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NATURAL RESOURCE CONSULTANTS

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29 March 2013

David Baumgarten,
Gunnison County Attorney
Gunnison, CO

Mathew Birnie,
Gunnison County Manager
Gunnison, CO

Mr. Baumgarten, Mr. Birnie -

Thank you for the opportunity to offer consultation on wildlife issues associated with the approved Federal Well 11-90-9 # 3. In preparing my consultation, I reviewed the State of Colorado Oil and Gas Conservation Commission (COGCC) Form 2A (document number 400256030) and Conditions of Approval (COA) specified therein, comments on Federal Well 11-90-9 # 3 prepared by Colorado Parks and Wildlife (CPW), the federal decision memorandum and associated Appendices A-E prepared by USDA Forest Service (FS), email correspondence between Gunnison County Attorney David Baumgarten and COGCC Oil and Gas Location Assessment Specialist David A. Kubeczko dated 1 June 2012, email correspondence between David A. Kubeczko and SG Interests, I Ltd Environmental and Permitting Manager Catherine Dickert dated 1 June 2012, available CPW Elk Management Plans for Data Analysis Units E-25 (Lake Fork), E-41 (Sapinero), and E-43 (Fossil Ridge), and peer-reviewed scientific literature as referenced below.

My team has worked directly with CPW over the years. We have great respect for their biologists and a solid understanding of their mission. In this case, however, comments offered by CPW overstate the impact of the proposed action, and do not fully leverage the available scientific research on the topic. It is true that some research on big game including elk shows that, in certain landscapes (*i.e.*, shrub-steppe habitat), big game show strong, long-term avoidance of human activity (Sawyer et al. 2006; 2009). However, in topographically diverse areas with forest interspersed throughout the habitat, elk have been shown to make use of such features for concealment (Edge and Marcum 1991). Implicit in the CPW preference for alternative well locations (*i.e.*, over a small ridge), is the acknowledgement that terrain and vegetation moderate avoidance behavior in big game. Recent research on elk and energy development in southern Colorado - in habitat that is similar to habitat in the Gunnison area - showed that elk indeed avoided roads, but this avoidance was only apparent during the day time - not at night - and elk showed no evidence of population decline or of abandoning their range at a road density as high as 7.6 km/km^2. In a related investigation involving elk and coal-bed methane development, it was found that elk possessed the behavioral capacity, over time, to exploit enhanced forage resources in the proximity of habitat modifications and human activity associated with maintenance of operating natural gas wells. These results showed that elk exhibited the capacity to habituate and persist in a natural gas field where the industrial development footprint covered up to 0.62 km^2/km^2. I refer readers to Dzialak et al. (2011a; b), Harju et al. (2011), Van Dyke et al. (2012a; b), and Webb et al. (2011a; b; c; d).

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The CPW comment that cumulative impacts have not been adequately addressed appears to be inconsistent with FS and COGCC who state that NEPA requirements associated with the proposed action have been fulfilled and that long term cumulative impacts would affect "less than 1%" of the 5300 acre watershed. It is also notable that road decommissioning in the watershed as part of FS COAs, as well as the larger Gunnison National Forest Travel Management Decision, have the potential to recover more habitat through closure and re-seeding than the proposed action would modify. Additionally, it appears that the COAs associated with Form 2A and, particularly, the FS Decision memo are sufficient and mirror or exceed COAs associated with many other development actions. Existing COAs that I view as being highly beneficial to elk and wildlife in general include:

- restricting public access on new oil and gas roads on public land. This will greatly reduce disturbance to wildlife because it is generally not physical infrastructure such as gravel roads that wildlife avoid; rather, wildlife avoid the people using the infrastructure.
- timing stipulations on drilling/completion activities. This will allow species such as raptors to complete the nesting phase before drilling/completion activities commence. I note that FS included a 'winter' stipulation. This would be highly beneficial to elk, although I suggest further consultation with CPW on the specific dates. The version of the stipulation to which I have access specifies March 1- April 30; I suspect that CPW would recommend a longer window such as December 1- April 30.
- road decommissioning. Removing and re-vegetating roads is among the most beneficial activities for wildlife because it restores habitat that was removed for road construction as well as habitat that may have been effectively lost via avoidance behavior by wildlife.
- noxious weed control. This will benefit wildlife by assuring that weeds will not displace existing vegetation that may serve as forage or concealment resources.

In light of these and other conditions set forth by COGCC and FS, It is likely that the proposed action in this specific instance will have little impact on elk and other wildlife populations in the region. Looking at the most recent publicly available information from CPW on elk herds in the region, data on Lake Fork, Fossil Ridge, and Sapinero Data Analysis Units show each of these herds to exceed CPW herd objectives by ~1000-3000 individuals. It would be interesting to look at more recent data on these elk herds as well as data on new oil or gas wells. It might be the case that energy development has slowly increased in the area, and that these herds remain above CPW objectives.

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Thank you for the opportunity to contribute to this issue. Please do not hesitate to contact me if you need additional information at this point.

Sincerely,

Matt

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