

Little Smoky – Duvernay Pilot:

How Close is Promised Cumulative Effects Management?

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In August 2015, Alberta Environment and Parks (AEP) approached environmental groups and other sectors to seek support for a pilot involving AEP, Alberta Energy, and the Alberta Energy Regulator (AER). The pilot's aim is to better manage cumulative development impacts to land and water in an area of west central Alberta that AER calls the Duvernay-Montney play-based regulation (PBR) pilot area (see map). While the specific goals and timelines of the pilot need to be much stronger, AWA is encouraged that the government has recognized that cumulative effects management is urgently needed in this area, and that a cross-ministry approach is essential. AWA will keep working with a broad group of conservation groups that has formed recently to accelerate regulatory change to protect these imperilled, highly valuable public lands.

A land and water crisis is unfolding in the Little Smoky watershed and other nearby upper Peace and upper Athabasca River watersheds, which overlap with the Duvernay-Montney PBR area. Land disturbance from ongoing liquids-rich gas fracking and forestry, plus unreclaimed “legacy” seismic lines, already far exceeds science-based thresholds for native fish, grizzly bears, and caribou in the region. As well, year-round water withdrawals from small local streams and lakes for fracking wells are a significant concern. Fresh water withdrawals are growing with little to no baseline ecological information, cumulative effects monitoring or auditing. This fresh water is contaminated and lost to the hydrological cycle through deep well

disposal that has been associated with local earthquakes. New protected areas, plus changes to energy and forestry tenure, approvals and compliance regulations are urgently required to manage land and water impacts within ecologically-based thresholds.

These public lands situated in foothills and boreal forests include home ranges of endangered Little Smoky and A La Pêche woodland caribou (see April 2015 *Wild Lands Advocate* for background on caribou range planning here). Less well known, perhaps, is the renowned fisheries habitat under threat in this area. Some small creeks and rivers in the area still support threatened Athabasca rainbow trout; some support threatened bull trout, and many support arctic grayling, a species of special concern (see Lorne Fitch's earlier article in this issue for the plight of the arctic grayling in Alberta). These species' status is a vital indicator of habitat health. The upper Little Smoky River and Two Creek are examples of local streams that originate in peat bog/fen wetland systems. Unlike ‘free stone’ systems, these wetland-fed systems generate a clear, cool and year-round discharge of water. Upper Little Smoky flows have a buffering effect that extends far downstream, creating a highly productive cool water ecosystem. Anglers still consider the Little Smoky a “blue ribbon” native fishery.

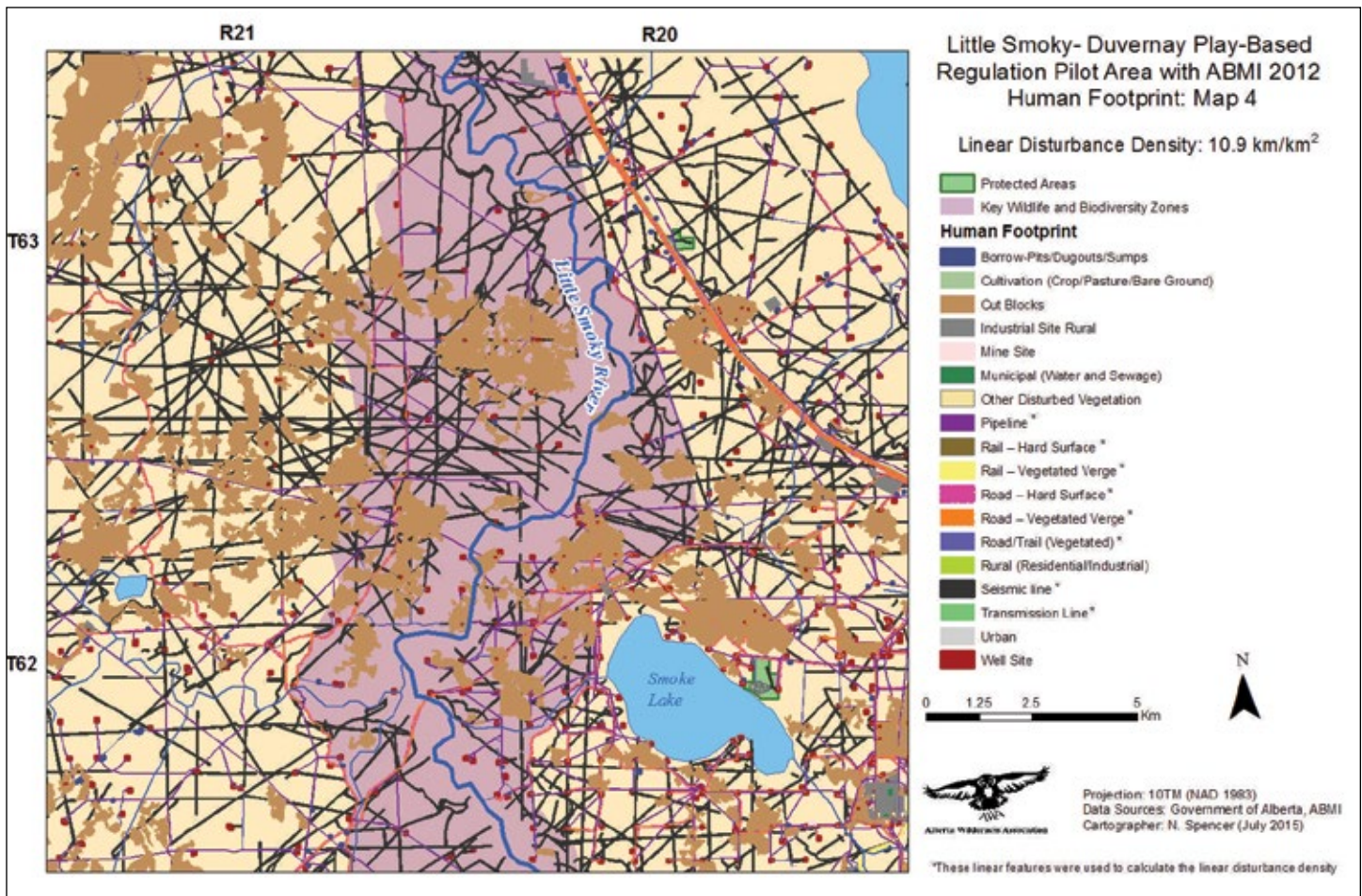
The concern is that today's increase in intensive landscape conversion and water withdrawals will severely degrade this fishery. Culverts tend to reduce stream connectivity and stream velocity, while

bridges and nearby roads increase the risk of large sediment loads entering streams and smothering aquatic invertebrates (a key link in the food web) and fish eggs. Roads, power lines, pipelines, and cutlines increase fragmentation and dessication of wetlands, which are crucial for water storage and purification. Year-round water withdrawals from small creeks and lakes damage river-side vegetation and increase ‘low flow’ risks, such as reduced habitat area, low dissolved oxygen and, in summer, dangerous high temperatures.

Conservation-minded groups and citizens have made numerous attempts since the 1970s to work with government and



Alberta Environment and Parks has proposed a cross-ministry pilot process to manage cumulative land and water impacts from fracking and forestry in the outlined ‘Duvernay-Montney play-based regulation’ area of west central Alberta. AWA and other groups are urging that ecologically-based surface disturbance and water withdrawal limits be swiftly adopted to restore and protect these lands.



Using 2012 human footprint data, this map of four townships in the west central Alberta Duvernay-Montney pilot area illustrates the excessive linear disturbance around the Little Smoky River's blue ribbon fishery. AWA and other groups seek responsible rules to greatly reduce surface disturbance throughout the region, including sensitive Key Wildlife and Biodiversity Zones (the purple band in this map), caribou ranges, and lake shore buffer zones.

other sectors to develop land use plans to sustain lands and waters of this area. None of these efforts led to protected areas in these foothills or boreal forests: instead, the whole area northeast of the mountainous Willmore Wilderness was allotted to multiple energy and forestry tenures. Responsible limits on cumulative land and water impacts were never set; multiple temporary water diversions and permanent linear disturbance were approved.

In recent years, new directional drilling and shale gas fracking techniques, plus the surge in tar sands-bitumen extraction, have greatly increased interest in the liquids-rich gas found in local Duvernay and Montney sub-surface formations. This gas is refined into condensate or 'diluent' that is added to Alberta's unrefined bitumen and heavy oil so it will flow in pipelines. Even in today's low oil

price environment, Canadian demand for diluent outstrips supply.

In 2014, the Alberta Energy Regulator (AER) launched the west central Duvernay pilot "Play Based Regulation" pilot approval process, with a March 2015 deadline for operators to file PBR applications. Recognizing fracking's intensive surface footprint and water requirements, the AER's pilot encouraged energy operators to disclose multi-year regional plans. The idea was to streamline the application process for companies and encourage coordination of infrastructure and water supply requirements. However, the pilot was not supported by a long term environmental vision or by overarching land and water management regulatory plans.

Since learning of this pilot in the summer of 2014, AWA has been very concerned that, once again, management of cumulative environmental impacts was ignored

whilst approvals were further streamlined. To its credit, AER's PBR staff has met every few months with AWA and other environmental groups since September 2014 to discuss the Duvernay PBR pilot. We were informed that AER was coordinating this pilot with Alberta Energy and Alberta Environment and Sustainable Resource Development (AESRD) – now Alberta Environment and Parks (AEP) – with AEP leading on land and water cumulative effects assessment pieces.

But as months passed without promised land and water impact limits, AWA and several others began submitting Statements of Concern for specific applications. In general, the applications we reviewed had incredibly limited information on aquatic ecosystem impacts from development and water withdrawal: from several days to zero field site visits for hydrology, river channel or aquatic eco-



Proliferating stream crossings greatly increase the risk of suffocating sediment loads entering the area's small waterways and harming fish and many other species. These photos were taken June 2015 on bridges over Waskahigan River (top) and Tony Creek (bottom), important tributaries of the Little Smoky River.
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system assessment. There is little to no local water gauging of streams, and limited local precipitation records. Instead, instream flow needs and estimated water available for diversion used a 'desktop' method based on gauges far downstream on larger rivers, with very limited information disclosed on other temporary or term water licenses.

The applications revealed little awareness of existing fish habitat, or impacts to endangered and threatened species, though some applications did mention voluntary efforts to minimize new linear development. In one case, withdrawals were proposed from constructed water bodies that were intended as habitat offsets in earlier construction projects. Another operator

informed AER it would no longer seek a *Water Act* term water license and will instead be pursuing temporary water diversion licences for its requirements, adding: "accordingly, the water monitoring and management objections raised in AWA's SOC are no longer relevant to the Application and should be disregarded."

Many of these applications for multiple well infrastructure have been approved, though some follow up studies and monitoring is required. In one case, permission was granted to operate a fresh water reservoir but the actual water diversion license decision has been postponed. Ecologically-based limits to regional land impacts, and a water management plan that includes temporary water diversion and term water license impacts are still missing.

Despite this neglect, Albertans still care deeply about these valuable forests. In June 2015, ten fishing, hunting, trapping and environmental conservation groups jointly called on the new provincial government to manage cumulative impacts in these lands. In late September, 10 conservation groups met with the three departments and agencies to voice support for swift reforms. Local anglers and trappers graphically outlined the urgency of the situation.

We believe AWA's efforts, together with our conservation colleagues, have raised awareness and resulted in tentative steps by policy managers towards on-the-ground improvements. We are continuing to work in a broad coalition to seek stronger goals and urgency for Alberta Environment and Parks' west central land-water integration pilot. For future generations to be able to enjoy the rich habitat we inherited, there is no better time for decision makers to finally start to reduce the degradation and threats to these valuable streams, wetlands and forests. ▲