



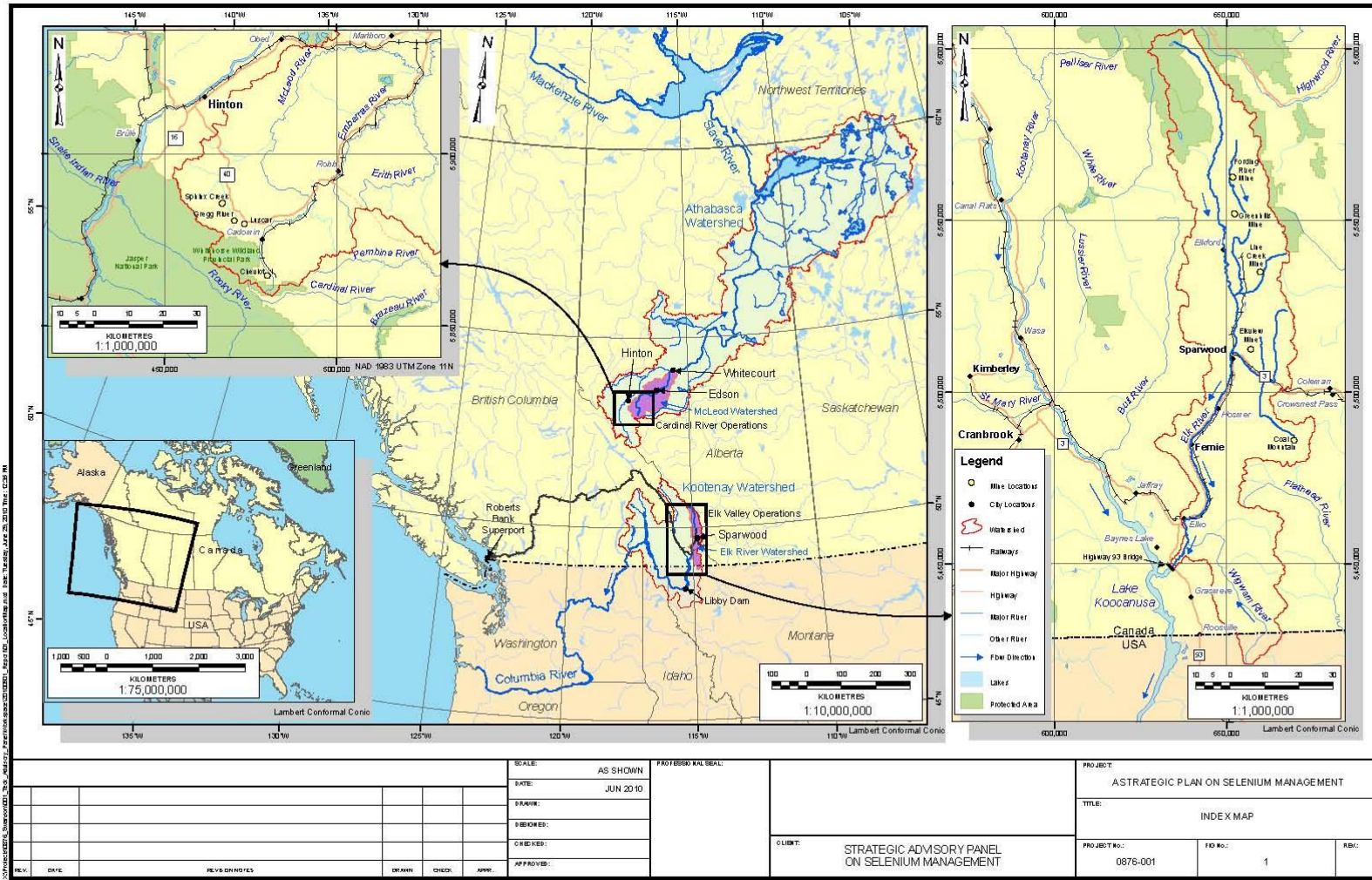
Building stakeholder engagement in sustainable solutions: the strategic advisory panel on selenium management.

Presented by: Stella Swanson



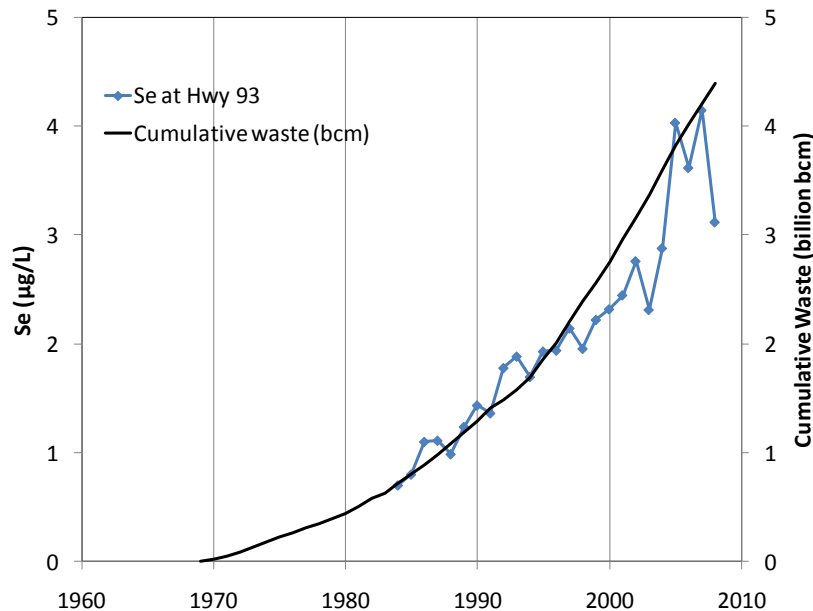
**Swanson
Environmental
Strategies**

Location of Teck's Metallurgical Coal Mines in Western Canada



Background to the Formation of the Panel

Selenium concentrations in the receiving environment downstream of Teck's metallurgical coal mines exceed guidelines and are increasing in almost direct proportion to the volume of waste rock



- Commissioned by Teck Coal to create a strategic plan for the sustainable management of selenium at its six mines.
- Stella Swanson, Chair. Aquatic Biology, Risk Assessment
- Rob Abbott, Sustainable Development
- Wes Funk, Ecological Economics
- Lisa Kirk, Microbial Geochemistry
- Gord McKenna, Reclamation Engineering
- Harry Ohlendorf, Aquatic Toxicology and Eco-Risk Assessment
- Tom Sandy, Water and Wastewater Treatment

The Panel Charter



- A formal Charter was important because of the low level of trust among Teck, regulators and stakeholders
- The Charter's framework and rules of operation were designed to produce properly balanced, objective, unfettered opinion, free of any conflict of interest

Panel Independence

- The Panel's strategic plan for selenium management was released simultaneously to all stakeholders. Teck had no opportunity to review the strategic plan report prior to its release.
- Teck's courage in agreeing to this stipulation in the Panel Charter was noted by stakeholders and was a substantial factor in contributing to an increase in trust in the Panel process and in Teck's commitment to the management of selenium.

Fast Track to a Plan for Sustainable Management of Selenium

The Panel's primary objective was to develop a strategic management plan for selenium that integrated the environmental, social and business opportunities and risks by June 30, 2010



- **Writing a strategic plan in 6 months required dividing into technical and stakeholder engagement sub-groups**
- **Both sub-groups worked within a sustainability framework**



The Sustainability Framework

The Panel

"...a process in which the creation of financial and social wealth and wellbeing does not reduce the aesthetic and productive capacity of natural capital available for present and future generations" (Abbott 2008).

Teck

"While the scope of our activities may evolve, our mission is to find, extract and provide natural resources to society for the benefit of present and future generations – "Resource Stewardship for Generations". With this in mind, we work to identify the material ways in which our activities may impact sustainability and develop the strategies that will guide us as we maximize opportunities and minimize our impacts".

Management of Selenium as an Object Lesson in Sustainability

Sustainable selenium management “on the ground”

- Tests the extent to which Teck has created a culture that truly considers “people, the environment and communities of interest, now and in the future, with every decision”

The Panel observed that this was not happening consistently at Teck’s coal operations.

- E.g., mine planning did not incorporate selenium management as a key objective and performance metric

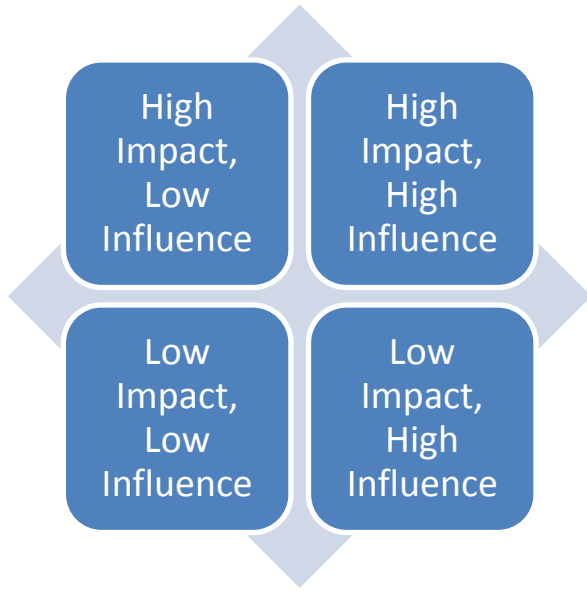
The Panel was looking for a higher level of integration of all of the parts of the selenium issue.

- These parts included scientific and technical knowledge, community values, and economic imperatives.

The Initial Situation with Stakeholders

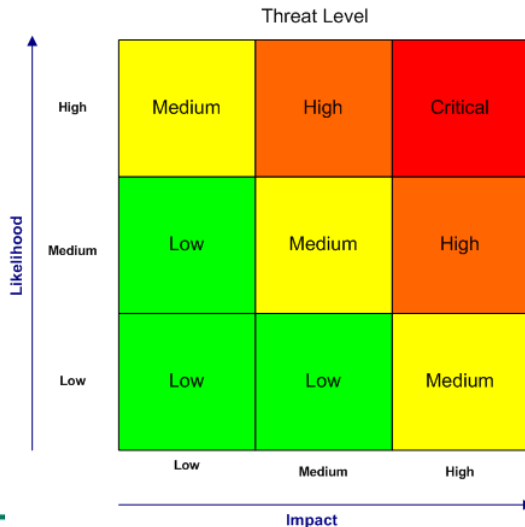
- Many strongly held views
- History of firmly entrenched positions
- Past advisory panels, task forces and research had generated much useful science but no consensus on an acceptable plan
- Meanwhile selenium continued to increase
 - ➡ ■ Low trust

The Panel's Approach to Engagement



■ Stakeholder map

- Impact: decision-makers; decisions are directly relevant to selenium issue
- Influence: ability to affect opinions of other stakeholders



■ Teck risk assessment to confirm high-risk status of Se

The Panel's Approach to Engagement

- One-on-one meetings with key stakeholders
 - More than one meeting often necessary
 - Standard set of open-ended questions used
- Examples of key stakeholders:
 - Provincial and federal regulators
 - First Nations
 - Regional NGOs: Wildsight; Fish and Game Associations
 - Tourism operators
 - Municipal officials

Baseline Stakeholder Information

- Panel Process
 - General satisfaction with independence and objectivity of the Panel
 - Some would have preferred a more transparent and inclusive process for forming the Panel
 - High level of desire for frequent interactions with the Panel
- High importance of Teck to economy
- High importance of a healthy river

Baseline Stakeholder Information

- Selenium Issue
 - High concern over increasing trend
 - Effects on fish, wildlife, human health
 - Subsequent effects on quality of life
 - cumulative effects



- “It’s time to get on with it”



Stakeholder Workshops

- First workshops focussed on views of sustainability and setting objectives for selenium management
- The objectives developed at the workshops were adopted by the Panel



Selenium Management Objectives

Elk Valley:

“Define, implement, monitor and communicate sustainable ways to stabilize and reverse the selenium trend in the Elk River water shed as soon as possible. ‘Sustainable’ implies the context of continued mining and growth as well as social and environmental values.”



Hinton and Yellowhead County

“To manage selenium at current and future Teck Coal mine sites in a way that optimizes the mitigation of environmental impacts, protects critical ecosystem goods and services, allows for the continued extraction of the resource, and ensures ongoing community and social well-being for generations in Yellowhead County.”

Specific actions in support of this objective are:

- *establish a decreasing trend within three years.*
- *provide a sufficient margin of safety for humans, fish and aquatic life and wildlife.*
- *position the community as a knowledge centre on selenium.*
- *ongoing dialogue about (1) selenium (so as not to cause alarm); (2) management actions; (3) progress; and (4) anticipated next steps.*

Development of Selenium Mitigation Options

- Workshops generated 45 different ideas for selenium management
- Stakeholders provided criteria for use in multi-criteria decision analysis
 - E.g., aquatic ecosystem health, percent disturbed area, degree of selenium reduction, timeline to demonstrate selenium reduction, quality of life index, potential future liability

The Strategic Plan

The deeper understanding of what stakeholders would define as sustainable management of selenium helped the Panel as it strove to produce a strategic plan that was faithful to the Panel's definition of sustainability.



The Way Forward:

A Strategic Plan for the
Management of Selenium at Teck
Coal Operations

The Strategic Advisory
Panel on Selenium
Management

6/30/2010

Reaction to the Strategic Plan

- Teck adopts the report within days of its release
- Stakeholders pleased that the report reflected their concerns and ideas
- Gratification, tempered with questions about Teck's capacity for rapid implementation.



Reaction to the Strategic Plan Report

- Positive

- Hopeful

- Engaged



Engagement During Implementation

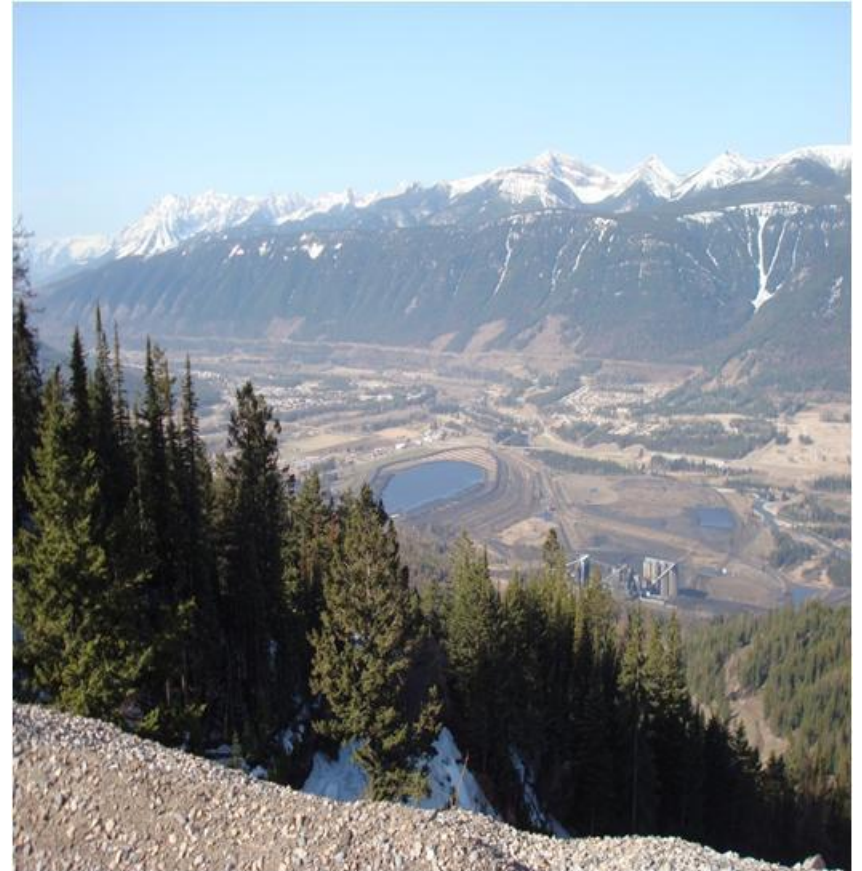
- Panel's mandate extended to end of 2011
- Themes emerging from workshops in Fernie and Hinton
 - Effective communication of progress
 - Understanding risk tolerance from both a regulator and industry standpoint
 - Accountability
 - Dealing with uncertainty
 - Re-vamp monitoring and research
 - Watershed-wide selenium management

Teck's Implementation of the Strategy

- Dedicated team to develop and implement the selenium management plan
- Large capital projects already underway
- Significant revision of applications for mine expansions in order to incorporate additional selenium management measures
- Monitoring and research and development programs are being substantially revised and expanded
- Communication with regulators is occurring at more frequent intervals and Teck is working cooperatively with the Panel on continuing stakeholder engagement.

Encouraging Developments

- Willingness of some key stakeholders to serve on a “communication action team” (which may evolve into a sustainability round table)
- Formation of the Elk River Alliance – a multi-stakeholder group dedicated to watershed-level education and action
- Increased level of trust has been maintained



- **It takes a significant level of courage for industry to commit to a truly independent advisory panel, but the results can be well worth it in terms of increased trust and social licence**
- **Panel members should be from a broad cross-section of expertise, including social sciences**

- **Panel deliverables should be well-defined, accessible, and produced within as short a time period as possible**
- **Terms of reference for panels should include consideration of “what will happen next” after release of milestone panel reports**

1. Expert advisory panels can be effective agents for change, not only with respect to technical and scientific actions but also with respect to stakeholder engagement
2. Thanks to the willingness of Teck and stakeholders to turn a new page, the Panel was able to lead a process that produced a step change in attitude as well as the beginnings of new structures and processes, both within Teck and among stakeholders.

3. Structure and process change is difficult – and changes often require years and substantial political will to accomplish
4. A foundation has been laid that can lead to a long-term, sustainable program of selenium management that is watershed-scale and that involves fully engaged stakeholders



The Elk River at the Mouth of Coal Creek