

Climate Change Adaptation Workshop

Fort Saint John, October 9th 2013

Personal observations of climate change:

- More often flooding / regular flooding in the Peace area.
- Fewer and shorter cold snaps, not as cold as it used to be.
- Warmer winters.
- More moisture in the winter and summer as well as more fluctuations.
- Deer are moving north.
- More fires, and are more intense.
- Animal movement is later, not in synch with hunting regulations
- Invasive plants are increasing.
- Mountain pine beetle and foliar diseases.
- MPB now fully impacting stands near Fort Nelson.
- Shifts from drought to heavy rain – averages not that useful.
- Weather is found to different locally, comes in cells.
- Best ever tomato growing season in Ft. Nelson (at least for the last 20 years)
- Halloween has been warmer, less snow suits under the costumes.
- Ice bridges did not become usable until much later in the season, this uncertainty led to the building of a permanent bridge.
- Glacial retreat is evident and noted by park signage.

Vulnerability exercise – What might become vulnerable with climate change – where and why?

1. Water quantity
 - a. Demand is increasing for oil and gas extraction, thus quantity is an issue.
 - b. Issue is timing of flows related to timing of precipitation and whether it falls as snow or rain.
 - c. With less severe climate (and more economic growth in the region) population may increase resulting in greater demand. E.g., Dawson Creek has experienced water controls with the present population.
 - d. Wetlands may be impacted by use of aquifer water that pulls from surface sources.
 - e. Aquifers if used may or may not be sustainable depending upon recharge.
2. Water quality is a possible issue in areas where slope stability due to permafrost melting causes landslides impacting quality for both fish and humans.
3. Winter roading and access will become more vulnerable – creating uncertainty and possibly greater costs for permanent roads and bridges.
4. OGMAs and other spatial reserves could become vulnerable to losing their functional characteristics from increased forest health pests and possibly fire. Will these areas maintain

the attributes they were left to provide? They are seen as vulnerable also from the harvest strategy, where there is no recruitment of old built into the harvest flow – climate change puts a fine point on this issue.

5. Timber supply could become more vulnerable due to increased pests, increased access costs, and greater area impacted by fire (note this may be considered good for biodiversity and habitat, thus not necessarily negative for other values).
6. Moose and ticks – warmer conditions could exacerbate the tick-moose interaction. This is a tough one.
7. Any of the Species or Ecosystems at Risk could be vulnerable with a changing climate.
8. High elevation ungulates such as goats may become more vulnerable as their habitat is impacted.
9. Crops will become more vulnerable if precipitation becomes more variable and timing is unpredictable.

Exercises

Tree species selection

Information was provided by regional specialists on the thought process in making decisions on whether to promote or demote a species from a specific BEC site series. The issue of risk was introduced: how to assess potential gains and or losses. Feasibility is the first step; trees must survive to be considered resilient.

The folks who need to be involved include:

- Ecologists,
- Researchers,
- Forest health specialists,
- Silviculturalists for the local area,
- Policy makers,
- Fire specialists, and
- Those with knowledge of browsing and habitat use.

Tools that are available were outlined. handout from Laura Gray and Andreas Hamann was added to the list.

Resources for moving forward include:

- Results from trials and promoting more trials – keep track of where they are and monitor;
- Field trips to promote discussion and thoughtful deployment;

Begin now looking for opportunities to innovate.

Water

Issues for both quantity and quality are tied to climate, use, and change.

Questions on the subject include:

- What is the inventory?
- What baseline data are available? Do we need to begin now in areas without it?
- What are the data gaps?
- What monitoring is being done? Where is the information held?
- How does legislation affect the issue – e.g., private versus public land – different rules?
- Tenures – how closely tied are they to monitoring and targets?

Plausible effects of climate change include:

- Increased drought in specific areas – ‘where’ needs to be identified
- Change from snow to rain
- Extreme weather events
- Changes in flow timing and rates for surface water
- Potentially less precipitation at altitude with less clouds
- Issues specific to species such as Bull Trout – low water in critical habitat may be an issue.

Adaptation options

- ID future demand – from whom and where?
- Public education – what are the issues and possible solutions.

Fire and Habitat

- Need for a greater understanding of fire’s place in management in the NE.
- Fire promotes the historic mosaic and provides heterogeneity which promotes resilience.

Some issues identified were:

- Liability
- Smoke management
- OGMAs and other landscape level reserves – what form do we want them in? Is fire a natural process that can be accepted in some? Can fire be used to reduce the risk within these units?

Solutions

- Education for the public and resource managers
- Using fire to maintain lower risk to catastrophic fire
- Modify fire types from crown to ground.

Some things participants would do differently

- Add in a climate lens when doing their day to day job
- Burn more
- Look into the use of Douglas-fir
- Look into other species options
- Use the risk matrix approach to identify issues
- Where risk is seen to be high, act – for example use larger culverts
- Become more familiar with the tools presented.
- Use the knowledge of those in the Region to help move forward on Climate Change Adaptation.