



December 1, 2024

To: Land Use Secretariat
SSRP10-YearReview@gov.ab.ca

Cc: Nathan Neudorf, MLA Lethbridge-East
Lethbridge.East@assembly.ab.ca
Naheed Nenshi, Alberta NDP Leader
info@albertandp.ca

From: Braum Barber, Chair, Southern Alberta Group for the Environment (SAGE)
info@sage-environment.org

Re: **SSRP 10-Year Review**

The Southern Alberta Group for the Environment (SAGE) has been a leading voice for a healthy and environmentally sustainable community in Lethbridge and region since 1984. SAGE was an active participant in the public consultations that eventuated the South Saskatchewan Regional Plan (SSRP).

The SSRP articulated strategic directions for policy action that included the management of air quality, conserving biodiversity, promoting the efficient use of land and advancing watershed managements among others. Sustainability goals suggest the stewardship of land and resources to ensure current needs are met without compromising opportunities for future generations. In other words, the SSRP promises responsible social, environmental and economic decisions that consider the best interests of future generations. We take this sustainability goal as the primary imperative, with a strategic direction of mitigating and adapting to climate change.

The following points are intended to help guide the SSRP Review currently being conducted by the Government of Alberta.

1. **Balance:**

The SSRP includes statements like: “Aligns provincial policies at the regional level to balance Alberta’s economic, environmental and social goals” and “Uses a cumulative effects management approach to balance economic development opportunities and social and environmental considerations”. SAGE believes that the notion of ‘balance’ deserves a more

considered definition. Balance is relational. What commensurable attributes are being used to establish ‘balance’?

This is particularly concerning when considering statements like: “The SSRP sets the stage for *robust growth*, vibrant communities and a healthy environment within the region over the next 50 years.” Or the statement: “Although past cumulative effects are considered *it is not the intention of the biodiversity management framework to return Alberta to the levels of biodiversity found prior to European settlement*. Today’s Alberta includes working landscapes and the Land-use Framework acknowledges the need to *balance* environmental, social and economic considerations. *The focus of the management framework is from today into the future, ...*” [italics added].

It is difficult to imagine ‘robust’ growth today without further impacts on watershed health, impacts on air and water quality, and biodiversity loss. Furthermore, setting the starting year at 2014 as a reference for future ‘balance’ leaves a hundred years of cumulative impacts from land-use change and resource extraction unconsidered. If the goal is sustainability for future Albertans, chasing some elusive measure of ‘balance’, in an already environmentally challenged landscape, will not achieve it.

If we read the Vision of the SSRP correctly, we are not looking for balancing economic, environmental and social goals. We are looking for planning economic and social goals that are appropriate to a sustainable future. Economic and social goals are dependent on a healthy natural environment. Ecosystem integrity is nonfungible.

2. Vision and Strategic Goals

In principle, SAGE continues to support the notion of creating and maintaining a monitoring and measurement system with public access to data, and timely evaluation and reporting. Without baseline data, evaluating cumulative effects of industrial and recreational development on air, water, and biodiversity is impossible. We also continue to support the creation of Integrated Resource Plans at subregional and local levels in which watershed management is “the highest priority in the overall management of the eastern slopes. The natural resources are to be developed, managed and protected in a manner consistent with principles of conservation and environmental protection.”

3. Energy – Coal:

The SSRP indicates the interest of the Government of Alberta to “explore development opportunities for our abundant coal deposits” and acknowledges that the *Policy for Resource Management of the Eastern Slopes* (revised 1984), “has been an enduring guidance tool for the Government of Alberta. The policy provides the foundation for the province’s Integrated Resource Plans at subregional and local levels within the eastern slopes.” Since 1984, however, advances in scientific observation and analysis have revealed significant impacts of pollutants on

the environment and human health, and the multi-faceted threat of climate change due to the burning of fossil fuels. Simply, exploration and exploitation of coal should be removed as an economic goal in the SSRP.

In the global efforts to mitigate climate change, it is recognized that high-emission industries using coal are a significant contributor to increasing concentrations of greenhouse gases in the atmosphere. There seems to be an effort in communications by the Government of Alberta to suggest that metallurgical coal is somehow less harmful than thermal coal in its life-cycle consumption. The contrary is more likely. Metallurgical coal is known to be methane-rich, thus contributing as much as three times more greenhouse gas emissions per tonne consumed than thermal coal¹. The main use of metallurgical coal is to reduce iron ore in the steel-making process. This process has been the focus of technological advances that preclude the use of metallurgical coal: “While it’s true that a lot of infrastructure like wind and solar power will be built in greater capacities going forward, the increasing steel technology shift away from coal means that, though steel will be needed, metallurgical coal will be required in declining volumes. The accelerating shift towards DRI [Direct Reduced Iron] and EAF [Electric Arc Furnace]-based steelmaking means that coal can no longer be considered critical for steelmaking.”²

Research “now shows that recent technological advances, like green hydrogen, make phasing out metallurgical coal possible by the early 2040s.”³ Furthermore, in its Net Zero by 2050 report, the International Energy Agency (IEA) “projects that even though demand for coking coal (metallurgical coal) should fall at a slightly slower rate than for thermal coal, “existing sources of production are sufficient to cover demand through to 2050”⁴

In other words, there are enough metallurgical coal reserves to meet demand until it is phased out. Steel making will transition to advanced technologies including substitution with low-emission hydrogen within the next 15 years⁵. Cost/benefit analysis of capital investment for coal mining should not only show its ability to operate pollution abatement processes indefinitely (eg. selenium contamination of surface and groundwater), but should be based on a life-cycle that considers the transition period to low embodied carbon steel – 15 years. To extend the period of high-emission steel-making beyond what is technologically feasible would be grossly irresponsible considering that steel-making contributes more than 11% of global CO2 emissions. Coal mining, thermal or metallurgical, is not in the interests of global climate objectives.

Three of the essential principles of democracy are freedom of expression, freedom of equality, and procedural fairness. Procedural fairness has several key elements including: the opportunity to participate; that relevant evidence be allowed; that the process is free from bias; and that the

¹ <https://www.woodmac.com/news/opinion/putting-coal-mine-emissions-under-the-microscope/>

² <https://ieefa.org/resources/dont-believe-spin-coal-no-longer-essential-produce-steel#:~:text=While%20it%27s%20true%20that%20a%20lot%20of,no%20longer%20be%20considered%20critical%20for%20steelmaking.>

³ https://reclaimfinance.org/site/wp-content/uploads/2023/11/Reclaim_Finance_Metallurgical_Coal_November_2023.pdf

⁴ https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroBy2050-ARoadmapfortheGlobalEnergySector_CORR.pdf

⁵ <https://thenarwhal.ca/steel-coal-mining-hydrogen/>

decision-maker provide a rationale for the decision. Above all, procedural fairness requires that the final decision be accepted.

The Joint Review Panel evaluated evidence provided on the proposed Grassy Mountain Coal project. Based on their assessment⁶, the Panel concluded “that the project is likely to result in significant adverse environmental effects on surface water quality, westslope cutthroat trout and their habitat, whitebark pine, rough fescue grasslands, and vegetation species and community biodiversity.” Further, the project would be “likely to cause significant adverse effects on surface water quality ... The project will release a number of contaminants, particularly selenium, into receiving surface waters. ... [and] Benga predicted slight but chronic exceedances for a number of non-selenium contaminants ...” Furthermore, Benga was not able to determine if the active management of water quality would be required, which could extend decades after mine closure.

The Panel found “that the project would result in low to moderate positive economic impacts on the regional economy, but that Benga did not consider some risks that could reduce the magnitude of these positive impacts” including royalty payments, which the Panel believed to have been overstated.

In conclusion, the Joint Review Panel found that this project *not to be in the public interest*. The principles of procedural fairness were adhered to; thus, the conclusion should be respected. Coal mining should, at best, be removed as an economic goal in the SSRP or, at the very least, be managed with extreme care and expert consultation.

4. Energy – Renewables

The SSRP observes that the region “has a natural advantage for the development of renewable energy (e.g., wind, bioenergy, solar, hydro) sources” and identifies as the main objective that “the responsible development of the region’s renewable energy industry are maintained in support of Alberta’s commitment to greener energy production and economic development.” Strategy 1.9 states: “Ensure policies are in place to promote and remove barriers to new investments in renewable energy (that is, wind, biofuels, solar, hydro) production.”

The Government of Alberta placed a seven-month moratorium on new renewables projects in 2023, ostensibly to clarify new rules. A Pembina Institute study⁷ on the impacts of this moratorium indicates that as many as 53 wind and solar projects were abandoned, projects that would have added more than 8600 megawatts of power generation and substantial grid storage. A further 42 projects have been delayed, waiting for investment stability. Though the Government of Alberta has disputed these numbers, they seem to be supported by the Alberta Utilities Commission and the Alberta Electric System Operator⁸. SAGE is not aware a detailed refutation from the Government of Alberta.

⁶ <https://iaac-aec.gc.ca/050/documents/p80101/139408E.pdf>

⁷ <https://www.pembina.org/pub/investment-impact-albertas-renewable-energy-moratorium>

⁸ <https://www.cbc.ca/news/canada/calgary/alberta-renewable-energy-pause-cancelled-development-1.7283753>

It is certainly important to site renewable projects on brownfield or marginal land, and consider impacts to species at risk, wildlife migration, and ‘pristine viewscales’ that impact tourism potential. It is also important to plan locations to optimize transmission and distribution networks. It is not acceptable, however, to ignore (or even deride⁹) the scientific evidence of climate change and projections of climate variability on ecological systems. The response of the ecosystem to rising concentrations of greenhouse gases in the atmosphere is independent of our dependency on revenues from the extraction of fossil fuels to maintain a high standard of living. Renewable energy technologies offer an important opportunity to reduce greenhouse gas emissions for each kWh of electricity produced.

In a future economy, it will be important to ensure the progress of reducing the concentration of greenhouse gases in the atmosphere. This will require all levels of government to adequately assess the risks of fossil fuel production and consumption, and focus on responsible energy security. As such, the strategy to promote and remove barriers to the implementation of renewable energy technologies should be maintained in the SSRP and acted upon.

5. Forestry

The SSRP states: “Under an FMA, forest companies have obligations for forest management planning in keeping with the principles of sustainable forest management and in considering a range of social, economic and environmental factors (e.g., watershed function, wildlife habitat). In addition, the Government of Alberta actively monitors, detects and manages any significant forest health issues that threaten values provided by the forest including timber and ecological functions.”

The Government of Alberta is presently leaving forest management to private companies whose focus is on timber harvest and not broad public interest. The SSRP could provide strategic direction towards developing a strategy for managing forests for purposes that extend beyond timber harvest, including watershed protection, fish & wildlife habitat protection, recreation & tourism, livestock grazing, carbon sequestration and fire risk management.

SAGE supports the intent of sustainable forest management with the focus on maintaining ecological functions, including water quality and biodiversity. Indicators for ecological integrity might include some spatial footprint limits, water quality measures like sedimentation after rain or melting events, and biodiversity benchmarks related to habitat quality and species at risk like native trout. Comparable to other resource extraction operations, there should be specific intentions articulated in the SSRP for the restoration of access roads and adaptive management of forests, as tree species shift to higher elevations and latitudes due to global warming¹⁰.

⁹ <https://www.nationalobserver.com/2024/11/02/news/albertas-ruling-party-votes-emissions-reduction-carbon-dioxide>

¹⁰ <https://www1.agric.gov.ab.ca/%24department/deptdocs.nsf/all/formain15617/%24FILE/climate-change-albertas-forests-cerezke-2008.pdf>

6. Air Management:

The outcome for air management in the SSRP states that “Air quality is managed to support healthy ecosystems and human needs through shared stewardship.” Activities in the region that contribute to air pollution include “building and home heating, road construction operations, transportation, agriculture and industrial facilities are associated with emissions of a variety of substances, including, volatile organic compounds, nitrogen oxides, sulphur dioxide, hydrogen sulphide, fine particulate matter, substances that lead to ground-level ozone and others.”

In 2022 Alberta had the highest emissions among all Canadian provinces and territories of SO_x, NO_x, VOCs, NH₃ and the second highest of CO and PM 2.5¹¹. Potential health effects of air pollutants need to be factored into land use policies and decisions. An airshed zone is not yet established for the southwest portion of the South Saskatchewan Region (Lethbridge and area) meaning the collection and public sharing of information about ambient air quality, that is required to assess effects on environmental and human health, is lacking compared to other areas in Alberta with air quality issues.

Adequate air quality measuring, monitoring and evaluation is required to establish point source pollution as well as non-point sources. Construction activities and industrial operations, including intensive livestock operations, should be required to monitor air quality indicators in real time, with data available to the public for evaluation. Ammonia emissions from large intensive livestock operations or the dust from cultivated fields should be re-addressed in the SSRP.

Non-point source emissions adversely affect air quality which indirectly affects human health. The transportation sector contributes approximately 30% of the NO_x emissions in the province. People living within 250 meters of a major thoroughfare have an increased risk of health effects from those transportation emissions. Under the Clean Air Strategic Alliance (CASA), the ROVER III final report recommends that Alberta Transportation determine whether or not increased NO_x emissions are due to tampered vehicles or poorly maintained vehicles, or if there are other contributing factors such as defective vehicle emission control systems when vehicles are purchased. Identifying causes of NO_x emissions should be a priority in the region.

According to the 2019-2021 Air Zones report, the province of Alberta is at risk to be in the ‘red zone’ for the CAAQ's levels for NO₂. In the South Saskatchewan region, Calgary Central-Inglewood station has exceeded NO₂ CAAQs management levels, Calgary is in the ‘red zone’ for NO₂, Calgary Central Inglewood is in the orange level for PM 2.5 and in the South Saskatchewan region, all stations are in the ‘yellow level’ for ozone. The reports are published 1-2 years after the data is collected so there is a significant gap between the information that can be acted upon and when the information is actually released.

The strategy suggests that “voluntary programs and initiatives [be] taken by municipalities, industry, and the public to proactively address emission from sources such as transportation.”

¹¹ <https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/air-pollutant-emissions.html>

Adequate ‘voluntary programs’ have not been initiated suggesting that regulatory compliance is required. The emphasis in the SSRP should be on developing airsheds and implementing air monitoring stations along major roadways and near major industrial activities, and near areas of intensive industrial/agricultural developments. Data and assessment reports should be available to the public in real time.

7. Biodiversity and Ecosystems:

From the SSRP: “The South Saskatchewan Region has more than 80 per cent of the province’s species at risk as listed under the federal *Species at Risk Act* and the provincial *Wildlife Act*. Factors contributing to this high proportion include human settlement, disturbance from industrial, recreational and other uses, fragmentation, environmental contaminants and the introduction of invasive species.”

Biodiversity is a key contributor to ecosystem integrity, and a key indicator of the failure to conserve habitat and connectivity through migration corridors. The SSRP should acknowledge that species migrate through the seasons and that land occupied by a species for a short period of time may be an essential component of their lifecycle. The cumulative effects of land-use change are currently challenging ecosystem functioning and resulting in a deterioration of water quality and biodiversity. The Biodiversity Management Framework promised in the SSRP should acknowledge the benefits that biodiversity represents to ecosystem integrity. The Framework should follow science-based evidence to conserve land and aquatic habitat from industrial activity and high-impact tourism.

SAGE suggests that the SSRP biodiversity objectives and strategies be expanded to include maintaining and restoring ecological connectivity, restoring ecological function in high priority areas, developing a strategy for forest management that sustains biodiversity, defining and managing river flows to sustain healthy aquatic and riparian ecosystems/biodiversity, and review of the Municipal Government Act and Irrigation Districts Act for consistency with goals of sustaining native grasslands and biodiversity.

To summarize, the Biodiversity Management Framework must acknowledge the importance of conservation of native grasslands, wetlands, surface water and natural habitat essential to maintaining ecosystem health and function. Indicators like linear footprint limits, conservation area, and species diversity and abundance may help guide decisions for other activities and land uses. In addition to water conservation objectives (WCO) and the state of species at risk, the area of native grasslands is an essential indicator to be monitored and tracked. Alberta Biodiversity Monitoring Institute (ABMI)¹² data on land-use footprint would be an effective indicator, as well as supporting work by the Prairie Conservation Forum (PCF)¹³ on the state of the prairie.

¹² <https://abmi.ca/abmi-home>

¹³ <https://albertapcf.org/>

8. Water:

Water quantity and quality is essential to a sustainable future in the South Saskatchewan region. With increasing demands on water as a resource for agriculture, livestock and industry and as a sink for wastewater and stormwater pollutants (including runoff from urban and agricultural lands), understanding, measuring and monitoring water quality and ecosystem health is required.

The integrity of aquatic and riparian ecosystems in the region begins in the headwaters. The SSRP identifies the headwaters as a priority for conservation: “*Headwaters in the region are managed to maintain recharge capabilities and support critical water quality, quantity and aquatic ecosystem requirements.*” Industrial activities that remove water from the hydrologic cycle, or negatively impact water quality and (seasonal, timely) flowrates should be proscribed or, at worst, carefully managed: The mining of coal should not be allowed; forestry should be carefully managed to control runoff to natural levels thus protecting river habitat from sedimentation, and allowing for groundwater recharging as required for late-summer river flows.

Roughly three-quarters of the water abstracted from the natural flow of rivers is directed to irrigation. Irrigation is acknowledged to be an important industry and economic base for the region. Many rivers in the region are overallocated for irrigation, particularly as net water available has, and is expected to continue to, decline with the advent of climate change¹⁴. The management of water is currently upside-down: the allocation to water licenses is prioritized, and the instream flow needs for riparian health are secondary. This is not a sustainable approach – the environment is not simply one more user in ‘efficient water use’. Priority should be given to instream flow needs (IFNs), clearly defined by scientific evidence, human and animal needs and obligations to First Nations and downstream users second, and license holders the excess. Economic needs, no matter how important they seem, cannot exceed what the ecosystem is capable of providing in the long term.

The notion of limits should be applied to water storage. There is little evidence that increasing storage will increase the supply of water from natural cycles: storage does not create water. Decisions to expand irrigation infrastructure (in order to expand irrigated acres) must be based on robust modelling that includes source tributaries and variability in the amount and timing of precipitation due to climate change. Climate change is also expected to increase evaporation from the larger water surfaces of storage reservoirs; impact water quality indicators like temperature and dissolved oxygen; and potentially affect groundwater hydrology. Public investment in water storage with the expectation of expanding irrigated acres should be based on realistic projections of available water.

The SSRP suggests the implementation of guidelines to avoid conversion and maintain intact native grasslands on public land. Regional planning, regulator and policy mechanisms (like the Irrigation Act) must consider the environmental impact of irrigation expansion on native grassland conversion, as it impacts biodiversity, drought resilience, and carbon sequestration

¹⁴ <https://albertawater.com/annual-and-seasonal-flow-trends/>
<http://environment.alberta.ca/apps/emw/PresPost/ICF.aspx>

qualities. The SSRP and Biodiversity Management Framework should emphasize the conservation of native grassland on both public and private lands, expanding ‘shared stewardship’ opportunities for offsets, land trusts and conservation easements. The SSRP should establish a no-net-loss indicator for extant native grasslands in the region.

Fundamentally, there has to be more water left in the rivers to meet aquatic and riparian ecological needs. SAGE strongly advocates for a water indicator that quantifies the percentage of time that water conservation objective (WCO) targets are achieved annually. The recent Auditor General Surface Water Management Performance Audit (2024)¹⁵ found that Environmental and Protected Areas (EPA) had no water conservation objectives in most basins, did not know if existing water conservation objectives were being achieved, lacked robust processes measure and monitor water so as to assess risks, and had ineffective processes to monitor and enforce compliance of water licensees. The Auditor General states: “Failing to proactively identify the need for water conservation objectives, or to evaluate and update existing ones, increases the risk of water shortages. That could lead to higher costs, shortages of goods, and an inability to meet future water needs for people, businesses, and the economy.”

9. Efficient Use of Land:

The SSRP articulates an outcome that “Lands are efficiently used to minimize the amount of area taken up by the built environment”. Urban sprawl should indeed be limited, and environmental features within the urban footprint (like riparian areas, native grasslands, wetlands) should be maintained. It is unfortunate that recent decisions have sacrificed this outcome for a short-term (and errant) definition of ‘affordability’. Long-term ‘affordability’ is aligned with sustainability, as we cannot afford the loss of ecological integrity.

The built environment (towns and cities) is a part of the natural environment. They contribute to air and water pollution in the region, and are major consumers of energy and materials and sources of greenhouse gas emissions and waste. The SSRP should acknowledge the impacts of the built environment on ecological integrity. Raising standards of building performance (from the lowest tier currently being championed by the Government of Alberta) and transportation options will help reduce greenhouse gas emissions. Better measuring and managing waste that enters the environment in the form of air and water pollution will help maintain the health of air- and water-sheds. Microplastics represent an emerging pollutant that should be measured and monitored in air quality and water quality evaluation, as well as land contamination from the application of wastewater sludge.

¹⁵ <https://www.oag.ab.ca/reports/surface-water-management-performance-audit/>

10. Indicators:

The SSRP must lead to greater measurement, monitoring, evaluation and response to indicators and environmental triggers. The Biodiversity Management Framework is a critical component of the SSRP and should be completed.

The SSRP Implementation Progress Report 2022 does not adequately detail the development of the measurement, monitoring, evaluation and communication of air, water, land or biodiversity indicator data. Without measurable indicators there can be no progress towards sustainability.

If adaptive progress is to be made in achieving the strategic goals - that is, a sustainable future - the process of SSRP review and the frequency of Implementation Progress Reports must be increased with meaningful public engagement opportunities. SAGE is critical of the mechanism of online surveys, two public working groups, and untransparent industry-specific consultation. Discipline-specific expertise from our world-class post-secondary institutions appears to be lacking. The stakeholders for environmental health and a sustainable future were largely bypassed in this process. We can do better.

SAGE hopes that the feedback received for the 10-year review of the SSRP will encourage important revisions to the plan and investment by the Government of Alberta in better measuring, monitoring and timely assessment of environmental indicators. Sustainable economic and social benefits for the next 40 years is based on ecological integrity.