Your ABA Questions
Answered
Why ABA?

Discovery of significant unconventional gas resources

The nature of the resource and how it can be developed

Better environmental outcomes

Clear, consistent and appropriate interpretation of policy / legislation for operational decision making
Why ABA?

Question

Regulatory modernization: OGAA 2010

Statutory decision tests in the EPMR for “Government’s Environmental Objectives”

• “material adverse effect”
• “not damage or render ineffective”
• “conserve or, if necessary, protect”

Reduced administration for all parties
Why ABA?

Demonstrate to First Nations, stakeholders and the public that their concerns around resource development and inter-relationships of impacts are addressed.

To help answer the question:

“What are the cumulative effects or impacts that this proposed well site/pipeline/road/facility will have on water/riparian/wildlife/treaty rights?”
Where will ABA be used?

Question
How does ABA work?

Question
How can industry prepare for ABA?

**Question**

1. Review ABA Website on BCOGC.ca

---

The Area-based Analysis (ABA) approach has been developed by the BC Oil and Gas as a framework for managing the impacts of oil and gas development. It is an enhanced way of looking at the cumulative effects of all industrial development across the landscape when making decisions on oil and gas applications.

The Province of British Columbia defines cumulative effects as “changes to environmental, social and economic values caused by the combined effect of present, past and reasonably foreseeable future actions or events on the land base.”

Using ABA, Commission decision makers can assess the impact of proposed oil and gas activities on ecological, cultural and social values in the context of all other development activities. Small landscape impacts on specific resource values can be considered when looking at specific applications or activities, rather than just the localized effects of one permit. ABA evaluates the overall landscape – including old forest, riparian reserves and wildlife habitat.
How can industry prepare for ABA?

2. Review ABA FAQs
How can industry prepare for ABA?

3. Download the ABA Riparian Habitat dataset for use in development planning
How can industry prepare for ABA?

4. Download the ABA Old Forest dataset for use in development planning
How can industry prepare for ABA?

5. During the development planning process consider:

a. What is the current condition and status of Riparian Habitat in the development area?

b. What is the current condition and status of Old Forest in the development area?

c. How can I plan the activity to avoid Old Forest & Riparian Habitat?

d. What can I do to minimize disturbance?

   a. Use existing disturbance unless doing so results in greater impact, harm or safety risk
   b. Use low impact seismic techniques
   c. Consider reducing footprint
   d. Place auxiliary disturbance outside the area
   e. Sharing access and infrastructure with other companies
   f. Implement strategies that will expedite reclamation
How can industry prepare for ABA?

Question

6. During the development planning process take a close look at the landscape and the ABA zones.
Area-based Analysis use with permit applications

- **Objective:** Maintain condition below the enhanced management trigger.
  - **Options:** Mitigate impact through avoidance or minimization. Applications are subject to regular procedures.

- **Objective:** Slow increase, and/or return condition below the enhanced management trigger.
  - **Options:** Mitigate impact through avoidance or minimization. Applications are subject to enhanced review, enhanced permit conditions.

- **Objective:** Stop increase and return condition below the regulatory / policy trigger.
  - **Options:** Mitigate impact through avoidance, minimization, restoration or offsetting. Comprehensive review and supporting information, policy review to confirm trigger, comprehensive permit conditions.

Land defined by legislation/policy that is not available for activity.
What values are included?

**Question**

- **Water**
  - Water quantity
  - Water quality
  - Ground water

- **Land**
  - Old forests
  - Riparian habitat
  - High priority wildlife
  - Cultural heritage
  - Private land values

- **Air**
  - Air quality
What other changes are related to ABA?

- Foundational changes within GIS to internalize all ABA calculations and reporting
- Establishment of surface land use “data-of-record”
- ABA GIS web tool to assess all permits / authorizations
- ABA foundations built into E-permitting
Who has been consulted?
OGC staff and consultants
Treaty 8 First Nations (*Lands office, Chiefs and councils*)
Industry
FLNRO, MNGD, MARR, MoE
What values are being rolled-out now?

- Riparian ecosystems
- Old forest
What is old forest?

Old forest is measured as a percentage of the Forest Land Base.

Old forest areas are delineated based on the age and the composition of the forest.

<table>
<thead>
<tr>
<th>Stand Type</th>
<th>Description</th>
<th>Old definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conifer Leading Stands</td>
<td>Stands 80-100% coniferous</td>
<td>&gt;140yrs</td>
</tr>
<tr>
<td>Deciduous Leading Stands</td>
<td>Stands 80-100% deciduous</td>
<td>&gt;100yrs</td>
</tr>
<tr>
<td>Mixedwood Stands</td>
<td>Stands &gt; 20% and &lt; 80% coniferous</td>
<td>&gt;120yrs</td>
</tr>
</tbody>
</table>
What does ABA say about old forest?

6 Natural Disturbance Units are wholly or partially within northeastern BC

All have sufficient old forest
Old forest current condition
What are riparian ecosystems?

Riparian ecosystems are defined as the aquatic ecosystems and adjacent terrestrial ecosystems that are influenced by, and influence the aquatic ecosystem.

Riparian reserve zones are terrestrial and protect aquatic environments from erosion and sedimentation, supply food and shelter for many aquatic animals, and help control stream temperature.
What are riparian ecosystems?

Figure 1: Illustration of a riparian area, a riparian reserve zone and riparian management zone.

<table>
<thead>
<tr>
<th>Lakes</th>
<th>RRZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1-A</td>
<td>50</td>
</tr>
<tr>
<td>L1-B</td>
<td>20</td>
</tr>
<tr>
<td>L2</td>
<td>10</td>
</tr>
<tr>
<td>L3</td>
<td>0</td>
</tr>
<tr>
<td>L4</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Streams</th>
<th>RRZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1-A</td>
<td>50</td>
</tr>
<tr>
<td>S1-B</td>
<td>50</td>
</tr>
<tr>
<td>S2</td>
<td>25</td>
</tr>
<tr>
<td>S3</td>
<td>25</td>
</tr>
<tr>
<td>S4</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wetlands</th>
<th>RRZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1</td>
<td>10</td>
</tr>
<tr>
<td>W2</td>
<td>10</td>
</tr>
<tr>
<td>W3</td>
<td>0</td>
</tr>
</tbody>
</table>
What does ABA say about riparian ecosystems?

69 watersheds identified across NEBC
- 27 are above the enhanced management trigger

Riparian reserves as mapped in ABA occupy between 2.6% and 5.6% of the water management basin
Riparian habitat current condition
What happens when a trigger is exceeded?

Additional considerations will be expected of industry as they prepare permits for submission.

Additional conditions will be considered in the permitting and authorization process to reduce the proposed impact.

Key data and assumptions will be reviewed.
What happens when a trigger is exceeded?

The existing plans (LRMP’s & SRMP’s) will be reviewed for guidance around triggers.

The policy process that helped create the triggers will be reviewed.

A re-analysis and determination of a new current condition if impacts are material.
What are some example considerations?

Avoid old forest and riparian reserve zones in the planning of activities.

Maximize, to the extent practicable, the use of existing disturbance unless doing so results in a greater disturbance, greater safety risk and/or negative environmental impacts.
What are some example permit conditions?

Where activities fall within old forest zones, mulchers and/or hand cutting must be used in clearing seismic lines.

Where activities fall within old forest or riparian reserve zones restrict tree and shrub clearing, and stumping to only those portions of the RoW required for the running surface.
How are we improving ABA?

The Commission and FLNRO are working together to:

- Determine, for each type of disturbance, the relevance and impact of ecological succession, re-vegetation, reclamation, restoration and forest management on specific values
- Establish a collaborative field program to understand the accuracy of the inventory and GIS-based assumptions relative to field conditions

If the results are material, ABA will be re-run, if not the results will stand as-is
Question

When are the next values coming?

High priority wildlife: March 2015

Private land values: March 2015

Cultural heritage resources: 2015

Air quality, water quality, ground water: when ready
The Commission has created Area-Based Analysis (ABA) as a holistic decision-making tool. ABA looks at the effects of proposed oil and gas activity in the context of all other development activities to protect ecological, social and cultural heritage values.

The Commission uses this information when making decisions on applications. All of the data used in ABA is available here – because one of the best ways to reducing resource development and environmental/cultural conflict is to share the information available with all interested parties.

A good place to start is with the ABA Overview and our Frequently Asked Questions.

**ABA documents**

- ABA Overview
- ABA Report for Northeast BC - 2014
- ABA Data and Analysis Package for Northeast BC – 2014
- ABA Report for the Liard Unconventional Gas Basin (Proof-of-concept)
- ABA Data and Analysis Package for the Liard Unconventional Gas Basin (Proof-of-concept)
- ABA manual for permitting and authorizations within the OGC
- Surface Land Use 2013
- Surface Land Use 2014

**ABA data**

All of the key data is available for download. Detailed documentation and the specific GIS code is also available.

- ABA Data layers
- ABA detailed data procedures and computer code

**ABA links**

Links to other initiatives addressing cumulative effects.

- BC Ministry of Forests, Lands and Natural Resource Operations; Cumulative Effects program
- BC Environmental Assessment Office
- Canadian Environmental Assessment Office
- Alberta Energy Regulator and play-based initiative

**ABA maps**

Area-based analysis maps are available for viewing or to download. A web-based GIS-viewing tool is also available so users can explore the impact of resource development on certain values.

- ABA Northeast BC overview map - 2014
- ABA GIS viewer tool