regional EIAs are replaced by other instruments
- Projects and approvals follow a piece-by-piece approach

- No thresholds or limits of acceptable change are known for ecosystems
 - No elements to reject projects when carrying capacity is being reached. e.g. tourism developments
- EIA is a good tool for park management; however,
 - The quality of the reports and the review process could be improved
 - There are areas not properly covered by current regulations, e.g. canals and research

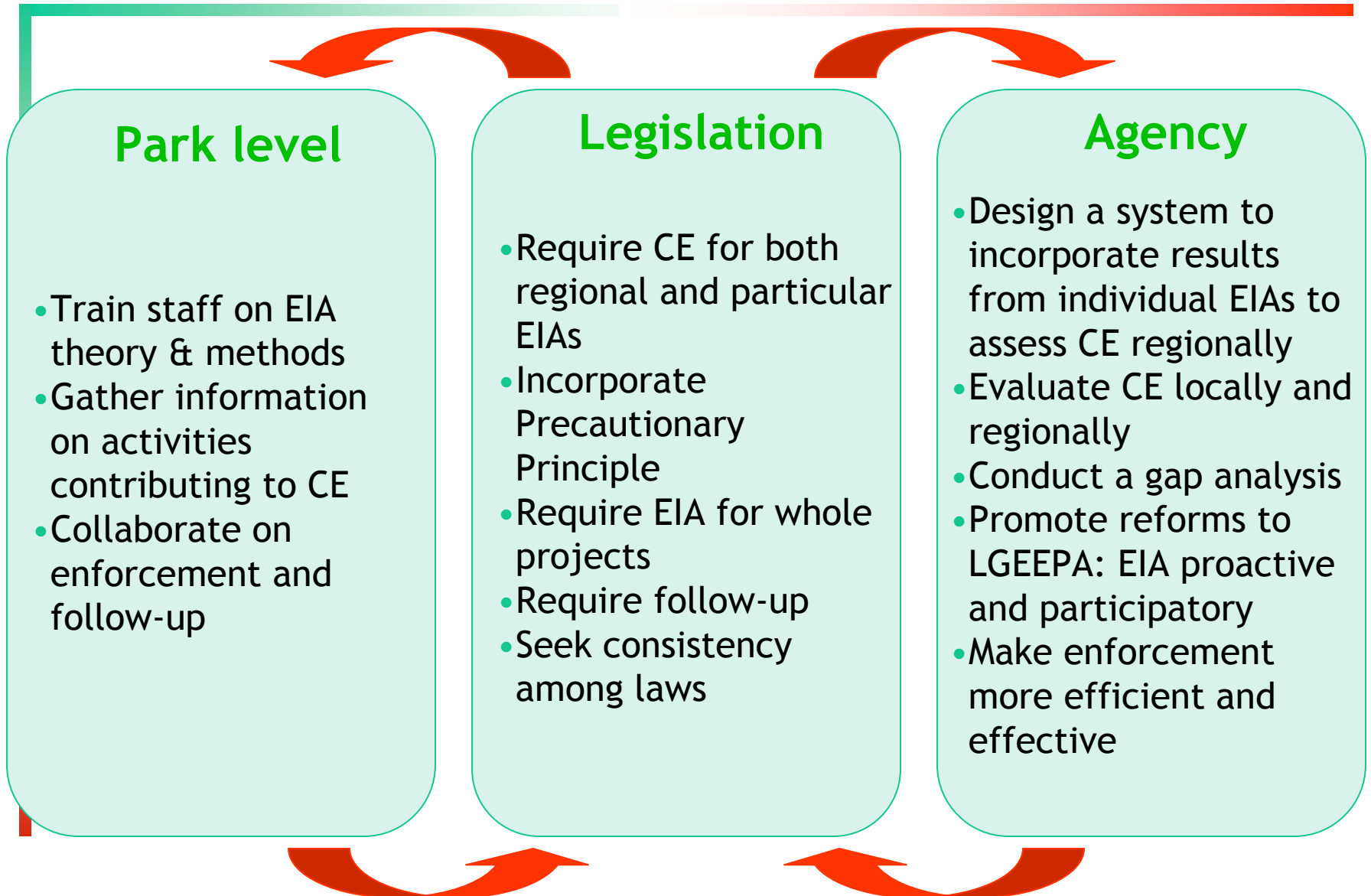
Conclusions

- 
- 
- A small number of reports were available for review. However, they showed a trend that was confirmed by park staff
 - The quality of EIA reports was low, especially regarding the use of scientific information, the feasibility and usefulness of mitigation measures, and the management of environmental impacts
 - Cumulative effects are not addressed on EIA reports

- 
- 
- Currently, cumulative effects are considered on the legislation only for regional EIAs
 - Managers indicated a need to assess cumulative effects for all projects affecting protected areas and to improve the quality of EIA reports in general
 - EIA process is less participative and proactive in Mexico than in Canada

Recommendations

Improving the use of EIA for park management



Thank you

- To informants
- CONCYt-Mexico
- University of Calgary

Questions and comments are
welcome

Visit <http://protectedareasmanagement.org>