1-29-2001

Accidental mass mortality of migrating mule deer

Vernon C. Bleich  
*California Department of Fish and Game and University of Alaska Fairbanks, Fairbanks, Alaska*

Becky M. Pierce  
*California Department of Fish and Game and University of Alaska Fairbanks, Fairbanks, Alaska*

Follow this and additional works at: [https://scholarsarchive.byu.edu/wnan](https://scholarsarchive.byu.edu/wnan)

**Recommended Citation**  
Available at: [https://scholarsarchive.byu.edu/wnan/vol61/iss1/17](https://scholarsarchive.byu.edu/wnan/vol61/iss1/17)

This Note is brought to you for free and open access by the Western North American Naturalist Publications at BYU ScholarsArchive. It has been accepted for inclusion in Western North American Naturalist by an authorized editor of BYU ScholarsArchive. For more information, please contact scholarsarchive@byu.edu, ellen_amatangelo@byu.edu.
Accidental deaths of mule deer (*Odocoileus hemionus*) associated with anthropogenic causes are commonplace. Indeed, the literature is replete with references to deer mortality associated with roads and highways (Longhurst et al. 1976, Pierce et al. 2000), fences (Papez 1976), canals (Busch et al. 1984), and reservoirs (Reed 1981). Nevertheless, accidental deaths of deer from natural causes seldom are identified or reported. Moreover, published accounts of death assemblages of contemporary large mammals are uncommon (Berger 1983; see, for example, Jones 1954 and Swift et al. 2000).

Jones (1954) described a situation near Bishop Pass, Inyo County, California, in which ≥26 mule deer lost their footing and slid down a snow-covered ice field to their deaths. Bishop Pass (elevation 3680 m) is a primary migration route used annually by mule deer that spend summers west of the Sierra Crest and winters east of the crest in Round Valley (Kucera 1992), Inyo and Mono counties, a major deer winter range typical of the western Great Basin (Pierce et al. in press). On 25 November 1995 we received a report of “numerous dead deer” just below Bishop Pass, Inyo County. Upon investigation, we discovered the remains of 16 recently dead mule deer (12 males, 4 females) and observed 1 injured female in the same location described by Jones (1954). The carcasses were on a talus slope at the bottom of a steep, ice-covered hillside (Fig. 1). The deer apparently lost their footing on the ice, which had repeatedly thawed and frozen in the summer sun, and slid to their deaths on the sharp rocks below. Based on differential levels of scavenging, it appeared that the dead animals were from ≥2 groups.

Jones (1954) speculated that fresh snow, which can mask glare ice, contributed to the mortalities he reported; no fresh snow had fallen prior to discovery of the deer carcasses during 1995. Snow, which is transformed to ice by frequent thawing and freezing, occasionally lasts through autumn at high elevations (Jones 1954), and such would be expected following winters of heavy snowfall. During 1952–1999 mean snow depth at Bishop Pass was 227 cm (s = 92 cm). In April 1952, prior to the incident described by Jones (1954), snow depth was 297 cm, or 131% of the long-term mean. Depth of snow at Bishop Pass in April 1995 (399 cm) was 176% of the long-term mean, consistent with the notion that snow that fell the preceding winter contributed to the deaths by persisting through fall migration. From 1952 to 1999, April snow depth was ≥297 cm during 12 years, suggesting that accidental deaths of migrating deer may occur at Bishop Pass with some regularity.

The dead deer were reported to us over several days by numerous individuals, all of whom expressed concern about population-level impacts should additional deaths occur. Because of strong public interest and the potential for additional losses, we proposed using hand tools to enhance the trail across the ice and then covering the trail with sand to increase traction for other deer migrating to Round Valley. Permission to implement this strategy was denied by wilderness staff from the Inyo National Forest because it would conflict with “natural processes” in wilderness.

We thank J. Ostergard, J. Davis, and D. Racine for providing assistance in the field, and J. Berger for discussions of death assemblages of contemporary large mammals. Funding for
research on migratory mule deer in Round Valley was provided by the California Department of Fish and Game (CDFG), Safari Club International, Mule Deer Foundation, California Deer Association, National Rifle Association, Friends of the National Rifle Association, Fish and Game Advisory Committee of Inyo and Mono Counties, University of Alaska Fairbanks, and the University of California White Mountain Research Station. This is a contribution from the CDFG Deer Herd Management Plan Implementation Program and is Professional Paper 019 from the Eastern Sierra Center for Applied Population Ecology.

LITERATURE CITED


Received 29 November 1999
Accepted 28 December 1999