Assessing The Roles Of Nutrition And Habitat Selection In The Decline Of A Bighorn Sheep Population[tws]

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Reintroduced populations often face the hazard of insufficient or inadequate habitat in their new range. Bighorn sheep herds in the Jacks Creek area of Owyhee County, Idaho, increased steadily from initial releases in the late 1960s until the early 1990s but have recently exhibited a precipitous decline. Habitat deficiencies, specifically inadequate forage or escape terrain, have been implicated as potential causes for this decline. We assessed the extent to which variation in use and availability of habitat resources across three drainages in the study area were correlated with variation in lamb production and ewe and lamb survival. Radio-telemetry indicated that females in each drainage represented distinct herds. Sheep in the herd exhibiting the highest lamb survival were more often located feeding at sites dominated by cliffs and shrubs, whereas sheep in the herd exhibiting the lowest lamb survival fed at sites dominated by loose rock and grass. Availability of rugged terrain did not differ between the two drainages. In 2003, fecal nitrogen content also differed significantly among herds; we obtained the highest mean value from the herd exhibiting the highest lamb survival. Analyses of arrangement, size, and interspersion of habitat patches are currently underway. Preliminary results suggest that selection of habitat features was related to lamb survival, and therefore may have played a role in this population's decline.