UNEP

CBD

Convention on Biological Diversity

Distr.
GENERAL

UNEP/CBD/EW-EIAMA/1/INF/1/Add.1
10 November 2009

ORIGINAL: ENGLISH

EXPERT WORKSHOP ON SCIENTIFIC AND TECHNICAL ASPECTS RELEVANT TO ENVIRONMENTAL IMPACT ASSESSMENT IN MARINE AREAS BEYOND NATIONAL JURISDICTION
Manila, 18 - 20 November 2009

BACKGROUND DOCUMENT TO AN EXPERT WORKSHOP ON SCIENTIFIC AND TECHNICAL ASPECTS RELEVANT TO ENVIRONMENTAL IMPACT ASSESSMENT IN MARINE AREAS BEYOND NATIONAL JURISDICTION

Part II: Review of scientific and technical aspects of global, regional and national strategic environmental assessment frameworks and their relevance to marine areas beyond national jurisdiction

Note by the Executive Secretary

BACKGROUND

1. Pursuant to paragraph 10 of decision IX, the Executive Secretary is convening, with financial support from the European Commission, an Expert Workshop on Scientific and Technical Aspects relevant to Environmental Impact Assessment in Marine Areas Beyond National Jurisdiction, to be held at the Pan Pacific Hotel in Manila, the Philippines, from 18 to 20 November 2009.

2. To facilitate effective contribution of inputs to this expert workshop, the Secretariat has commissioned a background study, with a financial support from the Government of Spain, to review key scientific and technical elements in selected global, sectoral, regional and national environmental impact assessment (EIA) and strategic environmental assessment frameworks with a view to identifying which of those elements should be considered in developing scientific and technical guidance for the implementation of environmental impact assessments and strategic environmental assessments for activities and processes under their jurisdiction and control which may have significant adverse impacts on marine biodiversity beyond national jurisdiction.

3. The results of this study are compiled in two parts, including the current note (Part II) as an addendum to the document containing part I (UNEP/CBD/EW-EIAMA/1/INF/1). This note focuses on: (i) reviewing scientific and technical aspects of global, regional and national experiences of strategic environmental assessment and their relevance to marine areas beyond national jurisdiction; and (ii) identifying possible elements to be considered as contribution to the development of scientific and technical guidance for environmental impact assessment and strategic environmental assessment in marine areas beyond national jurisdiction. These notes are submitted as information for participants to the Workshop.

TABLE OF CONTENTS

DESCRIPTION AND ANALYSIS OF SCIENTIFIC AND TECHNICAL ASPECTS OF GLOBAL, REGIONAL AND NATIONAL STRATEGIC ENVIRONMENTAL ASSESSMENT FRAMEWORKS AND THEIR RELEVANCE TO MARINE AREAS BEYOND NATIONAL JURISDICTION

A. The Concept and Objectives of Strategic Environmental Assessment

1. Strategic environmental assessment (SEA) refers to the formal systematic and comprehensive process of identifying and evaluating the environmental implications of proposed plans, programmes, policies and in some cases legislation to ensure that they are fully considered and addressed at the earliest stage of decision making. It provides an opportunity for environmental considerations to be integrated together with economic and social concerns into strategic decision making at the global, national and regional levels. In many cases SEA enables decision makers to strike an appropriate balance between promoting economic and social development and protecting the environment.

2. SEA is not a substitute for EIA but allows for more holistic, comprehensive and long term consideration of environmental considerations at the policy, planning and implementation levels. While EIA is often site specific and limited in time, SEA processes broaden the spatial and temporal range of environmental assessment often being applied to whole sectors of activity or geographic areas as an institutionalised part of decision making on a long term basis. SEA is a proactive process which aims to anticipate the environmental impacts of particular plans, programmes and policies rather than react to the environmental effects of specific projects. While EIA is often conducted in a pre-determined policy framework, SEA enables strategic choices to be identified at an earlier stage in the policy making process which may lead to more sustainable outcomes and better protection of the environmental resource base and ecosystem services.

3. Rather than being a simple linear process, SEA is a continuous and iterative process which is adapted to the relevant decision making context. It employs a suite of tools to inject environmental considerations into policy and planning processes and programmes. While EIA is quite structured in character, SEA may take different forms and use different methods to achieve a variety of objectives including more informed decision making based on a comprehensive examination of development options and their environmental implications, increased stakeholder engagement in decision making, prudent management of natural resources for sustainable economic development, enhanced transboundary cooperation over shared natural resources and conservation of biodiversity.

4. Various forms of SEA are now being utilised at the global, national and regional level in evaluating policies, plans and programmes but in global and regional instruments and national legislation do not make reference to the evaluation of the environmental effects of policies, plans and programmes on marine biodiversity beyond national jurisdiction. To ensure long term conservation of marine biodiversity beyond national jurisdiction, it is critical to incorporate systematic consideration of the implications of policies, plans and programmes on marine biodiversity beyond national jurisdiction into SEA processes.

B. International and Regional Instruments Relevant to Strategic Environmental Assessment

5. At the global level, the key SEA instrument is the 2003 Protocol on SEA to the Espoo Convention (Kiev Protocol) which focuses on SEA in a transboundary context. It obligates States Parties to carry out SEAs for specified plans and programmes which are likely to have significant environmental and health effects and to endeavour to ensure that environmental, including health concerns are considered and integrated to the extent appropriate in the preparation of proposals for policies and legislation that are likely to have significant effects on the environment. For plans and programmes, the Kiev Protocol imports some of the same procedural stages into its definition of SEA as those contained in EIA instruments. Article 2(6) of the Protocol defines SEA as:

"the evaluation of the likely environmental effects, including health effects, which comprises the determination of the scope of an environmental report and its preparation, the carrying out of public

participation and consultations and the taking into account of the environmental report and the results of public participation and consultations in a plan or programme."

"Environmental, including health, effect" is defined in Article 2(7) of the Protocol as including:

"any effect on the environment, including human health, flora, fauna, biodiversity, soil, climate, air, water, landscape, natural sites, material assets, cultural heritage and the interaction among these factors."

6. The ambit of the Kiev Protocol is wide, with SEAs being required for plans and programmes which are prepared for agriculture, forestry, fisheries, energy, industry including mining, transport, regional development, waste management, telecommunications, tourism, town and country planning and land use which set the framework for future development consent for projects listed in Annex I. and for projects listed in Annex II which require an EIA under national legislation. The Kiev Protocol's provisions are not limited to plans and programmes which have transboundary environmental effects as with the Espoo Convention, but apply to environmental effects wherever they occur.

7. Projects listed in Annexes I and II which have the potential for significant effects on marine biodiversity beyond national jurisdiction include offshore hydrocarbon production, intensive fish farming, the laying of pipelines for transport of gas, oil or chemicals and installations for the harnessing of wind power for energy production. For plans and programmes setting the framework for future development consent, other than those specified for automatic application of SEA in the Protocol, Parties must assess, using either a case by case examination or specific listing or a combination of both methods, whether they are likely to have significant environmental effects, including health effects. Annex III to the Protocol provides criteria to be taken into account in this assessment. Some of the criteria contained in Annex III would be particularly relevant if States were conducting SEAs for plans and programmes likely to have significant environmental effects on marine biodiversity beyond national jurisdiction. These include:

- The transboundary nature of effects
- The degree to which the plan or programme will affect valuable or vulnerable areas, including landscapes with a recognized national or international protection status
- The nature of the environmental, including health effects, such as probability, duration, frequency, reversibility, magnitude and extent (such as geographical area or size of population likely to be affected).

8. The scoping provisions of the Kiev Protocol are very comprehensive, requiring States Parties to prepare an environmental report on plans and programmes subject to SEA which identifies, describes and evaluates the likely significant, environmental effects, including health effects, of implementing the plan or programme and its reasonable alternatives. Annex IV to the Protocol prescribes the information required in this report which, in addition to the typical content of an EIA, includes a description of the likely significant transboundary environmental effects of plans and programmes and the environmental objectives established at international, national and other levels which are relevant to the plan or programme and the ways in which these have been taken into account during its preparation.

9. States Parties to the Kiev Protocol must provide early, timely and effective opportunities for public participation in the SEA of relevant plans and programmes. The public for these purposes is defined in Article 8(3) of the Protocol as including relevant non governmental organizations. As with the Espoo Convention, the provisions of the Kiev Protocol on public participation are consistent with the provisions of the Aarhus Convention. States Parties must consult with other States Parties likely to be affected by significant transboundary environmental effects of a plan or programme (Article 10). The final decision on a plan or a programme must take due account of the conclusions of the environmental report, the measures to prevent, reduce or mitigate the adverse effects identified in the report and the results of public and transboundary consultations (Article 11). Post SEA, States Parties have an obligation to monitor the significant environmental effects, including health effects, of plans and programmes which have been subject to SEA and to identify and remedy unforeseen adverse effects at an early stage. (Article 12).

10. The Kiev Protocol was negotiated by the member states of the United Nations Economic Commission for Europe (UNECE) and requires ratification by sixteen States to enter into force. The Protocol currently has twelve European States Parties. Once it enters into force it will be open to accession by all member States of the United Nations.

11. The European Parliament and Council Directive 2001/42/EC (EC Directive 2001/42) The Directive provides a minimum framework for SEA leaving the details to member States. Article 3 of the Directive provides that member States should carry out an environmental assessment of all plans and programmes likely to have significant environmental effects which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use and which set the framework for future development consent of projects listed in Annexes I and II to the EC EIA Directive 85/337/EEC or which are in view of their effects on the conservation of natural habitats and of wild flora and fauna have been determined to require an EIA pursuant to EC Directive 92/43. Assessments must be carried out during the preparation of a plan or programme and before its adoption or submission to the legislative procedure (Article 4).

12. Where an SEA is required under the EC Directive provisions, an environmental report must be prepared in which the likely significant effects on the environment of implementing the plan or programme and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme are identified, described and evaluated (Article 5(1)). The draft plan or programme and the environmental report must be made available to the authorities designated by the member States which by reason of their specific environmental responsibilities are likely to be concerned by the environmental effects of implementing plans and programmes (Article 6).

13. Member States are required to give their designated authorities and the public an early and effective opportunity within appropriate time frames to express their opinion on the draft plan or programme and the environmental report before the adoption of the plan or programme or its submission to the legislative procedure. The public for these purposes includes relevant non governmental organizations (Article 6). Member States must also consult other member States where they consider that the implementation of a plan or programme is likely to have significant effects on the environment in another member State and give such affected States an opportunity to forward their opinion on the plan or programme within a reasonable time frame and before its adoption or submission to the legislative procedure. (Article 7).

14. The environmental report and the opinions expressed as a result of public and transboundary consultation must all be taken into account during the preparation of a plan or programme and before its adoption or submission to the legislative procedure (Article 8) and a statement summarising how environmental considerations have been integrated into the plan or programme and the measures decided concerning monitoring provided to the public and any member State consulted (Article 9). The EC Directive required that all member States of the European Union should have ratified the Directive into their own country's law by 21 July 2004.

C. Examples of national legislation requiring SEA

15. The United Kingdom passed regulations in 2004 to comply with the EC Directive 2001/42 on SEA. The following regulations have been established in the UK:

- **The Environmental Assessment of Plans and Programmes Regulations 2004** which apply to any plan or programme which relates solely to the whole or any part of England or to England and other parts of the UK. The regulations also apply to the territorial waters of the UK that are not part of Northern Ireland, Scotland or Wales and waters in area designated for the time being designated under section 1(7) of the Continental Shelf Act 1964.

- **The Environmental Assessment of Plans and Programmes (Scotland) Regulations 2004** which applies to plans or programmes which relate solely to the whole or any part of Scotland.

- **The Environmental Assessment of Plans and Programmes (Wales) Regulations 2004** which applies to plans or programmes which relate solely to the whole or any part of Wales.
- **The Environmental Assessment of Plans and Programmes (Northern Ireland) 2004** which applies to plans or programmes which relate solely to the whole or any part of Northern Ireland.

The Department of Energy and Climate Change as the principal regulator of the offshore oil and gas industry in the UK has been particularly proactive in applying SEA to plans and programmes for the industry as a means of striking a balance between promoting economic development of the UK's offshore oil and gas resources and effective environmental protection from as early as 1999.

16. In Canada the Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals requires federal departments and agencies to provide SEAs where a policy, plan or program proposal is submitted to an individual Minister or Cabinet for approval and implementation of the proposal may produce a significant environmental impact. The Cabinet Directive requires SEAs to consider the environmental impact of proposals whether positive or negative and to take the necessary steps to reduce the adverse effects on the environment.

17. The US has no specific SEA legislation but the NEPA requires that:

"all agencies of the Federal Government shall include in every recommendation or report on proposals for legislation and other major federal actions affecting the quality of the human environment a detailed statement by the responsible official on the environmental impact of the proposed action." (42 USC 4332)

The term "actions" has been interpreted by US courts and through the Council on Environmental Quality Regulations 1978 as including a range of policies, plans and programmes.

18. In New Zealand SEA is undertaken as part of policy statements required to meet the objectives of the 1991 Resource Assessment Act and operates on three levels: national policy statements, regional policy statements and regional and district plans. The framework set by these policy statements and plans can outline project specific requirements at the consent or permit level for particular activities.

19. In Australia, at the Federal level, there is a discretionary provision under section 146 of the Environment Protection and Biodiversity Conservation Act (EPBC), 1999 for the assessment of actions carried out under proposed policies, programmes or plans and a mandatory provision under section 147 for the assessment of fisheries management plans. Also at the Federal level there are mandatory requirements for impact statements to be produced of National Environment Protection Measures (NEPMs) under section17 of the National Environment Protection Council Act, 1994. Both these Acts have resulted in environmental assessment of strategic proposals, mainly of fisheries management plans, but also of offshore petroleum exploration and appraisal activities and major military exercises and other activities in offshore areas.

20. In South Africa, there are no legislative requirements specifically for SEA although the National Environmental Management Act, 1998 and its amendments make provision for assessment procedures to ensure that the environmental consequences of plans, programme and policies are considered. SEA is performed on a voluntary basis and screening is based on a list of types of plans, programmes and policies and on a geographic basis.

21. In Hong Kong Special Administrative Region (HKSAR), the 1998 EIA Directive calls for evaluation of some plans and programmes and the 1999 Chief Executive's Policy Address necessitates sustainability assessments for all plans, programmes and policies.

22. In China, although there is no specific legislation on SEA, Article 8 of the Environmental Impact Assessment Law of 2003 requires that environmental impact assessment of a plan take place. Analysts report however that there has been limited implementation of this provision.[1]

[1] Du Zhu and Jing Ru, "Strategic Environmental Assessment in China: Motivation, Politics and Effectiveness"

D. Methods and tools used in SEA

23. SEA is characterised by diverse methodologies and tools. Some SEA processes are stand alone but conducted parallel to policy and planning processes while others are integral to decision making on planning and policy. SEA may focus on environmental impacts only or incorporate other factors relevant to sustainable development such as economic and social issues. It may be applied at different entry points in the policy and planning process to contribute to the initial development of a policy or plan or to evaluate an existing policy or plan. It may engage a broad range of stakeholders or be confined to expert policy analysts. It can be conducted over a short or lengthy time frame and contain a broad or more comprehensive level of detail. Different institutions may use a variety of terms for SEA such as sustainability appraisal, integrated assessment or strategic impact assessment.

24. Tools used in SEA can be grouped into a number of categories including:

- Tools for predicting environmental effects
    - Modelling or forecasting of direct environmental effects
    - Matrices and network analysis
    - Participatory or consultative techniques
    - Geographical information systems as a mode of analysing, organizing and presenting information
- Tools for analysing and comparing options
    - Scenario analysis and multi-criteria analysis
    - Risk analysis or assessment
    - Cost benefit analysis
    - Opinion surveys to identify priorities
- Tools for ensuring full stakeholder engagement
    - Stakeholder analysis to identify those affected and involved in policy, planning and programme decisions
    - Consultation surveys
    - Consensus building processes

E. Basic stages in SEA at the plan and programme level

25. Evolving State practice in applying SEA to planning and programme development reveals four stages of SEA which can be broadly categorized as:

- Establishing the context for SEA
- Implementing the SEA
- Informing and influencing decision making
- Monitoring and evaluating

26. The first stage of establishing the context for SEA will include a screening process to decide whether an SEA is needed in relation to the development of a plan or programme. Establishing the objectives of the SEA and how it will contribute and benefit the planning process is integral to defining the context for the SEA as is the identification of interested and affected stakeholders to contribute to the assessment process. The first stage should also include defining points at which environmental considerations are injected into the decision making process.

27. Implementing the SEA will involve a scoping process similar to EIA in which the content and relevant criteria for assessment should be determined. This process should involve effective engagement of relevant stakeholders including those most affected and vulnerable to the proposed plans and programmes and give them an opportunity to influence decisions on the scope of the SEA. A critical component of implementing the SEA will be the collection of baseline information on important ecological systems and services affected by the proposed plans and programmes, their resilience and vulnerability and significance for human well-being. Existing environmental protection measures and objectives contained in international, regional and national legislation should also be reviewed.

28. The implementation stage will also involve analysing the effects of the proposed plans and programmes and any alternatives. This will be more complex than is the case for EIAs as the range of options or variables which needs to be taken into account in determining the direct and indirect effects of plans and programmes will be harder to define. An SEA report should also identify measures to maximise the protection of the environment among other economic and social goals and minimise negative impacts on the environment. Reporting of an SEA should be in a readily accessible form including a non technical summary. SEAs should also be subject to quality assurance measures such as an independent review by technical experts and representatives of affected stakeholders.

29. Informing and influencing decision making will involve further engagement with affected stakeholders to ensure that they have an opportunity to review the SEA and provide meaningful input into the decision as to whether and how to proceed with the plan or programme being assessed. The final stage of the SEA process will involve establishing mechanisms to monitor the implementation of the plan or programme to ensure that it is consistent with the environmental protection and mitigation measures identified in the SEA.

F. Incorporating biodiversity considerations into SEA

30. The CBD Voluntary Guidelines on Biodiversity Inclusive Impact Assessment specify particular reasons as to why it is important to effectively incorporate biodiversity considerations in SEA. These include:

- Legal obligations to protect and conserve biodiversity in international treaties such as the CBD
- Safeguarding the livelihoods of people dependent on biodiversity which is particularly relevant for high seas fisheries
- Sound decision making on the potential economic benefits and losses caused by the implementation of policies, plans and programmes on ecosystem services
- Cumulative effects on biodiversity are best anticipated at the strategic level
- Maintaining the genetic base of evolution for future opportunities, a relevant factor when considering the exploitation of marine genetic resources beyond national jurisdiction

31. The CBD Guidelines also identify certain biodiversity triggers for the application of SEA to policies, plans and programmes. The triggers for paying special attention to biodiversity in an SEA are:

- Important ecosystem services in an area affected by a policy, plan or programme including in particular those areas with internationally protected status an important biodiversity to be protected for future generations.
- Interventions acting as direct drivers of change with known impact on ecosystem services such as biophysical changes.
- Interventions acting as indirect drivers of change which significantly affect the way in which a society consumes products derived from living organisms or products that depend on ecosystem services for their production, occupies areas of land or water or exploits natural resources and ecosystems.

32. The CBD Guidelines specify how to address biodiversity issues in SEA for each of the triggers. For the first trigger of areas know to provide important ecosystem services they recommend systematic conservation planning for non protected biodiversity, ecosystem services mapping and linking ecosystem services to stakeholders for consultation. For the second trigger of policies plans or programmes affecting direct drivers of change the Guidelines recommend determining the biophysical changes known to affect biodiversity and the ecosystem services sensitive to expected biophysical changes. For the third trigger they state that more research and case studies are needed to address societal changes such as demographic factors global economic growth, scientific and technological processes which lead ultimately to significant impacts on ecosystem services in the SEA process.

G. Case study of SEA relevant to extensive offshore marine areas implemented at the national level

33. There are many examples of SEAs being conducted for potential offshore oil and gas industry activities in marine areas within national jurisdiction which extend out to the limits of offshore national jurisdiction. The Department of Energy and Climate Change (DECC) as the principal regulator of the offshore oil and gas industry in the UK has conducted a series of SEAs examining the environmental implications of the further licensing of the UK Continental Shelf (UKCS) for oil and gas exploration and production since 1999 and in recent years has also conducted SEAs examining the implications of leasing continental shelf areas for offshore wind farms and hydrocarbon gas storage.

34. Similar SEAs have taken place off the coast of Canada. To take just one example which might provide some guidance in framing draft Guidelines for SEA of projected activities with the potential for significant adverse effects on marine biodiversity beyond national jurisdiction, the Canada-Newfoundland and Labrador Offshore Petroleum Board(C-LOPB) decided to undertake an SEA of portions of the Newfoundland and Labrador offshore area that may have the potential for offshore oil and gas exploration activity in 2002. The SEA of a portion of the Labrador shelf issued in 2007 extended out to 200 nautical miles from the low water line. It included all offshore petroleum activities which may occur in the Labrador Shelf area within the next ten years.

35. The focus of the SEA was on the likely effects of offshore oil and gas exploration activities on Valued Ecosystem Components (VECs). These were determined based on consultations with interested stakeholders, the public and regulatory agencies but included at a minimum fish and fish habitat (including benthic habitat), commercial fisheries, traditional Aboriginal fisheries, marine mammals and sea turtles, waterbirds (including seabirds, water fowl and shore birds), species at risk and sensitive/special areas.

36. The SEA Report contained the following components:

- Discussion of regional offshore oil and gas activities in the Labrador Shelf area and their historical origins;
- Overview of typical offshore petroleum activities and methods to carry out these activities (well site surveys, vertical seismic profiling, 2D/#D seismic geotechnical programs, exploration drilling including onshore to offshore drilling, well abandonment);
- Brief discussion of production alternatives;
- Description of the physical and biological environments in the Labrador Shelf SEA Area based on existing information and data, and Traditional knowledge;
- Description of other marine activities in the Labrador shelf SEA area (eg. Fisheries, aquaculture, marine transportation);
- Identification and qualitative assessment of project-environment interactions of the VECs in the Labrador Shelf SEA area;

- Identification of general mitigation measures and monitoring measures that might be considered for offshore activities. Specific or non-typical mitigations that may be required to address specific concerns;
- Identification of areas requiring enhanced or non-typical mitigation measures;
- General discussion of effects and mitigation of potential accidental events, as well as malfunctions associated with offshore oil and gas exploration activity;
- General discussion of potential cumulative effects associated with multiple offshore oil and gas activities in the Labrador Shelf SEA Area based on an estimate of potential exploration activity derived form historical offshore petroleum activities in the area and in consideration of offshore oil and gas activities within the Newfoundland offshore area; and
- For each of the above factors, discussion of potential planning implications/considerations which may have to be considered in site specific SEAs (need for additional data, special mitigation measures).

37. Detailed effects assessment analyses were not considered under the SEA but postponed until the project specific stage when detailed information on project activities is available. Substantive uncertainties or information gaps were also identified.

38. The SEA considered multiple environmental factors and issues including:

- Physical Environment
    - Meteorology and climatology (extreme events, average temperatures, seasonal variations);
    - Geology, including a discussion of the potential for seismicity/geohazard events and their impacts on slope stability in the Labrador Shelf SEA area;
    - Oceanography (wind, waves, extreme events); and
    - Sea ice and iceberg conditions (historical overview, seasonal variability and current trends).
- Biological Environment
    - Finfish and invertebrate species with a focus on commercially important and emerging fisheries including critical life stages and locations of habitat supporting such life stages;
    - Fish habitat (including benthic habitat) for those species identified in the Labrador Shelf SEA area;
    - Commercial fish species including species under moratoria;
    - Traditional Aboriginal fisheries;
    - Marine mammals and sea turtles including distribution of species, lifestyles, life histories and important areas within the Labrador Shelf SEA area;
    - Waterbirds (including seabirds, waterfowl and shorebirds) including life stages, lifestyles and life histories relevant to the SEA;
    - Species at risk and critical habitat; and
    - Sensitive/Special areas – rare or unique habitats, important bird areas, fish spawning habitat/migration routes, marine mammal migration routes, rare or unique plant species, areas of high productivity, marine protected areas;

- Human Use
    - Description of traditional and cultural activities including travel routes, hunting, gathering and harvesting;
    - Marine recreational and tourism activities.
    - General description of fishery activities including species, location, vessel size, gear type and timing;
    - Aquaculture activities.
- Marine Commercial Traffic
    - Overview of commercial traffic activity within and through the Labrador Shelf SEA area.

39. In addition the SEA considered potential project-environment interactions. For each of the identified VECs, a description of the interactions of petroleum exploration activity with the environment was to be included. Proposed activities included:

- Seismic data collection;
- Exploratory/delineation drilling and ancillary activities;
- Vessel traffic (supply vessels, seismic vessels, helicopters); and
- Well abandonment operations.

40. Potential project interactions with the environment included:

- Noise/disturbance (eg seismic survey activities, noise from drilling installations) effects on marine mammals, sea turtles and sensitive life stages of commercial fish/shellfish species;
- Benthic habitat disturbance;
- Coastal interactions (including fish/bird habitats);
- Air quality issues;
- Operational discharges and the effects on water and sediment quality;
- Accidental events – including offshore and coastal interactions and with sensitive/special places;
- Conflict with commercial fisheries, aboriginal fisheries, commercial traffic and recreational/tourism use of area and loss of access;
- Attraction of seabirds to lights/flares on structures of vessels; and
- Consideration of potential conflict with project activities (including light and noise generated), with tourism operations and the aesthetic and cultural landscape.

41. The cumulative effects of project-environment interactions were also examined in consideration of the potential oil and gas exploration activity in the Labrador Shelf SEA area and the mitigation measures identified. Planned and reasonably foreseeable exploration activities were include in the cumulative effects as well as other non petroleum activities ongoing in the Labrador Shelf SEA area such as commercial fishing, Aboriginal fishing activities, hunting, marine traffic, tourism operations and fisheries research surveys. Consideration of marine activities in adjacent areas was also included**.**

42. Throughout the development of the SEA, the Canada – Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) and its contractors consulted with the Nunatsiavut people, provincial and federal government departments, Aboriginal Groups, Labrador communities, fishing industry and local nongovernmental organizations providing information on the SEA process and encouraging people to discuss issues and concerns that were relevant to the Labrador Shelf SEA area and the SEA objectives.

43. Based on the information presented in the biological and physical environment overview, the description of project environment interactions and the application of mitigation measures, planning approaches were recommended for the to consider in the issue of exploration licences in the Labrador Shelf SEA area.

IDENTIFICATION OF POSSIBLE ELEMENTS TO BE CONSIDERED FOR THE DEVELOPMENT OF SCIENTIFIC AND TECHNICAL GUIDELINES FOR EIA AND SEA IN MARINE AREAS BEYOND NATIONAL JURISDICTION

44. There are a growing number of sectoral examples of environmental assessment processes being required for activities or at least recommended for particular activities in marine areas beyond national jurisdiction, including activities which take place in the Antarctic Treaty area, the exploitation of polymetallic nodules in the Area, deep sea fishing on the high seas, the dumping of waste from ships and ocean fertilization experiments. These cover many, but not all activities that may occur in or affect marine areas beyond national jurisdiction. As threats continue to escalate, the development of internationally accepted guidelines for EIA and SEA of activities, plans, programmes and policies which are likely to have significant adverse effects on marine biodiversity beyond national jurisdiction becomes increasingly urgent. Based on analysis and synthesis of information contained in the previous sections of this document, this section will identify possible elements to be considered in the development of scientific and technical guidance for EIA and SEA of activities, plans, programmes and policies likely to have significant effect on marine biodiversity beyond national jurisdiction.

A. Screening of activities, plans, programmes and policies affecting marine biodiversity beyond national jurisdiction for EIA and SEA

45. The threshold of significant adverse effects on the environment as the trigger for subjecting activities to EIA has gained wide acceptance in global and regional instruments as well as national legislation. Inclusion of this threshold in scientific and technical guidance on EIA and SEA for activities, plans, programmes and policies likely to affect marine biodiversity beyond national jurisdiction is therefore likely to attract widespread consensus among States in the international community.

46. In addition to specifying a threshold for the application of EIA and SEA processes to activities, plans, programmes and policies under their jurisdiction or control, States have employed other screening methodologies. Typically States and regional organizations such as the European Community have listed those activities, plans, programme and policies which will, as a matter of course, be subject to EIAs and SEAs and then devised criteria to assist them in determining which other activities, plans, programmes and policies would be subject to EIA and SEA processes. This type of methodology could be considered or offered as an option in developing screening guidance for activities, plans, programmes and policies with the potential for significant adverse effects on marine biodiversity beyond national jurisdiction. Potential activities and plans, programmes and policies which relate to the granting of future development consent for such activities might include but would not be limited to:

- Deep sea fishing
- Dumping of waste and other matter at sea
- Climate change mitigation activities
- Offshore hydrocarbon production
- Bioprospecting
- Marine scientific research
- Laying of submarine cables and pipelines
- Ballast water exchange
- Deep sea tourism

- Ocean energy operations.

47. For activities, plans, programmes and policies not covered in such a list, criteria could be developed to assist States in determining whether such activities, plans, programmes and policies are likely to have significant adverse effects on marine biodiversity beyond national jurisdiction and should therefore be subject to EIA or SEA processes. The content of such criteria might be based on a combination of those identified in Appendix III of the Espoo Convention, Annex III to the Kiev Protocol and the CBD Voluntary Guidelines on Biodiversity-Inclusive Impact Assessment. In the case of screening activities for EIA, they might recommend that States ask the following questions:

- Is the proposed activity located in or close to an area of special environmental sensitivity or representative international importance such as a vulnerable marine ecosystem (VME) as defined in the FAO's Deep Sea Fishing on the High Seas Guidelines, an "ecologically or biologically significant area" as defined in CBD Decision IX/20 paragraph 14 (Annex I) (and for which guidelines are under development), any marine protected areas (MPA) designated as part of an international representative network of MPAs or a site of special scientific interest?
- Would the intended activity affect the biophysical environment directly or indirectly in such a manner or cause such biological changes that it will increase risks of extinction of genotypes, cultivars, varieties, populations of species, or the chance of loss of habitat or ecosystems?
- Would the intended activity surpass the maximum sustainable yield, the carrying capacity of a habitat/ecosystem or the maximum allowable disturbance level of a resource, population, or ecosystem, taking into account the full spectrum of values of that resource, population or ecosystem?
- Would the proposed activity have particularly complex and potentially adverse effects, including those giving rise to serious effects on humans or on valued species or organisms or those which threaten the existing or potential use of an affected area.

48. In the case of screening plans, programmes and policy for SEA, the criteria might recommend that States ask the following questions:

- What is the nature of the environmental effects and risks likely to be caused by the proposed plan, programme or policy on marine biodiversity beyond national jurisdiction including the probability, duration, frequency, reversibility, magnitude and extent (such as geographical area or size of population likely to be affected) of such effects?
- What is the degree to which the plan, programme or policy will affect valuable or vulnerable areas including those with a recognized international protection status?
- What is the degree to which the plan, programme or policy sets a framework for projects or other activities likely to have significant effects on marine biodiversity beyond national jurisdiction, either with regard to location, nature, size or operating conditions or by allocating resources?
- What is the degree to which the plan, programme or policy influences other plans and programmes relevant to marine biodiversity beyond national jurisdiction including those in a hierarchy?

49. Some activities under State jurisdiction or control which have the potential for effects on marine biodiversity beyond national jurisdiction may already be subject to a sectoral environmental impact assessment process such as the waste assessment framework in Annex 2 to the London Protocol, the evolving assessment framework being developed for ocean fertilization experiments by the Scientific Councils of the London Convention and London Protocol or the deep sea fishing guidelines on the high seas as implemented by a regional fisheries management organization or an individual member State of an RFMO. These assessment frameworks already cover some of the suggested screening criteria.

B. Scoping and content of EIA and SEA reports for activities, plans and programmes and policies relevant to marine biodiversity beyond national jurisdiction

50. Scientific and technical guidance on the scope and content of EIA and SEA reports for activities, plans, programmes and policies under the jurisdiction or control of States which are likely to have significant adverse effects on marine biodiversity beyond national jurisdiction could be modelled on many of the international instruments and guidelines considered in this background document. It could also incorporate examination of impacts and alternatives which take into account some of the shared interests of the international community such as long term sustainability of marine resources, conservation of marine biodiversity and stability of global climate.

51. Potential elements for guidelines on an EIA report on activities likely to have significant adverse effects on marine biodiversity beyond national jurisdiction could include:

- A description of the proposed activity, including its purpose, location, duration and intensity;
- A description of the initial environmental reference state with which predicted changes are to be compared and a prediction of the future environmental state in the absence of the proposed activity;
- A description of the programme for oceanographic and environmental baseline studies that would enable an assessment of the potential environmental impact including but not restricted to the impact on biodiversity of the proposed activity;
- A description of the practical alternatives, including the alternative of not proceeding and the consequences of those alternatives;
- An assessment of the likely or potential environmental impacts of the proposed activity and alternatives, including the direct, indirect, individual and combined, cumulative, short term and long term effects of the proposed activity and alternatives in the light of existing and known planned activities;
- A description of the expected biophysical changes resulting from proposed activities, including a description of ecosystems lying within the range of influence of such changes and the spatial and temporal scale of influence of each biophysical change, identifying effects or connectivity between ecosystems, and potential cumulative effects;
- A determination of whether there will be adverse impacts on biodiversity or ecosystems affected by the expected biophysical changes in terms of composition, structure (spatial and temporal) and key processes highlighting any irreversible impacts and irreplaceable loss;
- Identification, in consultation with the CBD, of the current and potential ecosystem services provided by the affected ecosystems and determination of the values these represent for the international community. Highlighting any irreversible impacts and irreplaceable loss;
- As complete a consideration as possible of effects involving impediments to migration, of transboundary effects on migratory species and of impacts on migratory patterns or migratory ranges;
- Definition of possible alternatives, including “no net biodiversity loss” or “biodiversity restoration” alternatives and location. scale, siting, lay out and technology alternatives;
- An assessment, in consultation with the IPCC, of the likely impacts on global climate of the proposed activity, whether positive or negative;
- A description of the methods, data and underlying assumptions used to forecast the impacts of the proposed activity;

- An identification and description of measures available to prevent or avoid adverse environmental impacts of the proposed activity and alternatives and an assessment of those measures;
- A description of the effects of the proposed activity on the conduct of scientific research and on other existing uses and values;
- An identification of whether the proposed activity will affect the proponent's compliance with its obligations under customary or conventional international law;
- An identification of gaps in knowledge and uncertainties encountered in compiling the information required for the EIA report; and
- A non technical summary of the information provided under the previous clauses.

52. Potential elements for guidelines on an SEA report on plans, programmes and policies likely to have significant adverse effects on marine biodiversity beyond national jurisdiction could include:

- The contents and the main objectives of the plan, programme or policy;
- The relevant aspects of the current state of the environment and the likely evolution therof should the plan or programme not be implemented;
- The characteristics of the environment in areas likely to be significantly affected;
- The environmental problems which are relevant to the plan, programme or policy;
- The environmental objectives established at international, national and other levels which are relevant to the plan or programme including the conservation of marine biodiversity beyond national jurisdiction, and the ways in which these objectives and other environmental considerations have been taken into account during its preparation;
- The likely significant environmental effects including those on marine biodiversity beyond national jurisdiction of implementing the plan, programme or policy and its reasonable alternatives;
- Measures to prevent, reduce or mitigate any significant adverse effects on marine biodiversity beyond national jurisdiction which may result from the implementation of the plan, programme or policy;
- An outline of the reasons for selecting the alternatives dealt with and a description of ow the assessment was undertaken including difficulties encountered in providing the information to be included such as technical deficiencies or lack of knowledge;
- Measures envisaged for monitoring environmental effects on marine biodiversity beyond national jurisdiction of the plan, programme or policy;
- A non technical summary of the information provided.

53. The issuing of comprehensive guidance on the scoping and content of EIA and SEA reports for proposed activities, plans, programmes or policies likely to have significant adverse impacts on marine biodiversity beyond national jurisdiction may provide an impetus for existing sectoral assessment processes covering activities such as deep sea fishing on the high seas, and dumping of waste in marine areas beyond national jurisdiction to take account of shared interests of the international community in conservation of marine biodiversity, sustainability of marine resources beyond national jurisdiction and the stability of global climate. Such guidance will also inform States engaged in the development of EIA and SEA processes for activities, plans, programmes and policies within national jurisdiction or control which have the potential for significant adverse effects on marine biodiversity and contribute to capacity building efforts in regions with limited scientific and technical resources devoted to EIA and SEA processes.

C. Post assessment obligations and decision making for activities, plans, programmes and policies with the potential for significant adverse effects on marine biodiversity beyond national jurisdiction

54. In most circumstances, the decision of whether to proceed with a proposed activity, plan, programme or policy following an EIA or SEA in which it has been determined that the activity, plan, programme or policy is likely to have some significant adverse effects on marine biodiversity beyond national jurisdiction is left to the discretion of the State or non State proponent. There are now a number of exceptions to this in the international sphere with respect to: 1) deep sea bottom fishing on the high seas under the UN General Assembly Resolution 61/105 which calls on States and RFMOs not to authorize fishing to proceed if significant adverse effects are not prevented, 2) exploration for polymetallic nodules on the deep seabed beyond national jurisdiction, where the International Seabed Authority may decide not to issue an exploration licence to a contractor, 3) dumping of waste in marine areas beyond national jurisdiction where the Parties to the London Protocol must apply an assessment framework to all applications to dump waste at sea and may refuse a dumping permit where significant adverse effects are likely and 4) scientific experiments on ocean fertilization which will be subject to a drdaft assessment framework being developed by the Scientific Councils of the London Convention and Protocol which will apply to their authorization.

D. Through and Post Activity, Plan, Programme and Policy Monitoring of Environmental Impacts and Compliance with Mitigation Measures

55. In some sectors, there is guidance advising proponents of activities in marine areas beyond national jurisdiction to work with competent international organizations in devising through and post activity monitoring programmes for their activities but this guidance does not cover all activities, plans, programmes and policies with the potential for significant adverse effects on marine biodiversity beyond national jurisdiction. Provisions on through and post activity monitoring of environmental impacts exist for deep sea fishing on the high seas in some regions, exploration for polymetallic nodules on the deep seabed, dumping of waste in marine areas beyond national jurisdiction and draft guidance for ocean fertilization experiments beyond national jurisdiction. It would be desirable if other activities, plans, programmes and policies with the potential for significant adverse effects on marine biodiversity were subject to through and post activity monitoring of environmental impacts and compliance with mitigation measures.

CONCLUSIONS

56. The background documents, UNEP/CBD/ EW-EIAMA/1/INF/1 (Part I) and UNEP/CBD/ EW-EIAMA/1/INF/1/Add.1 (Part II), have highlighted the fact that implementation of EIAs has evolved in a number of ways for activities in marine areas beyond national jurisdiction. While assessment frameworks have been developed or are in the process of being developed for some activities in particular sectors including the fisheries, shipping and deep seabed mining sectors, there are relatively few mandatory obligations at the international level for State and non State proponents of activities likely to have significant adverse effects on marine biodiversity beyond national jurisdiction.

57. The 2002 World Summit on Sustainable Development in its Joint Plan of Implementation (JPOI) called for the promotion of the use of EIAs and environmental evaluation and reporting techniques for projects or activities that are potentially harmful to both the coastal and marine environments and their living and non living resources. The development of scientific and technical guidance on EIA for activities with the potential for significant adverse effects on marine biodiversity beyond national jurisdiction will provide an important impetus for States to further implement such assessments.

58. A key element to include in such guidance will be comprehensive screening criteria to identify those activities which should be subject to EIA reflecting fundamental and shared values of the international community in protecting the marine environment beyond national jurisdiction, conserving marine biodiversity beyond national jurisdiction, the long sustainability of marine resources beyond national jurisdiction and the stability of global climate. This note has suggested some potential elements

for those criteria based on well established screening criteria for EIA used by many States in relation to proposed activities in marine areas within national jurisdiction drawn from national legislation, policy documents and international instruments and the CBD Voluntary Guidelines on Biodiversity-Inclusive Impact Assessment.

59 This note has suggested that guidance on the scoping and content of EIAs conducted in relation to identified activities with the potential for significant adverse effects on marine biodiversity beyond national jurisdiction should encompass a full description of the potential impacts of such activities, alternatives to the proposed activities and measures designed to mitigate any adverse effects of the proposed activities, taking into account the particular characteristics of the affected marine areas beyond national jurisdiction, including the status of their biodiversity, resources, climate and any existing uses. This recommendation is based on scoping and content provisions for EIAs used by many States in relation to proposed activities in marine areas within national jurisdiction drawn from national legislation, policy documents and international instruments and the CBD Voluntary Guidelines on Biodiversity-Inclusive Impact Assessment.

60. Effective monitoring of the ongoing impacts of activities on marine biodiversity beyond national jurisdiction and compliance with mitigation measures will necessitate the development of appropriate monitoring programmes, environmental audits and enforcement measures by State and non State proponents of such activities. This note has suggested that the development of such programmes will require increased collaboration between proponents and the relevant scientific and technical bodies. The preparation of draft scientific and technical guidance on EIAs for activities with the potential for significant adverse effects on marine biodiversity beyond national jurisdiction will be a critical first step in this process.

61. As the likelihood increases of States having under their jurisdiction and control a wider range of activities with the potential to have significant adverse effects on marine biodiversity beyond national jurisdiction, the need to conduct a more comprehensive environmental assessment of relevant plans, programmes and policies becomes more imperative. Some examples of relevant plans, programmes and policies might include those relating to offshore hydrocarbon production, climate change mitigation experiments and projects, the development of ocean energy installations and high seas fishing.

62. It is recognized internationally that SEA of plans, programmes and policies ensures greater advance warning of longer term impacts on the marine environment and facilitates better planning outcomes for the protection of the marine environment. SEAs underpin the conduct of marine spatial planning allowing the location of offshore installations at appropriate intervals to avoid cumulative impacts and the accommodation of other legitimate uses of marine areas. SEAs avoid last minute ad hoc approval of projects with detrimental consequences for the marine environment, its biodiversity and resources.

63. This note has suggested screening criteria and scoping and content elements for SEAs of plans, programmes and policies with the potential for significant adverse effects on marine areas beyond national jurisdiction based on screening criteria and scoping and content provisions used by many States and drawn from national legislation and policy documents as well as international instruments. It is also suggested that through and post plan, programme and policy monitoring programmes be developed in consultation with relevant scientific and technical bodies.

REFERENCES

Primary Sources

Global Instruments

1972 Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration)

1972 World Heritage Convention

1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention)

1979 Convention on the Conservation of Migratory Species of Wild Animals (CMS Convention)

1982 UN Convention on the Law of the Sea (UNCLOS)

1987 UNEP Goals and Principles of Environmental Impact Assessment

1991 Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention)

1991 Protocol on Environmental Protection to the Antarctic Treaty (Madrid Protocol)

1992 Agenda 21, Annex II to the Report of the United Nations Conference on Environment and Development, Chapter 17 (Agenda 21 – Oceans Chapter)

1992 Convention on Biological Diversity (CBD)

1994 Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea (Part XI Implementing Agreement)

1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UN Fish Stocks Agreement)

1995 Code of Conduct for Responsible Fisheries (FAO Code of Conduct)

1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter (London Protocol)

1998 Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention)

2000 Regulations for Prospecting and Exploration for Polymetallic Nodules (Polymetallic Nodules Regulations)

2002 World Summit for Sustainable Development Plan of Implementation (WSSD JPOI)

2003 Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context (Kiev Protocol)

2006 United Nations General Assembly Resolution 61/105 on Sustainable Fisheries including through the 1995 UN Fish Stocks Agreement (UN Doc. A/RES/61/105 of 8 December 2006)

CBD Background Document to Decision VIII/28 of the CBD: Voluntary Guidelines on Biodiversity-Inclusive Impact Assessment, CBD Technical Series, No. 26, 2006

2006 Agreement for the Conservation of Albatross and Petrels

Organization for Economic Cooperation and Development (OECD), Applying Strategic Environmental Assessment. Good Practice Guidance for Development Co-operation, ISBN 92-64-02657-6, 2006

2009 FAO Deep Sea Fisheries in the High Seas Guidelines

Report of the Thirty-Second Meeting of the Scientific Group of the London Convention and the Third Meeting of the Scientific Group of the London Protocol (UN Doc. LC/SG 32/15 of 29 June 2009)

Draft Regulations for Prospecting and Exploration of Polymetallic Sulphides (Draft Polymetallic Sulphides Regulations)

Draft Regulations for Prospecting and Exploration of Cobalt Rich Crusts (Draft Cobalt Rich Crusts Regulations)

Regional Instruments

1974 Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention)

1978 Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment (Kuwait Convention)

1979 Convention on the Conservation of Habitat and Wildlife in Europe (Berne Convention)

1980 Convention on Future Multilateral Co-operation in North East Atlantic Fisheries (NEAFC Convention)

1981 Convention for Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region (Abidjan Convention)

1982 Convention for the Protection of the Marine Environment and Coastal Area of the South East Pacific (Lima Convention)

1982 Regional Convention for the Conservation of the Red Sea and the Gulf of Aden (Jeddah Convention)

1983 Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention)

1985 Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (Nairobi Convention)

1985 ASEAN Agreement for the Conservation of Nature and Natural Resources (Kuala Lumpur Agreement)

1986 Convention for the Protection of the Natural Resources and the Environment of the South Pacific (Noumea Convention)

1991 Agreement on Small Cetaceans of the Baltic and North Seas (ASCOBANS)

1992 Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention)

1992 Convention on the Protection of the Black Sea against Pollution (Bucharest Convention)

1995 Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention)

1996 Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contguous Atlantic Area (ACCOBAMS)

1997 Guidelines for Environmental Impact Assessment in the Arctic

2000 Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPFC Convention)

2001 Convention on the Conservation and Management of the Fishery Resources in the South East Atlantic Ocean (SEAFC Convention)

2002 Convention for the Protection of the Marine Environment of the North East Pacific (Antigua Convention)

2003 Framework Convention for the Protection of the Marine Environment of the Caspian Sea (Tehran Convention)

National Legislation and other Documents

National Environmental Policy Act (NEPA), 2000 (US)

Environment Protection and Biodiversity Conservation Act (EPBC), 1999 (Australia)

Canadian Environmental Assessment Act, 1995

Resource Management Act, 1991 (NZ)

Environmental Impact Assessment Law, 1997 (Japan)

Environmental Impact Assessment Act No. 106, 2000 (Iceland)

National Environmental Management Act, 1998 (South Africa) and Environmental Impact Assessment Regulations, 2006

Environmental Impact Assessment Law of the Peoples Republic of China, 2003

Environmental Impact Assessment Directive, 1998 (Hong Kong Special Administrative Region)

European Community (EC), Council Directive 85/337 on the Assessment of the Effects of Certain Public and Private Projects on the Environment, 1985

EC, Council Directive 90/313 on the Freedom of Access to Information on the Environment, 1990

EC, Council Directive 01/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment, 2001

URS, Strategic Environmental Assessment of Defence Activities in the Great Barrier Reef World Heritage Area prepared for Directorate of Environmental Stewardship, Department of Defence (Australia), 18 February 2006

Canada-Newfoundland and Labrador Offshore Petroleum Board, Strategic Environmental Assessment, Labrador Shelf, Newfoundland and Labrador Offshore Area, Scoping Document, April 2007

2. Secondary Sources

Kees Bastmeijer and Timo Koivurova, *Theory and Practice of Transboundary Environmental Impact Assessment* (Leiden, Martinus Nijhoff Publishers, 2008)

Ed Bellinger et al (eds.), *Environmental Assessment in Countries in Transition* (Budapest, CEU Press, 2000)

Patricia Birnie and Alan Boyle, *International law and the Environment* (2nd Edition) (Oxford, Oxford University Press, 2002)

A. Chaker, K. El-Fadl, L. Chamas and B. Hatijian, "A Review of Strategic Environmental Assessment in 12 Selected Countries" 26(1) *Environmental Impact Assessment Review* (Jan 2006) 15

Neil Craik, *The International Law of Environmental Impact Assessment* (Cambridge, Cambridge University Press, 2008)

Alexander Gillespie, "Environmental Impact Assessments in International Law" 17(2) *RECIEL* (2008) 221

Alan Gilpin, *Environmental Impact Assessment: Cutting Edge for the Twenty First Century* (Cambridge, Cambridge University Press, 1995)

Jeffrey Gonzales Peres and Douglas Klein, "The International Reach of the Environmental Impact Statement of the National Environmental Policy Act" 62 *George Washington Law Review* (1994) 757

Kevin Gray, "International Environmental Impact Assessment: Potential for a Multilateral Environmental Agreement" 11 *Colorado Journal of International Environmental Law and Policy* (2000) 83

Anne Hironaka, The Globalization of Environmental Protection: The Case of Environmental Impact Assessment" 43(1) *International Journal of Comparative Sociology* (2002) 65

Jane Holder, *Environmental Assessment: The Regulation of Decision Making* (New York, Oxford University Press, 2004)

Jan Holm-Hansen, "Environmental Impact Assessment in Estonia and Norway" 17(6) *Environmental Impact Assessment Review* 449

Timo Koivurova, *Environmental Impact Assessment in the Arctic: A Study of International Legal Norms* (Aldershot, Ashgate Publishing, 2002)

Simon Marsden and John Ashe, "Strategic Environmental Assessment Legislation in Australian States and Territories" 13(4) *Australasian Journal of Environmental Management* (2006) 205

Myron Nordquist, *United Nations Convention on the Law of the Sea: A Commentary* (Boston, Martinus Nijhoff, 1985)

Donald Rothwell, "Polar Environmental Protection and International Law: The 1991 Antarctic Protocol" 11(3) *European Journal of International Law* (2000) 591

William Tabb, "Environmental Impact Assessment in the European Community: Shaping International Norms" 73 *Tulane Law Review* (1998-1999) 923

Che Xiuzhen, Shang Jincheg and Wing Jinhu, "Strategic Environmental Assessment and its Development in China" 22(2) *Environmental Impact Assessment Review* (March 2002) 101

Da Zhu and Jiang Ru, "Strategic Environmental Assessment in China: Motivations, Politics and Effectiveness" 88(4) *Journal of Environmental Management* (September 2008) 615
