

**International Association  
for Impact Assessment**

**IAIA**

**OUTPUT OF SESSION**

**THE FUTURE OF  
CUMULATIVE EFFECTS MANAGEMENT:  
MAKING IT HAPPEN!**

**November 8, 2008**

**Facilitated and compiled by:**

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## 1.0 Invitation to the Event

### **THEME:**

### **“The Future of Cumulative Effects Management: Making it Happen.”**

This theme forum workshop is characterized by high participation, collaborative dialogue and strategic networking – aimed at MAXIMIZING conference integration and synthesis. The workshop will utilize Open Space Technology, a format that honours the wisdom in the room and gives all participants the opportunity to put their most burning issue respecting cumulative effects on the table.

This workshop welcomes such questions as:

- How can we best apply our EIA and SEA tools to cumulative effects management?
- What changes are needed to make the current regulatory approach to cumulative effects management more effective?
- How will we bring all parties to the table and develop collaborative approaches to the management of cumulative effects?
- What specific tools, management frameworks, or thresholds for growth make sense for cumulative effects management?
- How can we effectively communicate these issues to stakeholders and the public at large?
- What challenges must we overcome NOW?

Through rich discussion and peer dialogue, participants may uncover breakthrough learning on cumulative effects topics. The format enables integration across science, institutions, operational practice, sectors and systems. Informal communities of practice may develop and expanded opportunities for continued online dialogue may emerge.

While the forum begins and ends with this large group, it will break into numerous concurrent discussion groups through the day. Key points from each discussion group will be captured, entered into computers and made available to all workshop participants on the morning of the conference Day 4. Participation will be limited to 40 people.

### **Workshop Organizers:**

- Doug Martenson, Martenson Learning Resources Ltd., [martenson@telus.net](mailto:martenson@telus.net), Tel: 403-284-5144, Calgary, AB, Canada
- Joseph Wells, Integrated Environments Ltd., [joseph.wells@integrated-environments.com](mailto:joseph.wells@integrated-environments.com), Tel: 403-686-8985, Calgary, AB, Canada
- Miles Scott-Brown, Integrated Environments Ltd., [miles.scott-brown@integrated-environments.com](mailto:miles.scott-brown@integrated-environments.com), Tel: 403-685-8390, Calgary, AB, Canada

## 2.0 Process for Theme Forum Workshop: Modified Open Space Technology

This theme forum workshop borrowed from the methodology of Open Space Technology (OST). OST is a large-group collaboration process – originated and first tried in the 1980s. Since then, over 100,000 groups have participated in OST events in over 100 countries around the world. OST has become the most established and well-known method for large-group, collaborative, face-to-face events. It has been modified and proven in groups from five to over 2,000 people.

The OST process is ideally suited to situations characterized by:

- **Complexity** – many possible ways to go forward, no one right answer – merging economic, social, environmental and political paradigms
- **Diversity** – involves or impacts many stakeholders, multiple perspectives on which way to go forward
- **Passion** – people care about the issue and the outcome, even to the point of conflict
- **Urgency** – the time for a decision on moving forward is now.

An assumption of the conference and workshop organizers was that these are the very conditions that are evident in Cumulative Effects Assessment and Management.

The original OST forum proposal suggested a full day of open space involving all conference participants for the third day of the conference aimed at:

- Maximizing conference theme integration and synthesis through highly participatory dialogue and strategic networking on cumulative effects themes.
- Demonstrating and giving conference participants hands-on experience tackling the challenges of cumulative effects using a collaborative process.

The open space theme forum was offered to conference participants over three sessions on the third day, conducted in parallel with other theme forums. Following the conference, several unsolicited, independent comments about the open space workshop were received:

- "The session was a big success ... the highlight of the week for me personally ... one of the most productive afternoons I've ever spent"
- "It was very interesting"
- "It was a clear highlight of the event for me"
- "This was a very good process"
- "I was very inspired by the open space methodology. I will bring some of the ideas into my own public consultation processes."

Open Space Technology was well received. How this concept can be employed to provide broader attendee participation needs further review and discussion. As IAIA continues to deal with diverse complex situations driven by passionate urgency, tools such as OST become the face-to-face corollary for idea sharing now provided by various internet tools. It also allows for greater participatory involvement and collaboration rather than the traditional format involving the presentation of papers.

### **3.0 Simplified CEA methodologies for developing nations with weak EIA capacity**

**Convener:** Juan David Quintero

**Participants:** Gonzalo Arango

#### **Discussion Notes, Key Points:**

- How to do CEA in third world countries with weak environmental EIA capacity
- How to adapt toolkits and guides for low costs budgets maintaining the core objective and spirit of the CEA, and obtain a valid tool to take decisions
- Who is the one to break the ice, start the adaptation process
- Possible actions:
  - That IAIA open spaces to identify and support low tech methodologies (bare foot user methodologies)
  - Ask for support – how your institution/firm can support a low tech, high impact CEA methodology?

## 4.0 Planning and CEA

**Convener:** ELIZABETH BRITO

**Participants:** FAYE SULLIVAN, NICK ROE, KATIE BRIGHT, SEAN NORRIS, WAYNE HUGGINS, ALLEN ERLICH, MALCOLM SMITH, JOHN OSLER

### **Discussion Notes, Key Points:**

- INTEGRATED REGIONAL PLANNING IS KEY TO IMPROVE CEA; HOWEVER IT IS OFTEN SEEN AS A ONE-TIME PRODUCT.
- REGIONAL PLANS SHOULD BE LIVING DOCUMENTS, RESULT OF A PLANNING PROCESS.
- IMPLEMENTATION OF THE INTEGRATED REGIONAL PLANS SHOULD BE MONITORED AND RESULTS SHOULD BE FEEDBACK INTO THE PLANNING PROCESS
- IMPLEMENTATION RESULTS AND MONITORING RESULTS SHOULD BE INTEGRATED INTO AN INTEGRATED DATABASE. TO DATE, THE MONITORING DATA IS PROVIDED ON A PROJECT BY PROJECT BASE
- THIS DATABASE NEEDS TO BE WIDELY ACCESSIBLE TO BE ABLE TO BE USED IN CEA.
- CEA NEEDS TO FOCUS ALSO IN POSITIVE CUMULATIVE IMPACTS.
- THERE IS A LACK OF POLITICAL WILLINGNESS TO ENGAGE WITH PLANNING – PLANNING IS INFORMATION, INFORMATION IS POWER; PLANNING IS LONG-TERM, GOVERNMENT'S PLANS ARE SHORT-TERM.
- WHAT ARE THE DRIVERS TO LEAD GOVERNMENT AGENCIES TO TAKE RESPONSIBILITY FOR IMPROVING INTEGRATED REGIONAL PLANNING, CREATING AND MANAGING INTEGRATED DATABASE?
- STAKEHOLDERS PRESSURE AND INDUSTRY PRESSURE MAY PRESENT THE REQUIRED DRIVER.
- PRIVATE SECTOR PROPONENTS HAVE LIMITED ACCESS TO OTHER PRIVATE SECTOR PROJECTS' INFORMATION TO PRODUCE THE CEA.
- IMPORTANT DATA HAS BEEN COLLECTED ON A PROJECT-BY-PROJECT BASIS AND IS NOT SHARED OR UPDATED. A REGIONAL PLANNING BODY IS NEEDED TO INTEGRATE THIS DATA AND KEEP IT UPDATED.

## 5.0 Computer Models and/or Other Methods to Obtain Quantitative Data for CEA

**Convener:** Melissa Kendrick (Melissa.b.kendrick@us.army.mil)

**Participants:** John Page ([pagej@pbworld.com](mailto:pagej@pbworld.com)); Roy Aguire (rfaguire@ucalvary.com)

### Discussion Notes, Key Points:

What information sources are currently available with respect to computer modeling and CEA?

- GIS data/layers, surveys, studies, inventories, comments from regulatory community and public

What tools do we currently use to quantify this information?

- Computer models; flow charts and yes-no analyses; correlation of your agency's data with data from adjacent agencies, municipalities, and/or Federal entities; adjacent land use studies, and presentation of raw data in GIS, tabular, graphic, or other forms

Key Question – how do we take all of this science, combine it with the change proposed (i.e., the project), and use the result to express potential cumulative effects, especially in a manner readily understood by both the scientific community and the public?

- Use of existing computer models
- Use of GUS databases
- Use of regulatory agencies, local, state, and Federal models, most of which are issue specific
- Use of Department of Defense models (for issues such as noise and land use)
- Utilize new and emerging computer models, such as FRAGSTATS, discussed at this seminar

End Result – To combine issue-specific models with your data and determine impacts on the local and regional level, site alternative courses of action, and promote this method for future impact analyses in your area

## 6.0 BRIDGING THE GAP FROM ASSESSMENT TO MANAGEMENT: HOW TO GET STARTED?

**Convener:** Robin Senner, CH2M HILL

**Participants:** Robin Senner, Joseph Wells, Rob Walker

### Discussion Notes, Key Points:

- Problem Statement: After CEA has been conducted and cumulative effects have been predicted, they are not mitigated or adaptively managed, at least in the United States. In other nations where appropriate policies are in place, cumulative effects are still not mitigated or managed effectively. Why not? And what can we do as practitioners to improve this situation?
- A typical answer might be: "This problem exists because the appropriate legal and institutional frameworks are not in place." We know, however, that even where legislative and regulatory remedies have been established, commitments to mitigate and manage cumulative effects are not met. Something else must be going on to impede effective management of cumulative effects.
- Lack of money to pay for monitoring and mitigation is another typical answer. We know, however, that there are vast sums of money in the world. ***But a developer will not commit funds to meet unrealistic or open-ended criteria or goals where the risk is high that there is no feasible way to meet those criteria or goals.*** This point seems closer to the truth than previous answers.
- At present, developers are required to mitigate direct effects, so let's start with this and see how far it can take us. Suppose a region has been previously developed in various ways and exhibits cumulative effects on several valued environmental components (VECs). As Joseph Wells put it, the ***impact cup*** for that region has been filled. One strategy that has shown promise is to require the developer to restore or rehabilitate a percentage of the pre-existing cumulative effect on one or more VECs, lowering the level in the impact cup, before the proposed new development is permitted. Several points can be made about this approach:
  - First, the precise terms of the agreement, including a pre-set limit on expenditure and expert review and approval of the rehabilitation approach, are negotiated in advance. The goal(s) and criteria to be met by the developer are precisely defined in the agreement, so that the level of risk is minimized and agreed to by the developer. This is crucial, because in our conceptual model, the key impediment to mitigation is not financial cost, but the risk associated with unknown cost.
  - Second, the schedule for meeting the agreed-to mitigation commitment is left to the developer, on the assumption that it will be in the developer's best interest to complete the commitment as soon as possible.



- Third, the developer agrees to apply the latest and most advanced analytic tools and best practices to minimize the direct effects of the proposed new development, once it is permitted.
- Fourth, the developer commits to funding a pool of money to support agency or third-party monitoring and adaptive management in the future. The goals and time frame of the adaptive management need not be defined. Only the total one-time contribution by the developer to the funding pool will be negotiated and defined in the mitigation agreement.
- This approach has a number of advantages that make it a practical way to move forward:
  - First, it does not require a theoretical cumulative effect to be predicted for the reasonably foreseeable future. Instead, it addresses and alleviates real cumulative effects that already exist.
  - Second, by eliminating uncertainty about goals and placing a ceiling on cost, it substantially lowers the level of risk to the developer, making it much easier for the developer to make a legally enforceable commitment to mitigation.
  - Third, it confines mitigation to direct effects that can be observed during the course of project construction and operation. The commitment to mitigate direct impacts continues through the life of the project. During those decades, new technologies and tools will become available to improve the effectiveness of mitigation.
  - Fourth, it creates a trust fund to support the ongoing adaptive management of indirect and cumulative effects by resource agencies. The ultimate adaptive management is thus accomplished not through open-ended commitments by developers, but through legislative, regulatory, and regional planning mechanisms that can be supported by strategic effects assessments and adjusted over time as new information becomes available and new goals are set.

<b>Next Steps</b>	<b>Champion(s)</b>
Prepare a peer-reviewed paper for publication in Impact Assessment and Project Appraisal, exploring these ideas more thoroughly and providing substantive recommendations for broader consideration.	Robin Senner, Joseph Wells

## 7.0 Off-site Mitigations for Cumulative Effects

**Convener:** Alan Ehrlich

**Participants:** Malcolm Smith, Nick Roe, Angus Morrison-Saunders, John Osler

### Discussion Notes, Key Points:

- Total cumulative effects can be mitigated by dealing with other contributors of impact, beyond the project being assessed.
- This may be more cost-effective than attempting questionable and difficult mitigation on site.
- In Canada, this is done by DFO under the No Net Loss policy
- In Alberta, wetlands loss is compensated for at a 3:1 ratio
- Projects in BC do this with climate change offsets.
- Social agreements attempt to provide social benefits (such as capacity building) to offset different types of social impacts. These impacts are often cumulative in nature.
- In Australia, new practice allows for offsets to address cumulative impacts for a wide range of VECs, far beyond what is done in Canada.
- Trade and Cap systems, previously directed mostly towards carbon credits, are now being used for other VECs, such as wetlands (Eg wetlands banking in the US). This approach could be extended more broadly in Canada.
- Off-site mitigation could be done anywhere within the physical range of the VEC in question, but framing the VEC is important. Is the goal to protect, for example, a species? A population? An endemic subspecies?
- This does not work for VECs that are site-specific, such as heritage sites.
- The geographically further you range with your offset, the broader range of options you have, but the further you get from your originally affected area.
- Keeping it close to the area affected has advantages, including
  - Higher likelihood of similarity
  - Better accountability resulting in higher confidence for the effectiveness of the offset as an effective mitigation.
  - (It's hard to verify a mitigation in another country or jurisdiction for example)

- Better stakeholder satisfaction (Affected people want the replacement areas near them... We called it YIMBY- Yes, In My Backyard)
- "Like for better"- When a commonplace area is lost but compensated for with a more valuable one protected elsewhere.
- How do you make it happen?
  - Condition of approval
  - Ultimately, quality is hard to verify, Good faith is needed.
  - Could provide good public relation opportunity for the developer.
  - May require better education for reviewers in evaluating different types of mitigations (Unless it is "like for like", it's hard to quantify value of mitigation required for a given impact, especially if it is not identical to the affected VEC).
  - Buy in from all parties is likely important to success.
- BBOP website spells out useful principles

<b>Next Steps</b>	<b>Champion(s)</b>
Raise awareness of what is already being practiced elsewhere (e.g. in Australia) Off-site mitigation and offsets special subject for IAPA Recommend Alberta examine opportunities to use this with its new plan for cumulative effects management	CEAA special project?  IAIA  Gov of AB?

## 8.0 What is useful to Decision Maker?

**Convener:** Tamra Faris

**Participants:** Robert Walker, John Page, Benk Antifinnsen, Faye Sullivan, Katie Bright

### Discussion Notes, Key Points:

- Begin with the assumption that the Decision Maker knows the answer (decision) they want to make, and what they need is the question (purpose and need). <Consider deleting this because it has cynical flavor and could be misinterpreted>
- Simple is more useful (Implied is the DMs have extensive understanding of requirements, process, and documentation. Record contains all documentation allowing focus on what is truly useful to decision at hand.)
- The DM needs to be sure the decision is within the universe of alternatives analyzed.
- The DM needs to know the decision fits, or satisfies, the purpose and need that was the original impetus of the proposed project. If not a perfect fit, then they need to know to what degree it fits, perhaps why the perfect fit was not found.
- Negative impacts that will result from the decision need to be disclosed, negative to a VEC, VECs may include human stakeholders and groups of human stakeholders
- Groups that appose the decision as well as an assessment of what those groups may do next if the decision is not within their liking
- Costs of all kinds including: to administer the project, build the project, defend the decision if it is challenged, mitigate the impacts, inspect and enforce the project requirements, monitor or collect and interpret data associated with required monitoring, conduct required research if any is required
- Assessment of whether clear thresholds of significance will be exceeded. Another way to say it is assess the probability the project has of exceeding a legally defined threshold. A legally defined threshold may be overfishing level, take of an endangered species, exceed total maximum daily load. Something that is laid down in code as a limit above which the proponent would be in legal violation.

- If cumulative impacts of other activities may lead to exceeding a threshold of significance. (DM need to know this on a project by project basis as well as intermittently; every few years question it)
- Potential leverage the DM can impose on the proponent for monitoring, modification, mitigation, research
- DM needs to know within the context of their particular decision and all the laws and executive orders on process associated with making that decision, whether the process and documentation necessary to support the decision is all firmly in place. If not, what has been skipped or short shifted? Advice on the usual consequences associated with skipping a component or a step.
- Provide basis for recommendations and include whether they are "hard" (associated with legally defined quantitative aspects) or "soft" (not presently stated in laws or approved plans)
- Sense of uncertainty associated with aspects of the recommendations. What are the probably consequences of taking the action with unknown impacts?
- What is not relevant to the DM? minutia (recognize that what is minutia varies from subject to subject and over time)
- Some countries have much more structured decision making processes and requirements for disclosing impact information than others. NEPA for instance contains requirements for disclosure of many facets of information useful to DMs that countries outside US do not have, therefore listing what is useful to DMs is a much longer exercise.

## 9.0 Drivers of Bad Decisions

**Convener:** Rob Green

**Participants:**

### **Discussion Notes, Key Points:**

- If we assume that CE tools and analysis are effective, what else leads to decisions that are contrary to sustainable development?
- Conflict between mineral/land tenure rights and the assessment objective of sustainable development
- The rights context strongly influences decision makes to base decisions on factors other than assessment findings.
- EA and CEA is most straight forward when a new project is proposed. The proponent has something to gain from working with the process.
- When an existing project is subject to assessment for re-licensing the dynamic is changed. The proponent may perceive they have nothing to gain – they can only lose. Lose the opportunity to continue the activity or to incur higher costs of operation. Assessments bend to accommodate this reality. Proponents of existing projects are providing economic and social benefits (jobs, taxes etc.) and often have strong lobby powers with senior or political decision makers.
- When thresholds of significance are close or have been exceeded it can appear unfair or arbitrary to restrict the opportunities of the next proponent. It can be difficult to justify why some proponents have different rules than preceding proponents. Decision makers must find ways to accommodate the concept of fairness.
- Climate change provides an example. Scientific and political consensus suggests we have exceeded the threshold for GHG emissions. CE assessment should then always find that every project that emits GHGs has a significant adverse effect. Instead we mitigate to reduce the emissions and say the effect is not significant. CEAs are not coming to this conclusion which suggests it is an inappropriate use of the tool. Furthermore it may undermine the long term ability of the assessment process to make clear findings.
- Projects for sectors that have pre-existing rights, such as mineral or land rights, may be in settings that affect the lives of others. Decision makers may need to defer to the pre-existing rights under law which can affect sustainability.

<b>Next Steps:</b>	<b>Champion(s)</b>
Explore the interactions and conflicts between the system of land tenure and mineral rights and the societal goals of cumulative effects assessment.	Rob Green

## 10.0 Who/what are the drivers for CEAM?

**Convener:** Wayne C. Huggins

**Participants:** Wayne C. Huggins, Angeles Mendoza Sammet

### Discussion Notes, Key Points:

CEAM:

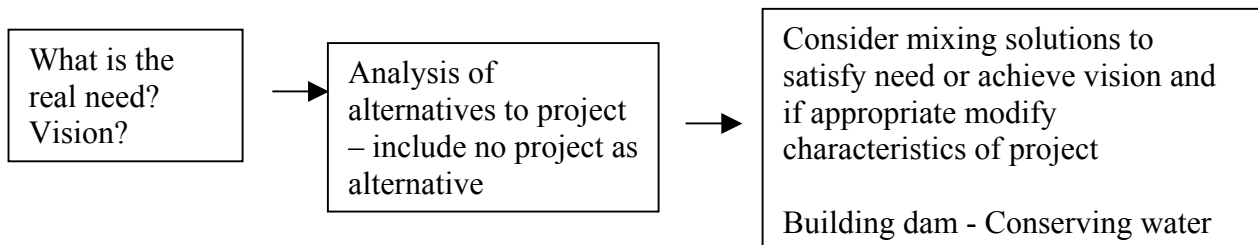
- Do EA study
- Mitigation and management

Actors	Drivers
Proponent	<ul style="list-style-type: none"> <li>• Incentives – taxes, subsidies, monetary, non-monetary, etc.</li> <li>• Image – for public, for sector, international</li> <li>• Corporate social responsibility</li> <li>• Profit</li> <li>• Funding</li> <li>• Partnerships</li> <li>• Sectoral practices</li> <li>• Codes of ethics</li> </ul>
Regulator	<p>Pressures:</p> <ul style="list-style-type: none"> <li>• National-federal government</li> <li>• Development and funding international or national organizations</li> <li>• Public/society</li> <li>• Legal and moral mandate – accountability</li> <li>• Fiduciary responsibility – protection of rights</li> <li>• Conservation of diversity- species, cultures, landscape, geology, economy (traditional/modern)</li> <li>• International and national social organizations</li> <li>• Other NGOs</li> <li>• Other international organizations (UN)</li> </ul>

<p>Society</p>	<p><u>Present needs:</u></p> <ul style="list-style-type: none"> <li>• Violation/preservation of rights –property, access, intellectual, etc.</li> <li>• Cultural/spiritual beliefs and practices</li> <li>• Health</li> <li>• Life style</li> <li>• Recreation/ enjoyment of heritage (natural, cultural)</li> <li>• Preservation of livelihood-hunting fishing, gathering, etc.</li> <li>• Ethical/moral behavior, right or wrong, acceptability of behaviors</li> </ul> <p><u>Future needs:</u></p> <ul style="list-style-type: none"> <li>• Legacy-cultural, natural, etc.</li> <li>• Sustainability</li> </ul>
<p>Valued components</p>	<p>Use VCs instead of VECs? Valued components can be social, ecosystemic, economic, etc.</p> <ul style="list-style-type: none"> <li>• VCs reference points ne define threshold levels,</li> <li>• Thresholds can be determined by technical or social perspectives for a single VEC (Functional, perceptual, and Management Thresholds)</li> </ul>

HOW DO WE FACILITATE THE DRIVERS?

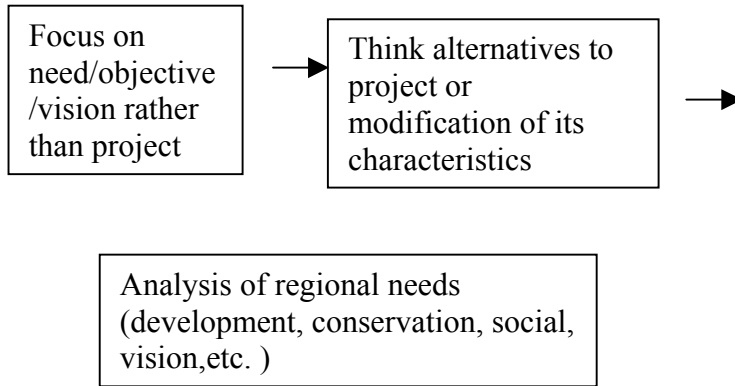
- Be aware of conflicts of interests
- Focus process on needs rather than interests:



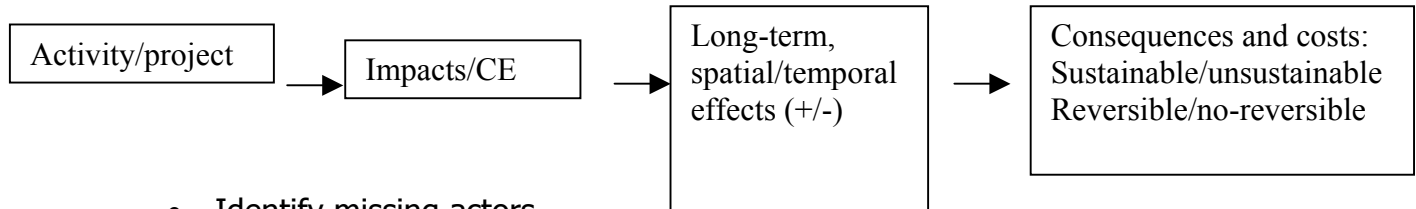


- Look at relation of real regional needs and regional needs and vision/objectives

### Strategic component



- Increase level of awareness and active participation among actors about relationships among factors, issues, etc.



- Identify missing actors
- Analyze barriers and their influence on respective drivers

### Effects (+/-)

Diversity: cultural, species, geography, landscape, ecosystems, economy, traditional, etc.

### What are the implications for tools/methodology?

#### Tool set

Analyze governance structure and effectiveness/challenges multidimensional-multilevel (Mendoza)

#### Capacity building:

#### Institutions

Society science

Public involvement; all the spectrum from information to collaboration

Education – formal and informal

Alternative dispute resolution

Study of trade-offs, cost/benefits (cost monetary or non-monetary)

Research –more interdisciplinary

Dissemination of results/information/data

Gap analysis: social, economic, environmental components: what else we need to promote the influence of x over y?

## **11.0 Demand Management: How do we use CEA analysis and tools to affect resource demand and societal expectations?**

**Convener:** Joseph Wells

**Participants:** Joseph Wells, Robin Senner, Laura Wasylshen, Malcolm Smith

### **Discussion Notes, Key Points:**

- Tax incentives
- Social Training
- Mechanisms for Demand Change
- If taxes are used does lowering taxes drive decrease in cumulative effects or do we always need to increase taxes in order alter demand
- What training can be used by societies to alter individuals perception of what is needed to ensure the endurance of a lifestyle

<b>Next Steps</b>	<b>Champion(s)</b>
Develop a speaking series with a school of economics to illuminate the connection between demand management and cumulative effects analysis	Joseph Wells

## 12.0 Stakeholder participation in CEAM

**Convener:** Marina Khotuleva

**Participants:** Sean Norris, John Osler, Laura Wasylyshen

### Discussion Notes, Key Points:

- Who are the Stakeholders?
  - Anyone who has interest or influence in a proposal or project area. The stakeholder identification/engagement process flows these same principles with some specifics. Identification and engagement of stakeholders who are not interested in the process may play a vital roll in the success of the process.
- Capacity building is the key issue of all stakeholders.
- One concern was the issue of incentives and drivers for stakeholder engagement and environmental responsibility in an area where international companies with no internal company standards, from a nation with no environmental law, do business in another country which has no environmental law.

Next Steps	Champion(s)
What sort of support on a regional or world level would be available to assist in resolving the dilemma?	?

### **13.0 How do we choose a temporal baseline for CEA and Management?**

**Convener:** Joseph Wells

**Participants:** Joseph Wells, Sean Norris, Laura Wasylyshen

#### **Discussion Notes, Key Points:**

- Is the baseline criteria based on a visual or landscape concept?
- Is the baseline criteria established from functional criteria?
- How does each facet of society prioritize these two and on what basis?
- The possibility of time-slicing resource development and extraction to extend the cumulative effect over time and allow mitigations to restore back to the baseline.
- Is it possible to assign through macro economic analysis the economic development rate to remove the spikes in effects which increase the rate of effect accumulation
- Do we use the wrong species to define impact loading capacity
- How are we presenting cumulative effects to the society at large to allow participation and inputs from a wide social perspective
- Are we as practitioners adequately defining and making understandable the concepts of natural capital, social capital and therefore the uses of these capitals without the assignment of debt and repayment
- How do we include various societal elements in making fundamental decisions on the criteria for valuing and using our natural and social capital resources
- There is a need to ensure our society understands the concept of Social Responsibility for Ecological Restoration as a the debt accumulation from our cumulative effects on our systems

## 14.0 Facilitator's Comments

It was an honour and a pleasure to work with you people. I admired the way that so many "jumped right in" when invited to exercise their passion and personal responsibility around the theme "Cumulative Effects Management: Making It Happen!"

In little time, we created a mini-conference within the conference. As an observer of all the small group discussions, I noticed a true sense of mutual respect in the room. People really listened to each other while exploring and sharing their experience with CEAM issues and challenges.

This document represents an unedited compilation of all discussion notes from November 8. I appreciate the extra effort of those who made sure that some record of their discussion was captured and entered in computers for the benefit of the whole group. It often meant that they missed out on full participation in other group discussions.

Thank you all. Witnessing your teamwork in action was a most enjoyable experience for me!

Credit is owed to the conference co-chairs, Barry Sadler and Larry Canter, for taking the risk of offering this open space style of workshop to conference attendees. The format did not fit within any typical theme forum or plenary description.

At numerous IAIA conference sessions and in the concluding plenary, mention was made of the need for greater collaboration across social, economic, environmental and political boundaries in order to effectively tackle CEAM issues. Open Space Technology, the process used in this workshop, may lend itself to greater collaboration at IAIA conference level as well as at the societal CEAM level.

On a personal note, I wish to thank the co-organizers, Joseph Wells and Miles Scott-Brown of Integrated Environments Ltd. ([www.integrated-environments.com](http://www.integrated-environments.com)), for their early support of this workshop – recognizing its potential from their many years of local and international experience with cumulative effects issues.

Best regards,

Doug Marteinson

## PHOTO ALBUM







