

Biodiversity-inclusive Impact
Assessment: going from project
to strategic level

Jo Treweek CBBIA-IAIA
Training Course, Stavanger,
Norway

The most important lesson of the last ten years is that the objectives of the Convention on Biological Diversity will be impossible to meet until consideration of biodiversity is fully integrated into other sectors. The need to mainstream the conservation and sustainable use of biological resources across all sectors of the national economy, the society and the policy-making framework is a complex challenge at the heart of the Convention."

(Hague Ministerial Declaration from COP VI to WSSD, 2002)

Use of biological resources for human livelihoods is often unsustainable, and many human activities totally ignore (externalize) any consideration of biodiversity, at a high cost to human development.

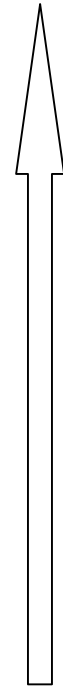
The goal is to internalize the goals of biodiversity conservation and the sustainable use of biological resources into economic sectors and development models, policies and programmes, and therefore into all human behaviour.

" The Convention on Biological Diversity requires Parties to integrate as far as possible and as appropriate the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans and programmes".



more high-
level/strategic

more site-
specific, less
strategic

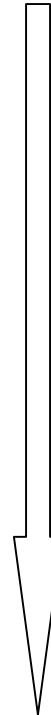


policy SEA

plan SEA

programme
SEA

project EIA



Build biodiversity into policies and plans. Review alternatives and options, to avoid loss and provide enhancements. Seek to implement action plans. Plan for mitigation in advance of impacts. Put suitable monitoring in place.

Narrower range of options and alternatives. Intended for more detailed analysis of specific impacts on biodiversity. Less opportunity for avoidance or off-site mitigation. Too late to start new monitoring

Some reasons why SEA is required

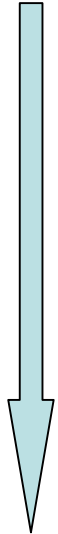
- Many activities which do not require consent at project level can have significant cumulative effects on biodiversity
- IA is not always applied even when it should be at project level
- Assessment at project level is too late to plan effectively for biodiversity and to ensure its conservation and sustainable use
- Piecemeal mitigation is more likely without SEA

SEA helps:

- Identify important biodiversity constraints
- Ensure that biodiversity values and uses are recognised and planned for
- Provide opportunities for people who need and use biodiversity to get involved
- Provide opportunities for effective biodiversity monitoring
- Many processes that reduce genetic diversity - e.g. loss or isolation of habitats - operate at the ecosystem, landscape or global scale: SEA is one way to capture these processes as well as more local ones.

Adopt the following philosophy:

1. **ENHANCE** biodiversity
2. **AVOID** damage and loss (design, siting, location)
3. **REDUCE** damaging effects (design, environmental management)
4. **RESTORE** damage (eg on-site, in-kind mitigation)
5. **COMPENSATE** for damage or loss (eg off-site mitigation)



In all cases:

- **MONITOR** effectiveness and outcomes
- Add to **INFORMATION** networks

what doesn't get measured doesn't get managed:

SEA needs reliable information from systematic biodiversity monitoring and planning

Results of review of SEA practice (based on review of 15 SEA-type reports)

- Term biodiversity has universal recognition, but 'Biodiversity' is not defined
- Biodiversity does not drive development of alternatives or SEA design
- Biodiversity policy directions unclear (less than 50%)
- Consultation poor (27%)
- Impacts on biodiversity at different scales/levels not considered (0%!)
- Monitoring recommendations limited (less than 50%)
- Unclear mechanisms for implementing mitigation in advance

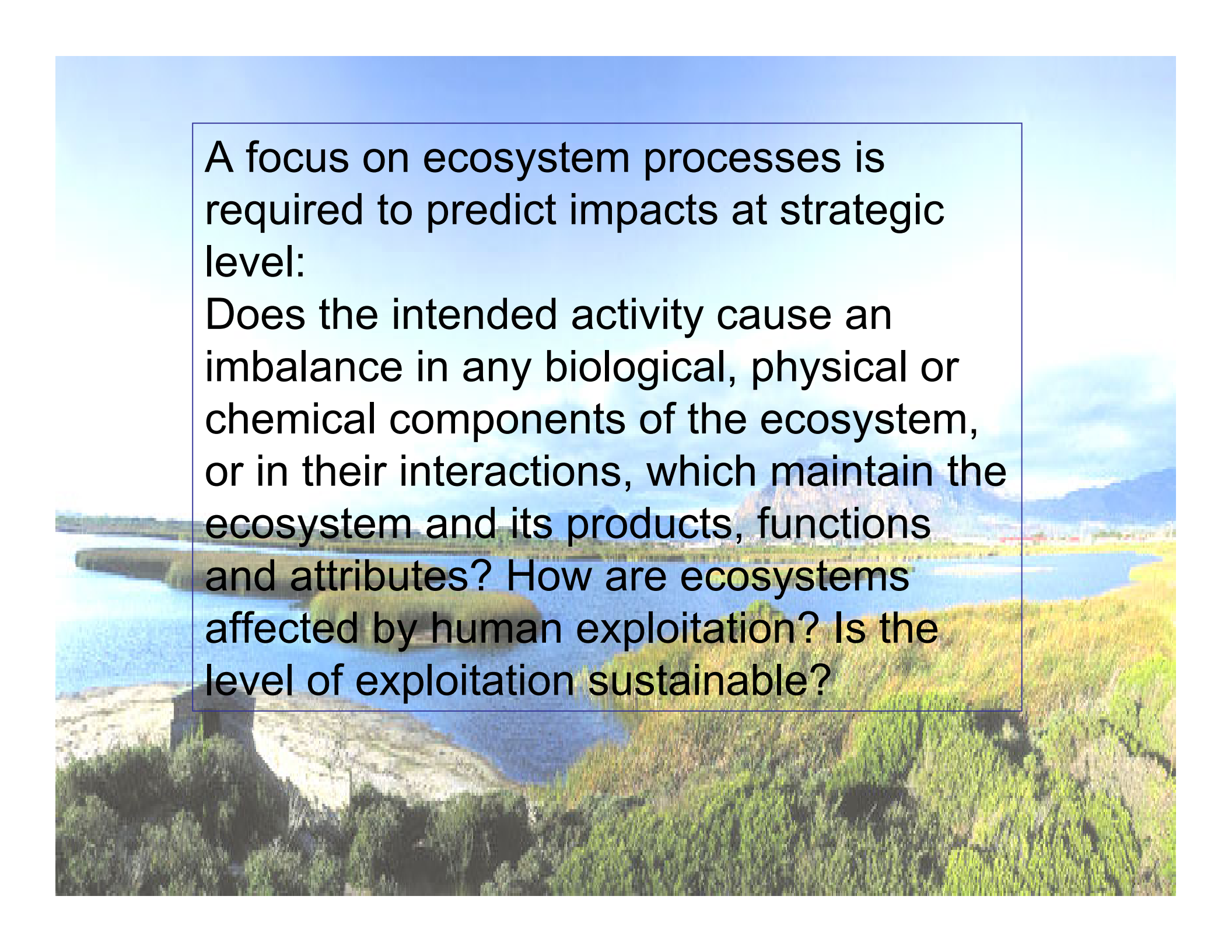
- What are relevant **policies** and associated **objectives**?
- Which biodiversity **uses and values** do we want to sustain? What biodiversity outcomes do people want to see?
- How can compliance with these be evaluated. What are the **threats** to biodiversity associated with this proposal and other relevant activities (historic, current or planned)?
- What are the relative risks and **opportunities** for biodiversity associated with available alternatives?
- To what extent will biodiversity objectives be achievable following plan-implementation? How can we evaluate this (**indicators** and **targets**)?
- What are the impacts (key **losses and gains**?)
- Are there any important **information gaps**? How confident can we be in our conclusions?

How will biodiversity be affected by plan-activities?

Assess impacts on biodiversity by considering:

- Different levels of biodiversity as appropriate
- Biodiversity composition, structure and function

Consider ecosystem functions and processes that support biodiversity: what environmental conditions are required to conserve or promote biodiversity?



A focus on ecosystem processes is required to predict impacts at strategic level:

Does the intended activity cause an imbalance in any biological, physical or chemical components of the ecosystem, or in their interactions, which maintain the ecosystem and its products, functions and attributes? How are ecosystems affected by human exploitation? Is the level of exploitation sustainable?

How will people's uses of biodiversity be affected by plan-activities?

Assess impacts by considering:

- The ways in which people use and value biodiversity
- The economic value of ecosystem services based on biodiversity
- The cost of substituting biodiversity
- The role of biodiversity in poverty reduction and in supporting livelihoods

Type of technique	Technique	SEA stage					
		Describe baseline	Identify impacts	Predict impacts	Evaluate impact significance	Suggest mitigation	Ensure plan is internally coherent
Qualitative, participatory	Expert judgment	✓	✓	✓	✓	✓	✓
	Public participation	✓	✓	✓	✓	✓	✓
Mapping and simple spatial analysis	Spatial analysis techniques	✓	✓	✓	✓	✓	
	Land unit partitioning analysis			✓			
Impact prediction and evaluation	Integrated Habitat System	✓			✓	✓	
	Network analysis	✓	✓	✓		✓	
	Scenario/sensitivity analysis			✓		✓	
	Multi-criteria analysis				✓		
	Vulnerability analysis	✓		✓	✓		
	Risk assessment			✓	✓		
Sound planning	Policy and Compatibility appraisal					✓	✓

To assess cumulative impacts on biodiversity, identify:

- What other plans or projects are likely to take place
- Threats to biodiversity associated with these other plans and activities
- Other background threats
- Vulnerability of biodiversity to additional threats
- Thresholds, 'points of no return'
- Recovery mechanisms and time required for recovery from impacts

Making trade-offs

The role of SEA is to identify the need for any trade-offs and suggest possible solutions so that as many plan objectives as possible can be achieved

Comparing alternatives

Typically
done as
matrix:

	Alt 1	Alt 2	Alt 3
Protected Areas	++	-	+
Biodiversity objectives (NBSAP)	--	-	++
Ecosystem services	0	+	+

Mitigation

Aim	Questions to ask
<ul style="list-style-type: none">• Avoid, reduce, ameliorate or compensate for adverse impacts• Achieve no net loss• Determine significance of impacts after mitigation	<ul style="list-style-type: none">• What opportunities are there for avoiding, reducing, restoring, enhancing biodiversity impacts?• What significant impacts remain after mitigation?• Can they be compensated for?

Monitoring

Aim	Questions to ask
Propose a monitoring programme and auditing procedures	<ul style="list-style-type: none">• What biodiversity issues need to be monitored?• What indicators/measures should be used? Who is responsible? Who pays?• If there is much uncertainty about predicted impacts, what monitoring should be carried out to reduce this?

Conditions for good practice

- SEA has clear and transparent role as an integral part of a coordinated planning process and this process recognises biodiversity as a fundamental issue
- Biodiversity policies shape decisions. Clear policy framework and priority actions
- Biodiversity values and needs are well understood and fully accounted for
- People who need and use biodiversity are involved in the decision-making process
- Well-established partnerships and coordinated data and information management
- Reliable data on distribution, status, trends for biodiversity indicators