



MATANUSKA-SUSITNA BOROUGH

Fish & Wildlife Commission

Planning and Land Use Department

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Fish and Wildlife Commission,
Matanuska Susitna Borough
350 Dahlia Ave
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Alaska Department of Natural Resources,
Division of Oil and Gas, Best Interest Findings
500 W. 7th Ave., Suite 1100
Anchorage, AK 99501
dog.bif@alaska.gov

RE: Gas Lease Exploration License Applications ADL file numbers 393572 and 393888

To the Director of the Alaska Division of Oil and Gas:

The Matanuska Susitna Borough Fish and Wildlife Commission (“Commission”), through this letter, comments on two exploration license applications comprising more than 900,000 acres in the Susitna Basin. The Commission is making recommendations and providing useful information to help the Alaska Division of Oil and Gas (“DOG”) ensure that the health of lands, wetlands, streams and rivers continues as part of the ongoing restoration of fish populations in the Susitna Basin.

Commission Background

The commission shall advise and make recommendations to the assembly, borough manager, and/or any state or federal agencies, departments, commissions, or boards possessing jurisdiction in the area of fish, wildlife, and habitat on the interests of the borough in the conservation and allocation of fish, wildlife, and habitat. [Matanuska Susitna Borough Code 4.75.010A]

The Commission is focused on science, best practices, new information related to habitat, and strategies to restore in-river fisheries productivity following four decades of decline. It has supported and helped fund studies by Alaska Department of Fish and Game (“ADFG”) to generate reliable public information. In addition, the Matanuska-Susitna Borough (“MSB”), whom the Commission advises, is

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one of four establishing partners for the Mat-Su Salmon Habitat Partnership that now includes more than 66 organizations.

Since 2013 the State Board of Fish has taken steps to support rebuilding Mat-Su salmon populations that are bearing success. Using the best available information and studies, this Commission advocated for and supported State Board of Fish policies now helping to restore salmon populations.

The current trend toward in-river fisheries restoration success relies on healthy wetlands, waters, streams and rivers in which salmon and other fish are reared. Coalbed methane (“CBM”) drilling and other developments need to be conducted carefully and planned thoughtfully to enable the current restoration efforts to succeed.

Overall Concerns

The proposed gas exploration lease areas are within significant areas of wetlands, streams, and rivers that are critical to both fish and wildlife. This includes areas legislatively designated for protection of recreation and habitat, including Alexander Creek, Lake Creek, and the Deshka River (and by extension, Kroto and Moose Creeks) which are State-designated Recreational Rivers and parts of the Nancy Lake Recreation Area.

Hunting, sport fishing, subsistence, commercial and personal use fisheries are all critical to regional sustainability through food security, tourism, and important related economic activities that are historically and currently important.

License Area 1 borders the community of Willow, and overlaps land use area within the Willow Area Community Organization (“WACO”). WACO requested in 2017, when a similar license was proposed, and again in 2022 to have the area within the WACO boundaries excluded from the lease area due to the expected negative impact on habitat, and in turn businesses, property values, tourism, and recreation.

The Commission supports excluding the areas around Recreational Rivers, Recreational Areas, and the WACO boundary from the leases. These overall concerns are based on specific comments discussed in this letter.

Best available information

Until 2016 there was no high-quality map of the waters and hydrography across the MSB. In the fall of 2013, The Nature Conservancy initiated a program in the Mat-Su Basin using newly available LiDAR data from the MSB to map all lakes, rivers, and streams to a level of quality and technical specification suitable for the public USGS National Hydrography Dataset (“NHD”). This mapping program meets federal standards and is freely available for use by government agencies and private and public organizations to support decisions which affect Mat-Su freshwater resources. The NHD needs to be the reference for hydrography information in areas considered for exploratory and production drilling.

While streams have now been well-mapped, many have not been surveyed for fish. If surveys are not done, many anadromous streams may be impacted due to more limited regulations on erosion control, water quality monitoring, and other protections. (Preliminary Written Findings, Chapter 8, p 8-24).

Streams documented to have anadromous fish are included in the Anadromous Waters Catalog (“AWC”).¹ AWC streams gain protection, for example the requirement for fish passage culverts.

All streams, including ephemeral and intermittent streams connected to larger streams, should be surveyed for resident and anadromous fish prior to disturbance. One report suggests that, based on habitat and topography, there could be many more streams in the Mat-Su that should be surveyed.² Where surveys have been conducted near proposed development in other locations, new streams have been added to the AWC.³

Given the importance of waterways to livelihoods and economics of borough residents, projects like the proposed West Susitna gas leasing offer an opportunity for potential developers who are on the ground to cooperatively help fund ADFG to conduct these important surveys, guided by the 2016 update of USGS NHD map as a mutual benefit to the State and the MSB and the licensee.

Interagency cooperation

The update of Mat-Su waters to the NHD was conducted under technical guidance from the Alaska Hydrography Technical Working Group, which includes representatives from ADFG, Alaska Department of Environmental Conservation (“ADEC”), Alaska Department of Natural Resources, U.S. Fish and Wildlife Service, U.S. Geological Survey, Bureau of Land Management, National Oceanic and Atmospheric Administration, National Park Service, U.S. Forest Service, and the University of Alaska. This shows how state, federal and local agencies can work together.

The commission recommends thorough cooperation and information gathering among the various agencies that may have jurisdiction within the Mat-Su Borough, including, but not limited to the U.S. Army Corps of Engineers and ADFG habitat biologists to understand the habitat, species use, and potential impacts.

Cumulative Effects

It’s good to see that cumulative effects are considered. Currently all the bridges, stream crossings, culverts and fish passage culverts are envisioned for exploration. When production begins and methane is withdrawn from one coal seam area, the only way to get more is to open another area. The result will likely be a proliferation of well pads, distribution lines fuel tanks and service roads like large spider web across the country. The specific impacts described below (e.g. for well pad density) will have cumulative effects.

¹ <https://www.adfg.alaska.gov/sf/SARR/AWC/> The “Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes” and the “Atlas of Waters Important for the Spawning, Rearing, or Migration of Anadromous Fishes” are collectively referred to as the Anadromous Waters Catalog.

² Woll, Christine. 2016. Landscape-scale mapping of Pacific salmon and their freshwater habitats in the Mat-Su Basin. Available: http://matsusalmon.org/wp-content/uploads/2018/08/Landscape_scale_mapping_of_Pacific_Salmon_and_their_freshwater_habitats_in_the_Mat_Su_Basin.pdf

³ See for example Woody, CA and O’Neal, S. 2010. Fish surveys in headwater streams of the Nushagak and Kvichak river drainages, Bristol Bay, Alaska 2008-2010. Available: https://www.nature.org/content/dam/tnc/nature/en/documents/awc_dec_2010.pdf and U.S. Fish & Wildlife Service. 2010. Inventory of fish distribution in the Matanuska-Susitna Basin, Southcentral Alaska, 2010. Available: http://matsusalmon.org/dev/wp-content/uploads/2012/10/02_2010_F10AC00710_CVTC_AWC.pdf

Well pad density

Well densities deserve serious consideration. The density of well pads and density of access roads and spur roads to gravel sites can fragment wildlife habitat and expose a greater number of streams to potential degradation (through erosion, turbidity from fugitive dust, and other impacts as noted in the Preliminary Written Findings). The density of well pads is regulated, but regulations appear to only apply to conventional oil and gas drilling. In 20 AAC 25.055, is the following language:

- (a)(3) if oil has been discovered, the drilling unit **for the pool** is a governmental quarter section [160 acres]; not more than one well may be drilled to and completed **in that pool**...*
- (a) (4) if gas has been discovered, **the drilling unit for the pool** is a governmental section; not more than one well may be drilled to and completed **in that pool** on any governmental section [640 acres]; a well may not be drilled or completed closer than 3,000 feet to any well drilling to or capable of producing **from the same pool**.*

Language limits **drilling for oil** to one pad per 160 acres; it limits **drilling for gas** to one pad per 640 acres; however it refers to “pools” of gas. Conventional gas wells tap pools of gas floating on water beneath the surface. Coalbed methane has no “pools” of gas; the gas is sorbed onto coal seams. Indeed, the Preliminary Written Findings notes in Chapter 8 (Section D1(b), page 8-20) that:

The greatest potential for cumulative effects from gas activities on fish habitats and fish would occur during development and production. It may require 10 to 20 coalbed methane wells at densities of 40, 80, or 160 acres/well to produce the equivalent of two to three conventional gas well; as a result extensive contiguous areas are generally required that may result in widespread surface development with roads, well pads and pipelines (Griffiths and Severson-Baker 2006; Entrekin et al. 2011). By comparison well densities are 160 to 320 acres/well for the conventional Kenai Gas Field (Flores et al. 2004)

The permit must be specific on the allowed density of well pads, and regulations for CBM exploration drilling pads should mirror those of conventional gas regulations.

Roads and seismic lines

Seismic survey lines, roads, and other opened areas can become routes for predators, potentially reducing moose populations. These are also routes that the public may use to access new hunting areas – increasing pressure on areas used by a small population of local people and visitors to hunting lodges. This is likely an unavoidable impact. Spills and leaks from vehicles and equipment is another unavoidable impact – spill extent can be reduced, but not eliminated.

Fugitive dust from exploration and spur roads can negatively impact wetlands and streams, and could accumulate on snow in depressions causing early melt in localized areas with potential impacts to underlying vegetation. Fugitive dust may contain copper that can shed from brake pads. Low concentrations of copper can be detrimental to aquatic life, including salmon, in waters that contain low organic carbon. Water can be used to suppress dust, but is unlikely to be effective in winter, and high winter winds could distribute dust for some distance. The permit should specify that only water should be used to suppress dust; where this is ineffective, non-toxic materials should be used. Salt should be discouraged due to potential impacts from runoff on streams and vegetation. Drainage ditches should be designed to capture and hold runoff to ensure it does not enter waterways.

Riparian areas need to be left intact in order to stabilize banks and provides shade for aquatic life, which may be critical during hot summers. The permit application rightly prohibits facilities from being within ¼ mile of several specific streams and rivers – a well-accepted way to protect fish and wildlife.

Produced water

Produced waters that contain toxic metals needs to be disposed of carefully. The Preliminary Written Findings acknowledges that the large volumes of water that result from CBM drilling can be disposed of on the surface or through underground injection. According to the Preliminary Written Findings:

One coalbed methane well in the Houston, Alaska area ... produced an average of 18,870 gallons/day with disposal of a total of 2.6 million gallons ... at about 2,000 feet below surface...

All produced water should be required to be injected far below any aquifer. Produced water should be prohibited from being kept in holding ponds, sumps, or discharged to the surface. Regulations prohibit discharge within 500 feet of a stream, unless approved by ADEC, but the better option is not to allow any surface discharge.

Water levels

Water quality and stream levels will fluctuate with CBM drilling. Lowering the water table during dewatering of coal seams may dry up wetlands and reduce flow in streams. This could be detrimental to fish in summer – by removing flow that helps keep water temperatures down and creates pools – and in winter – if flow is reduced enough to expose fish eggs. If wetlands are dried up, this should be considered “fill” of a wetland, and require compensatory mitigation. The baseline level of the water table should be determined at all sites to track how the water table drops during drilling and how that may affect fish and wildlife. Baseline water level measurements are currently only required near residential areas or if it is determined that water withdrawal will affect use by others. “Aquatic life” is a recognized “use” of water by ADEC, and that use should not be impacted.

Mitigation measures

Coalbed methane exploration and drilling rules need to be followed as set by DNR and by Conditional Use Permit processes in MSB code 17.62. The 2012 MSB Wetlands Management Plan should be referenced, <https://matsugov.us/plans/wetlands-management-plan> . Millions have been spent to restore habitat for fish in the Mat-Su Borough through culvert replacement, and invasive species eradication. The 2004 regulations require setbacks from water bodies and other mitigation measures to reduce impacts on fish and wildlife.

Lessee Experience and Stability

In advance of exploration the public should know that the potential lessee’s experience in Alaska, the financial stability of the company and the ability to initiate adequate precautions to keep our waters clean to enable the continued recovery of salmon and other species. Since most of the lease areas are remote and without road access, how can the State of Alaska adequately monitor and evaluate and

guarantee the exploratory drilling performance by the lessee to ensure our fish and wildlife continue healthy trends?

Clarifying questions

1. Will regulations on well pad density for CBM mirror those of conventional oil and gas facilities; e.g. one well pad per 640 acres?
2. How many CBM wells has DNR permitted? How long were they in operation? What was the procedure for disposing of wastewater at each of them?
3. The permit application notes that the “director may grant exceptions to the mitigation measures if they are not practicable”. Could “not practicable” be interpreted as a measure that will have a cost attached?

Conclusion

The Mat-Su Borough Fish and Wildlife Commission supports optimal conditions for restoring our in-river fish runs to serve the long-term future of residents and visitors with sustainable fish and wildlife for food, subsistence, personal use, and sport fishing; it is also one of the few options left to produce more fish for the Cook Inlet commercial fisheries. Restoring Susitna basin runs means supporting the wetlands and streams that sustain them. Careful, thoughtful and well-planned development is essential.



Mike Wood, Chair