Forest Management Issues in Western Australia: My Perspective

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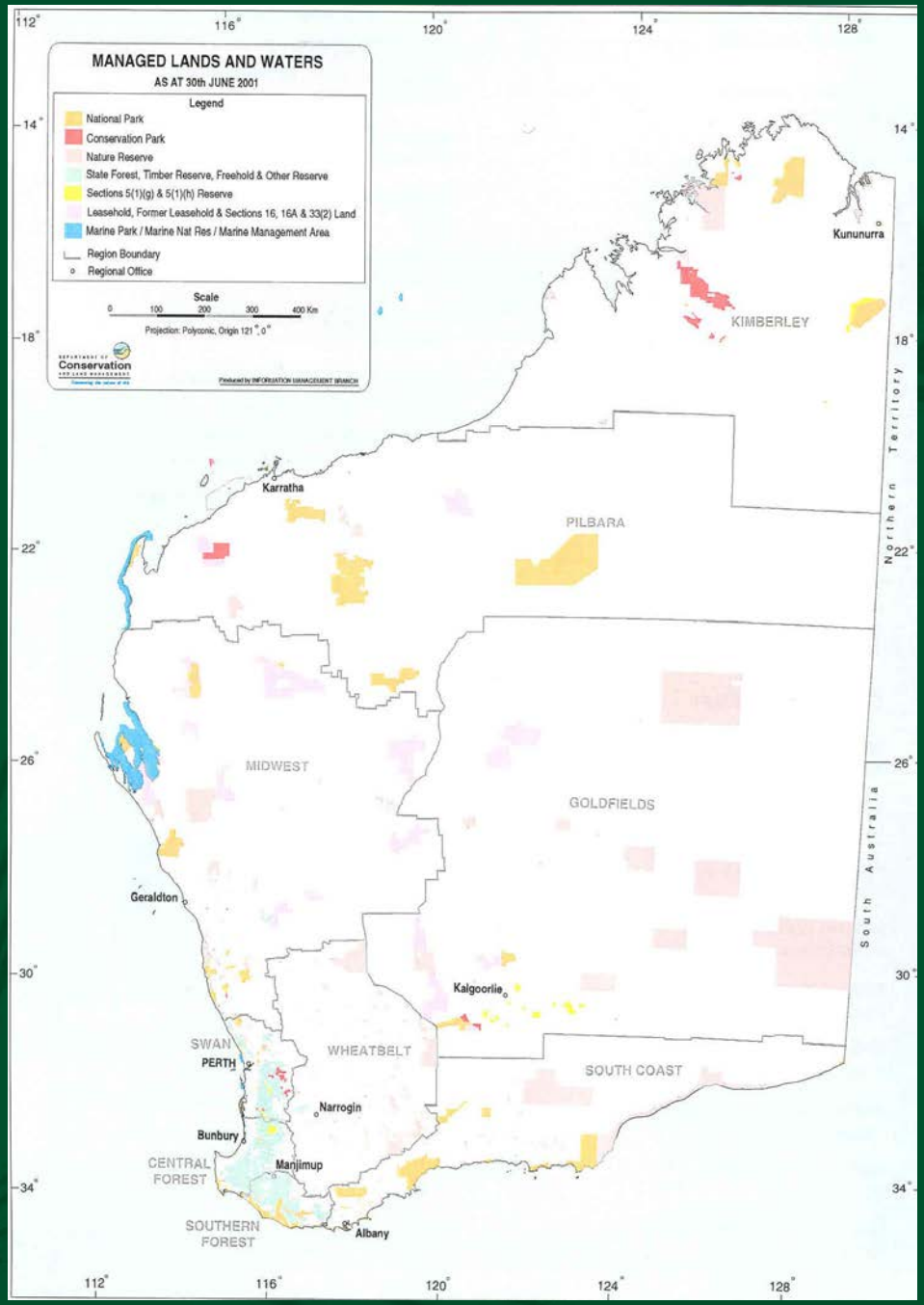
Forest Management Issues

- Conceptual or Philosophical Issues
- Management Issues


MANAGED LANDS AND WATERS
AS AT 30th JUNE 2001
Legend
National Park
Conservation Park
Nature Reserve
State Forest, Timber Reserve, Freehold & Other Reserve
Sections 5(1)(g) & 5(1)(h) Reserve
Leasehold, Former Leasehold & Sections 16, 16A & 33(2) Land
Marine Park / Marine Nat Res / Marine Management Area
Region Boundary
Regional Office
Scale
0 100 200 300 400 Km
Projection: Polyconic, Origin 121°,0°
Department of Conservation and Land Management
Produced by INFORMATION MANAGEMENT BRANCH
112°
116°
120°
124°
128°
14°
18°
22°
26°
30°
34°
Kununurra
KIMBERLEY
Karratha
PILBARA
Northern Territory
MIDWEST
GOLDFIELDS
South Australia
Geraldton
Kalgoorlie
SWAN
PERTH
WHEATBELT
SOUTH COAST
Narrogin
Bunbury
Manjimup
CENTRAL FOREST
SOUTHERN FOREST
Albany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Forest Management Paradigms

- 1829-1919: Uncontrolled exploitation
- 1919-1950s: Forest protection
- 1950s-1970s: Sustained timber yield
- 1970s-1990s: Multiple use
- 1990s- Ecologically Sustainable Forest Management

New Policy Settings

- Old-growth forest policy
- 30 new national parks
- Reduced area of forest available for logging
- Reduced volume of timber
- Embraced Ecologically Sustainable Forest Management (ESFM)

Ecologically Sustainable Forest Management (ESFM)

"*to protect ecosystem integrity (biodiversity, productivity and health) while providing social, spiritual end economic benefits to the community in perpetuity*"

Guiding principles of ESFM (CLM Act)

- Precautionary principle - value judgement!
- How much biodiversity?
- How will it be maintained?
- What are the trade-offs?

Guiding Principles of ESFM (CLM Act)

ESFM Principle	Issues
1. Integrate long and short term economic, environmental and social considerations (Triple bottom line)	• Not all values are equal to all people.

Guiding Principles of ESFM (CLM Act)

ESFM Principle

2. The lack of full scientific certainty should not be used as a reason for not preventing environmental degradation.

OR

If you are uncertain of the consequences, don't do it .

(Precautionary principle)

Issues

- Value judgement
- Decisions must be made in the absence of perfect knowledge (fact of NRM)

Overall Impressions

Strengths

- Legal & Administrative framework
- Embraces ESFM
- Emphasis on biodiversity conservation
- CAR reserve system
- Sets biodiversity objectives at various spatial scales
- Recognises the importance of structural diversity

Weaknesses

- Lacks Values & Ecological Principles framework
- ESFM vague
- Objectives & strategies often vague
- Uncertainty - CAR reserve system
- What basis/criteria for setting structural goals?
- No clues as to trade-offs


WE'RE IN LUCK.... NOT A WORD ABOUT LOGGING!

Values & Principles

Establish a reference framework of overarching **values** and **ecological principles** to guide ESFM (and biodiversity conservation objectives and strategies)

Setting Social Values

- Biodiversity is both a biophysical entity and a social value (Hunter 1999)
- Participants need to know how management actions will impinge on values that they hold dear.
- Forest planning: Process of combining social values and scientific analysis.
- A role of science is to inform.

General Ecological Principles

New paradigm: *Ecosystem Management* (*Ecological Forestry*)

Focuses on maintaining ecological integrity- central axiom:

"...*any manipulation of a forest ecosystem should emulate the natural disturbance patterns under which these ecosystems have evolved*…"
(Seymour & Hunter 1999)

General Ecological Principles

- Forest ecosystems shaped by natural disturbances regimes.
- Disturbance regime:
  - return interval
  - severity/intensity
  - spatial pattern

General Ecological Principles

- Ecosystems influenced by recent and past human activities
- Structural/habitat heterogeneity (dynamic mosaic)
- Retain habitat legacies, internal recolonisation sources
- Do different things - within limits
- Protect soils and water
- A CAR reserve system is essential

Objectives & Strategies

- Section 4.2.1: A CAR Reserve System

"*To establish a system of reserved areas that meets the CAR targets and provides for high value biodiversity elements"*

Comment:

- Adopts JANIS criteria - Forest ecosystems?
- Systematic biological survey required

Objectives & Strategies

- Section 4.2.2: Biological diversity components

"To understand the impacts of the sustainable use of natural resources on the components of biological diversity"

Comment:

- Need to understand ecosystem function & spatial and temporal patterns of structure, species assemblages and population dynamics

Objectives & Strategies

- Section 4.2.3: Managing to sustain biodiversity at various scales

"To manage State forest and timber reserves for the conservation of biological diversity at a range of scales"

Comment:

- Nested scale approach is sound.
- Spatial objectives are a good starting point (values)

Objectives & Strategies

- Section 4.2.4: Biodiversity & structural diversity

"To manage State forest & timber reserves so that they maintain the structural elements necessary for the conservation of biological diversity at the whole of forest, landscape and operational management scales"

Comment:

- Critical to retain adequate habitat provided by mature or old growth forest. How much? Where?

FORESTCHECK

- Monitoring framework
- Attributes: reliable, feasible, credible, affordable
- Meshes with Montreal criteria for ESFM
- External input
- Stratified sampling-Forest landscapes, silvicultural treatments, ‘controls’
- Fewer sites, greater detail, **OR**

  less detail (indicators), more sites?