

Breakout Session Notes

On the second day of the Land and Resource Symposium, participants had the option to participate in three of six breakout sessions on the topics of: timber/fibre supply; fire and its management; fish, wildlife and habitat; agriculture; forest health; and hydrology/water. The following are the notes from those presentations:

Fire and Fire Management

The three groups concentrated on “challenges” and “immediate next steps.”

Challenges

- Prescribed fire needs to be in the land management toolkit; however, there are many constraints not least of which is the Open Burning Smoke Control Regulations and Ventilation Index, and liability and the fact that non-BCWS practitioners cannot get certified
- Other fuel treatment constraints include:
 - Ungulate Winter Range
 - Cost – thinning from below means targeting small-diameter, low-value material
 - Private land not being treated
 - Lack of federal participation
 - Grant funding priorities
 - Too much process in grant programs
 - No capacity within small rural governments to manage the SWPI program
 - Salvage
- Need for public education
- Need for research: fuel treatment effectiveness, how far to compromise with other values before the treatment is no longer going to be effective.
- Suppression infrastructure rehabilitation (fire guard, etc.)
- Regulatory challenges: post-treatment stocking, OBSCR
- IMT legacies – one team develops good relations with local resources then transitions out after 14 days and the community starts all over again
- More local knowledge needed on IMT’s (Incident Management Teams) – need to train/certify local resources to fit into the suppression organization
- Need to improve prescribed fire capacity – develop multi-agency modules
- Currently 50% of the Interior Douglas-fir zone is highly constrained:
 - Many static reserves
 - Minimal treatment being applied
 - No salvage post-wildfire

- IMT's:
 - No communication/coordination with local elected officials
 - Pre-fire season work needed to identify potential suppression resources from the local area
 - Need to build local, all-hazards management capacity
 - Regional districts are too large to address disturbances of current scale
 - Current staffing is not capable of managing large incidents
 - Emergency logistics need to scale up in an organized fashion – not happening
 - Back-burning issues
- IDF constraints:
 - Economic viability of treatment
 - What do we want these ecosystems to provide?
- Prepare small, rural communities for natural disasters – increase capacity for management of disaster and resilience
- Need better transitioning between IMT's and communities
- Need to focus attention on prevention as opposed to simply reacting to wildfires – need to treat at appropriate scales

Immediate next steps

- Address fuel hazards communities and advance salvage where feasible
- Assess and treat private land hazards – consider some kind of cost-share program
- Address regulatory hurdles:
 - Constraints to more aggressive action
 - Streamline grant programs and referrals
 - Create incentives to treatment
- Improve access to treatment funds (FESBC)
- Utilize existing area-based tenures to solve some issues (CF, Woodlots)
- Increase communications between BCWS and communities – include community Improve access to treatment funds (FESBC)
- Utilize existing area-based tenures to solve some issues (CF, Woodlots)
- Increase communications between BCWS and communities – include community representatives on planning teams
- Insist on open and transparent after-action reviews for all large fires with local communities impacted by the fires
- Streamline treatment grant programs – too process driven and complex
- Address issues around jurisdiction – who's responsibility to treat Crown Land outside the municipal boundary?

- Ministry needs to liaison with small, rural communities who don't have the resources or capacity to plan and carry-out hazard abatement
- Need to risk manage future threat – i.e., treat wherever there's an established risk vs only treat an index of risk (high and extreme hazard stands)
- Address WUI planning issues – rampant development into the WUI
- Need better communication/consultation over fuel treatments with local residents
- Need to address industry operating close to communities during high fire danger conditions (operators risk managing the situation)
- Train and certify local resources for operations positions
- Hold government accountable for past report (Filmon, Auditor General) recommendations
- Need to find a way to assess/treat private land
- Consider an area-based tenure for the WUI
- Need renewed attention/focus on addressing WUI threat:
 - Build community resilience
 - Build community all hazards capacity
 - Training
 - Certification
 - Equipment/communications
- Address grant program inefficiencies
- Assess the scale and severity of these past wildfires soon before the evidence is gone
- Develop flexibility in managing static reserves
- Increase capacity to plan and carry-out prescribed burns
- Bring BCWS staff on earlier in the spring so they can help with prescribed fire
- Insist IMT's use consistent wildland fire terminology
- Use local resources to help with outreach and communications
- Increase opportunities for biomass utilization
- Add sections on fire and forest health to FRPA
- Develop better communications with neighboring communities – evacuations

Timber/Fibre Supply

Impacts – immediate

- Financial and mental impacts on employees
- Business interruption – shut down of mills, burned timber that was approved under cutting permit ready to log, and burned log decks, low log inventory
- Cariboo-Chilcotin forests not in good health or condition

Impacts – short-term

- Need to salvage burned timber – short shelf life of 2-4 years; only approximately 10-30% will be salvageable based on numerous factors (degree of burn, other constraints)
- Capital investments needed at mills to process burned timber – charcoal dust, debarking
- Assess and strategize on addressing burned plantations – young regenerated stands that were not yet free growing, and are still a forest licensee silviculture obligation
- Access and fire guards – a lot of access has been created, which puts pressure on other resource values

Impacts – medium term

- Anticipated additional 10-15% reduction in AAC, on top of reductions coming from MPB impacts
- Anticipated time period of about 40 years of reduced, mid-term reduced AAC
- Douglas-fir and spruce beetle outbreaks
- Limited tree seedling nursery capacity for reforestation needs
- How to regenerate areas not salvage logged; time delay in getting trees growing again
- Community fire resistance and resiliency

Impacts – long term

- Diversification of local economies
- Rationalization of timber processing facilities (i.e., reducing the number of mills to the available timber supply) – the size of the traditional forest products industry will be reduced, and there will be economic and social impacts associated with this
- Enhancing community preparedness and fire-fighting approaches
- Site productivity, reforestation challenges in particular in hot, dry ecosystems

Opportunities

- Manage forest fuels, insects in constrained areas, not reactively
- Add two objectives to the Forest and Range Practices Act, in addition to the existing eleven: fire and forest health
- Strategic approaches with priorities and ranking:
 - Economic recovery
 - Prompt salvage of burned timber.
 - Rapid value decline in severe burned timber.
 - Crown salvage harvest has not commenced.
 - Innovative approaches required to expedite process.
 - Timber Pricing – fair and equitable.
 - Tenures – shortened approvals
 - Landbase restoration
 - Prioritize reforestation investment based on site productivity.
 - Concerns about seed and seedling growing capacity will result in multi-year programs.

- Some areas will not re-grow trees in the short term, identify and manage for forage to support wildlife or range values.
- Prioritize access management and implement multi-phase rehabilitation program
- Wildfire Risk Reduction
 - Review the 2003 Filmon Recommendations.
 - Multiple values have been impacted. Prioritize planning and treatments that support long term forest resiliency and maintenance of multiple values.
 - Community fire preparedness awareness and planning should also be part this
- Land Use Planning Reform
 - Examine resiliency and sustainability of existing land use planning approaches.
 - Land use planning needs to be dynamic over space and time. Avoid being too static.
 - Consider new approaches to current land use plans and legislation
- Fire Response Review
 - Review current approaches.
 - Explore enhanced synergies across agencies and jurisdictions for maximum effectiveness.
 - Industry has a role to play and can contribute more effectively during extreme danger conditions.
 - Opportunities for improved integration and structure between government, industry, municipalities and other entities
- Salvage and timber recovery should focus on multiple wins: address forest health and Douglas-fir beetle; improve wildlife habitat; maximize salvage opportunity

Most immediate next steps

- Take a better approach to determining what timber is out there – we need better inventory data, need to take a spatial approach to determining AAC, and conduct timber supply reviews that more accurately take into account land use constraints (OGMA, visual quality objectives, etc.)
- Plan for a future fibre supply of smaller logs, deciduous and various fibre sources. Identify where the best growing sites are, make the investments to grow the fibre.
- Improve First Nations engagement and communication – sit down face to face, engage strategically at the right scale (i.e., larger than a cutblock by cutblock approach), and discuss salvage priorities, values and concerns. Avoid the letter-writing referral approach with 30 and 60 day response times.
- Look for the multiple wins - improve integration of other values in timber harvesting and salvage operations; harvest timber and combine it with fuel management closest to communities; harvest timber to improve forest health and wildlife habitat

- Increase economic opportunities for fibre – including but not limited to bioenergy, digested pulp, liquids and biofuels, and engineered wood products. Encourage innovation, connect with universities and those developing these new products to get them to market.
- Encourage “total cost approach” for realizing economic opportunities (i.e., bioenergy and electricity costs. The assumed current reality is that it is not marketable to utilize waste fibre, even in relative close proximity to a bioenergy facility, since electricity costs are low and facilities cannot afford to pay for hauling costs of fibre. Taking a “total cost approach” across all aspects of society, with direct forest fire-fighting costs from 2017 over \$550M, and indirect costs to be at least double that, it would appear worthwhile to increase consumer’s electricity costs, enable removal of forest fuels in close proximity to communities, and avoid the other publicly incurred costs from future emergencies).
- “don’t waste a good crisis” – provincial government focus will shift off the Cariboo-Chilcotin to the next emergency; utilize this time while attention is focused here.
- Focus first on fuel management reduction - lives, homes, communities and infrastructure in the wildland-urban interface is paramount over all else; all the rest is secondary. Think of Maslow’s Hierarchy of Needs – shelter comes before many other things.

Forest Health

What struck the group about the panel presentations?

- difficulty in addressing beetle post-fire
- carbon emitting forests not carbon sequestering
- economic impact from forest health a major concern (losing mills due to lack of fibre)
- beetles in parks need to be addressed
- shift in harvesting beetle affected pine to beetle affected fir
- questions over salvage and getting the forest back to health
- questions over the impacts of the wildfire salvage on other values
- do the reforestation practices need to change? Status quo or different
- Landscape planning, need to ensure the forest is managed for a diversification of species
- Invasive plants are a concern in the burnt areas
- Economic impacts – how to utilise burnt fibre economically
- Need to manage the entire landbase
- Private land incentives
- Other diseases and endemic pests = compounding factors

What additional impacts?

- need to identify small scale salvage opportunities
- government oversight is needed to guide salvage
- Increased Area Based Tenures are needed
 - woodlots
 - community forests

- first nation woodlands tenures

- Fireguard timber and trap trees need to be addressed
- OGMA's burned or have fuels that can be a problem in the future fire seasons
- Active (MCH) Management
- Impacts of salvage on MDWR
- Visual impacts – large red patches (bigger green areas?)

Challenges

- There is a lack of incentives for licensees to manage for beetle
- There is a lack of coordinated operational planning
- There needs to be a plan for managing the OGMA's
- Access to OGMA's makes it challenging for managing the OGMA's in an economically feasible way
- Education as an incentive to manage better, get public buy in
- Education for students to learn about outcomes – policy, forestry, ecotourism etc.
- Licensees Action Plan directed to fir beetle salvage/Management (Prince George as an example)
- Drought is adding additional stress to the ecosystem
- There is a capacity issue with contractors who beetle probe and salvage log and equipment
- Landscape level planning is essential
- Opportunities to seed fir and salvage green fir
- Only 10-30% of the burnt land will be accessible for harvest
- There needs to be more access to salvage (government is not moving fast enough)
- Need salvage planning by government to guide activities
- Need collaboration between ministries and licensees
- Professional reliance = no oversight

Opportunities and Next Steps

- there is an opportunity to teach more people to beetle probe or salvage log
- overlay salvage of beetle probe burnt timber with areas of known beetle
- change composition of stands i.e. species, densities, more than one option
- Fire proofing
- Changing stocking standards
- Regulatory changes
- Fire objective
- Protecting communities
- Fire objective, creating fire breaks
- Educate the public about the importance of fire breaks
- Need more public oversight
- Acceptance of beetle and fire into constrained landbase
- Designate OGMA's for management

- More focus on communities is needed to empower communities to have more area based tenures around their communities
- Plans need to be adaptive and proactive
- Need to incentivise Fire Smart and have additional support for local governments (FESBC, SWPI, more)
- More community forests with shared revenue opportunities
- Remove constraints for example have MDWR salvage opportunities if there is no longer habitat in that area
- Need to put a different lens on objectives for the land base
- Need a risk analysis around the communities
- Use mass media to educate – not just messaging about fire prevention but fire smart.
- Focus on public understanding of forest ecosystems, perceptions can be improved
- Evidence based decision making
- Public value of healthy forests needs to be fostered through education
- Need continuous support for government and community projects that balance between harvest for profit and funded projects, need trials to demonstrate what this would look like

Fish, Wildlife and Habitat

What struck you the most?

- Wildlife in the Region has changed from predominantly elk, to moose and now it is changing back to elk again, how do we support the ecosystem change and make it beneficial for the ecosystems and people?
- We can't generalise the impacts of the 2017 wildfires across all ecosystems and to all wildlife; the impacts for fur bearers is very different than for larger animals
- Management and recovery needs to dovetail with the disturbance type
- We need time to assess the impacts of what retention is in some areas, what areas are totally destroyed, and what it will take to get the areas back to healthy ecosystems again
- Fire is a natural cleansing for the land, but the fuel build up and conditions made a destructive mix in 2017 that burned too intensely

Opportunities

- Consider the 2017 wildfires as an opportunity for change, what areas are not meant to be treed
- Salvage logging needs to take into account dead trees for habitat values and in some areas, the dead trees will be the only bio-mass available for the new life – if we remove all of the biomass, there will be problems for regeneration must balance values
- Access management will be different in each area, but different measures/regulations (ATV restrictions during certain times, gates, water-bars etc) are needed to decrease hunting pressure on animals
- Timing of the salvage operations is key, the burnt wood needs to be harvested to decrease the green harvest

Recommendations

- We need to reframe the “lens” that we put on wildlife, change from being “timber-centric”
- Look to examples from other places (i.e. USA, France) where they have an overall plan that includes wildlife, trails, tourism, and forestry as equally important
- Need long term collaborative planning
- Prescribed burning is needed, but it needs to be carried out at the correct time of year for habitat and animal considerations
- Planning and management are key, determine areas that are not meant to be trees, encourage ecosystem restoration for grassland and fire maintained ecosystem habitat
- Renew First Nation traditional land practices such as prescribed burning, look at the intersection of fuel management, protecting communities and habitat
- Expand Area based tenures around communities
- Salvage log with habitat and hydrology issues (excessive run-off effects fish habitat)
- Balance values and have collaborative management with input from
- Do not create new GAR orders until the assessment of what has happened is complete.
- Reconsider the risk of having OGMA’s next to communities; manage the land for public safety and protection of community values

Immediate Next Steps

- Access management planning
- Shared decision making between all orders of government
- Include First Nation Government in the planning, not just the referrals
- Apply the cumulative effects model that the Province has created (i.e. South Chilcotin Stewardship Plan)
- Identify interim measures for recovery efforts that find the balance between moving too quickly or too slowly
- Encourage area based tenures around communities, invest revenue back into places
- Encourage alternate management (Block 44H) that is more like an ecosystem-based approach rather than economic-based harvesting
- Create an investment strategy to leverage different types of harvesting practices
- Identify communications gaps between groups (trappers, guide outfitters etc.)
- Identify and address gaps in research and ability for groups (like guide outfitters) to access provincial data
- Consider Province and Industry led talks with communities to build trust and foster community buy-in (social licence)
- Consider landscape level planning (there are 300 landscape level units in the Cariboo Chilcotin Region)
- Review the FRPA and CCLUP and ask, what is working and what is not, consider that the CCLUP did not take into account large scale fires

Agriculture/Ranching

Impacts – immediate

- Fencing
- Loss of natural barriers
- Lack of forage on crown and private land

Impacts – mid to long term

- Health effects on cattle (stress, smoke)
- Invasive species impact on forage
- Impact of fireguards, roads and burned areas on cattle migration and access management
- Predation
- Concern for archaeology on newly opened, and accessible areas
- Hydrological impacts on cattle and grazing
- Increase in other species: elk, wolf and wild horse populations

Challenges and Opportunities

- Incorporation of local knowledge from producers in fire management practices (future opportunity to improve and continue to work together)
- New areas opened for potential grazing – some ‘good burns’ within fire perimeter could see increase in forage and increase in accessible range
- Use of livestock to control fine fuels
- Shifting forest economies to agriculture

Most immediate next steps

- Rebuild fencing (FLNRORD Range is rebuilding all burnt fences on Crown land range tenures)
- Seeding (BC Wildfire service is seeding cat guards where there is a risk of erosion, approximately only 10-15% guards built during the fire season)
- Increasing education about agriculture and ranching to the general public, i.e. the role grazing could play in ‘firesmarting’ a community
 - Could community fire breaks be used for grazing and/or new range tenures be issued adjacent to communities
 - Revisit Fire Smarting and Climate Change Mitigation and Ranching Projects already underway (Cariboo Chilcotin Wildfire Planning Project)
- Education/public awareness around forested landscapes (desirable/dangerous)
- Potential need for legislative changes to shift forest land to agriculture post-fire, via silviculture practices (seed for forage versus planting for trees in some areas)
- Continued communication and connectivity between groups (producers, CRD, BC Wildfire Service) to work towards an increased understanding and more fluidity for producers in emergency situations

- Potential for CRD reps to attend existing producer meetings (range tenure, Cattlemen's Association)
- Establishment of emergency plans for ranches, on file at CRD
- Resource sharing between land users, i.e. ranchers and placer miners (example of placer miners having large gravel areas that could potentially be used to house machinery and livestock in an fire emergency, and they have equipment (pumps, etc.)
- Potential to recognize ranchers as businesses versus residents so that they are able to have access when alert/order designations are issued. This could be a 'classification' for ranchers in the Wildfire Act
- Establish a protocol or understanding on how emergency operations will occur in the future
- Build relationships and open lines of communication

Hydrology/Water

Water is necessary to every aspect of life

- **SOIL LOSS**
- **MASS WASTING**
 - Impacts on downstream infrastructure
 - Impacts on watershed level hydrology
 - Impacts on road infrastructure
 - Even small fires have huge impacts that are unexpected overtime
 - Frost/Thaw impacts on boulders that no longer have soil, unravel and impact roads
 - Hydroseeding one of the first steps but there is no soil
- There will be new species needed to plant multi- species forests that can survive in Clay where soils have been lost
- Overwhelming to think about ALL the planting that needs to be done everywhere, how, who will pay for it and will it work?
- Look at what is done already...on the ground. Look at Barrier Fire and see what has worked and what has not, where has nature healed itself, how did it start.
- There are examples out there. The Filman Report 2003
- Drinking Water Reservoirs: What will physical and economic impacts be?
- What and who is collecting cumulative impacts?
- Biggest impacts on watersheds after fires are roads.
- Possibility to shut down subbasins to allow natural healing.
- Ash/Clay, all that is left after fire increases temperatures of streams as well as loss of vegetation.
- Logging has watershed impacts, fires has sediment impacts. Fires in logged areas increases sedimentation exponentially.

OPPORTUNITIES

- Mitigate further impacts
- Look at prior fires, recommendations
- Who will do the work: Gov't has no money, non-profits – don't have public accountability, First Nations water rights need to be explored further, Citizen Science could be useful, Local people and everyone on the ground (ranchers, miners, trappers, local government, regional gov't) Point is we need everyone to leverage to work on the scope of our watersheds.
- Watershed Authority at a regional level – can provide mechanisms for including landscape level information, leveraging through different organizations, and plans developed from the ground up with guidance and resourcing from all levels of government.
- Needs to be at arms length of government but well resourced. Gov't don't always have the continuity and certainly don't have all the resources
- Needs to be self sufficient
- We cannot wait for government
- There is over 200 years of fire data and pictures to help support.
- Concerns about a lot of planning and not a lot of doing – need to work to find that balance.
- There are good examples in New Zealand and Ontario how watershed authorities are working and not working
- Needs on the ground work immediately
- Inventory and Prioritization of work to be completed is just starting
- Request FBC coordinate a meeting of all the water people to continue to share information and provide input to continued recovery works by Spring 2018.
- Have some easy short term work starting in Spring 2018.
- Fireguards, Fencing rehab has already started but won't be able to do everything
- Report out what the follow up will be to all the water people

Group 2:

- Reduce erosion but use clean seed to ensure that you are not fixing one problem and starting another one with invasive plants.
- Revegetation on all areas, not just steep slopes
- As Rehab work is being done, again ensure that all equipment is invasive plant species free.
- There is a large demand for clean seed.....business opportunities?
- High Level Coordination needs to be included to ensure that restoration does not cause more problems.

- Water Licence: does not guarantee water supply or quality..it only allows you to use what is already there.
- 1st in time, 1st to use
- Have planning incorporated into Legal basis
- Sloughing this fall/winter/spring will lead to highway 97 closures if not dealt with NOW
- Flooding will increase overland flow which will increase increased infrastructure management
- Need to manage all roads
- Ash and soil will start to run into drainage systems and clog up culverts requiring increased maintenance.
- NEED MASSIVE RURAL INFRASTRUCTURE investment: Dams, culverts, roads, removing access
- Timing of mitigation is now
- Need Gov't to be checking quality of work completed to ensure it is to a high standard
- Build capacity to manage impacts, restoration, public land, private land, and monitoring so it is done locally
- Change governance of water...we need the authority to effect change
- Recommend Legislative Authority around water to Local/Regional Gov't similar to solid waste management
- Best Practices in Governance of Water Management is needed.
- Best Practices may not include our NEW HYDROLOGY...principles are not necessarily the same..water is behaving differently...so we need to understand the differences.
- Hydrological Literacy is needed.
- We need to get all water people to get together to share knowledge, to make better decisions, and increase understanding while still moving forward.
- Water Authorities may be more trouble due to increased players in decision making and it may slow decisions down
 - Can it be any slower than it is now?
 - Cautious about inclusivity throughout the region..difficult in practice

Group 3:

- Fire Retardant – what is the impact on water quality – has phosphorus which does not have short term impacts but has long term impacts on water quality due to plant and algae growth and oxygen levels.
- NEED RIPARIAN BUFFERS everywhere
- Regulatory Change needed at Provincial Level
- CCLUP is not dynamic enough
- All Water including wetlands, S5, S6s small ponds need protection for habitat
- Get water people together by Spring 2018

- Collect Existing Information
- All Water people need to take personal responsibility for rehabilitation
- Review Existing Information and bring back to all water people
- Need to find a forum to get out information to the general public about all the economic development activities in our region going forward: Mining, agriculture, Forestry, recreation, Climate Change
- Need more trees everywhere
- No herbicides anywhere now as there is nothing to buffer the streams – ie. Aerial fertilization needs to change now because of Hydrological changes.