

## Comment

# “Silver Sagebrush Community Associations in Southeastern Alberta, Canada”: A Response

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Habitat, or resource selection, studies are a keystone discipline in wildlife conservation and management. Historically, resource selection studies were completed at a single scale, usually the site level, because of a lack of landscape-level data. With the advent of faster computers and geographical information systems, analysis at more than one scale is possible and desirable (Manly et al. 2002). For greater sage grouse (*Centrocercus urophasianus*) in Alberta, Canada, the analysis of resource selection has been completed at the site scale (Aldridge 2000; Aldridge and Brigham 2002). A lack of spatial data, characterizing ecological sites or habitat types, impeded the analysis of resource selection by sage grouse at the landscape level.

The impetus for completing the mapping of silver sagebrush (*Artemisia cana* Pursh) in Alberta, Canada, was 3-fold. The first objective was to address one of the recommendations of the National Sage Grouse Recovery Team: to assess and map the distribution of silver sagebrush across the current range of sage grouse in Canada (Canadian Sage Grouse Recovery Team 2001). The second objective was to enhance research being conducted on sage grouse by providing habitat data to facilitate the analysis of resource selection patterns by sage grouse at the landscape level (Aldridge 2005) and ultimately contribute to sage grouse conservation. Finally, we wanted to determine relationships between silver sagebrush attributes (density, distribution, and height) and site condition (soil type and landscape feature). This last objective is described in Jones et al. (2005).

Based on our analysis of silver sagebrush attributes as it relates to site condition, we concluded that lotic and overflow sites had the best sagebrush characteristics to meet the needs of sage grouse. That said, we explicitly qualify our results, stating, “Examination as to whether the nesting and brood rearing locations determined by Aldridge and Brigham (2002) are located within the lotic and overflow sites will further determine their need for conservation and protection” (Jones et al. 2005, p 405). Results addressing this recommendation, namely, the selection of nesting and brood rearing habitat at

the landscape scale by sage grouse (Aldridge 2005), were not available at the time the original paper was submitted.

Aldridge and Boyce (2006) state that “lotic and overflow sites are not selected by hens for either nesting or rearing of chicks” (p 107). This conclusion was based on the analysis completed by Aldridge (2005). We do not dispute this conclusion and accept that the analysis has clarified our conclusions regarding the importance of lotic and overflow sites for sage grouse, a step we recommended (Jones et al. 2005). They conclude that conservation efforts should be focused on upland sites as nesting habitat and “mesic” areas for brood-rearing habitat (Aldridge and Boyce 2006). Mesic areas are commonly thought of as moist sites, under which our lotic and overflow sites could fit. Thompson and Hansen (2002) describe the Silver Sagebrush/Western Wheatgrass plant community as the driest of the riparian plant communities recently classified in the grassland natural area of Alberta. Unfortunately, Aldridge and Boyce (2006) do not provide a description of the mesic habitats they refer to as brood-rearing habitats. A description of a “mesic site” and whether this can be mapped at a large scale is required to assist resource managers with conservation efforts. In addition, specific prescriptions for conservation efforts are required. That said, considering that the greater sage grouse is at the northern limit of its range in Alberta, suitable remaining habitat is severely limited, and the population is in a very precarious state, conservation of habitat important to all aspects of the sage grouse life cycle should be pursued. In particular, the identification of important wintering areas is critical to understanding the complete life cycle habitat requirements of sage grouse. These results and recommendations will further enhance the conservation of sage grouse in Alberta.

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