

Where's the Mutton?

Linea Sundstrom  and Danny N. Walker

Francis et alia (2022) propose that the Sheep Mountain net (48PA1022) was used for large game; however, they present no data to support this proposed function. The size and configuration of the net fall within the range for rabbit nets recorded elsewhere.

Keywords: hunting net, Great Basin, Great Plains

Francis et alia (2022) proponen que la red de Sheep Mountain se utilizara para la caza mayor. No obstante, no ofrecen ningunos datos para apoyar esta función propuesta. El tamaño y la forma de la red caen dentro de la gama para redes para cazar conejos anotada en otras partes.

Palabras clave: red de caza, Gran Cuerca de América del Norte, Grandes Planicies de América et Norte

We welcome further discussion of the Sheep Mountain net and thank Francis and colleagues for their attention to our article (Sundstrom and Walker 2021). No one was more invested in the Sheep Mountain net being an 8,000-year-old stand net for large game than the senior author. However, in scientific inquiry, actual data trump wishful thinking. Given the absence of data to support their assertions and the presence of lapses of logic, we find our colleagues' arguments unconvincing.

Summarized in plain language, Francis and colleagues assert that the net was more likely used for large game than for rabbits or other small game because (1) we have misrepresented the likely height of the net and not considered the possibility that it was held up by people rather than by the stakes that were wrapped with it; (2) we have misrepresented the mesh size; (3) we “dismissed” the thickness of the cordage as a function of the material used to construct it; (4)

the net was found in mountain sheep habitat; (5) we “ignored the efficacy of drop nets” for mountain sheep; and (6) archaeological assemblages in the area contain butchered mountain-sheep bone, and the area lacks sites with large amounts of rabbit bone. We address these concerns one by one.

- (1) The original description indicates that the net was folded inward along the long edges. As stated in our article, this could mean either that the net was folded with the long edges touching, which would make its current height one-half of the unfolded height, or folded with the long sides overlapping each other, which would make it somewhere between one-half and one-third of the unfolded height. As stated, we based our calculations on the 1986 photograph and report. It is a matter of simple geometry to double or triple that, as we did in the article. The only way the net

Linea Sundstrom (Linea.Sundstrom@gmail.com, corresponding author) ■ Day Star Research, Milwaukee, WI, USA
Danny N. Walker ■ Department of Anthropology, University of Wyoming, Laramie, WY, USA

American Antiquity 87(3), 2022, pp. 623–626

Copyright © The Author(s), 2022. Published by Cambridge University Press on behalf of the Society for American Archaeology
doi:10.1017/aaq.2022.35

could be taller is if it were folded inward multiple times to create a bundle that is fat and short in comparison with the unfolded dimensions. Nothing in the original description or current form of the net indicates such folding occurred, and Francis and colleagues reiterate that the net was folded in thirds lengthwise (“trifolding”). The height we reported was for an unextended net; the net would have a shorter height when extended than when bundled, as the Chinese finger trap has taught us all.

The stake used in our calculations is complete (pointed on one end and notched on the other). It is consistent in length with stakes used for rabbit and small-game nets, as noted in our article. Could the net have been staked partway up by the three (or more) stakes and then held up higher by people? Possibly, but not likely, given that mountain sheep have a keen sense of smell and avoid humans. Only in late winter—when their coats and meat are too poor to use—can these animals be baited to within a few meters of a human (Frison 2004:151). Wildlife biologists today stand far away from canopy drop nets to prevent spooking the animals (Kock et al. 1987:635).

(2) Our method for measuring the mesh size (the size of the openings in the net) relied on measuring the distance between knots on an intact section of the net. Our colleagues question our metric, but they do not offer either an alternative measurement or an alternative means of measuring. Our method assumes the openings were roughly square, which is consistent with both the original description of the net and other specimens. Our measurement could be wrong if the openings were rectangular rather than square and we measured the short side, but no such specimens are known.

The 1986 report provides only an undefined metric referred to as “mesh gauge,” given as 0.71–3.02 cm. This seems much too small for the mesh openings we measured at 5.5–7.0 cm and much too large to refer to the thickness of the

cordage, which is elsewhere given in the 1986 report as between 0.70 and 6.20 mm. The 1986 report provides no metric comparable to mesh size.

(3) We noted the relative thickness of the cordage compared to other rabbit or small-game nets and suggested that the material (juniper bark) might have necessitated a thicker cordage. Blatantly erecting a straw man, our colleagues characterize this as “dismissing” the unexpected thickness of the cordage rather than as presenting a hypothesis that might account for it. They offer no examples of either large- or small-game nets made of juniper bark to test our hypothesis or to address the tensile strength of juniper bark versus other kind of cordage, and they offer no evidence against the idea, other than the fact that Dr. Adovasio has looked at many nets. We respect his expertise in this regard. However, in the absence of data to support his assertion that the cordage is too thick for a rabbit or small-game net, one runs headlong into the logical fallacy of appeal to authority. At issue is not researchers’ experience but relevant independent data, which the commenters have failed entirely to produce.

(4) We certainly concur that the net was found in mountain sheep habitat, as our article states. It is the habitat of hundreds of other species as well, including cottontails and jackrabbits, and it lies at the edge of sage grouse habitat (Hansen, Beatty, and Bedrosian 2017; Hansen, Bedrosian, and Beatty 2017; US Fish and Wildlife Service 2014). We fail to see how this affects our conclusions. In their discussion of mountain sheep as a primary faunal component or “focal prey,” Francis and colleagues seem to imply that if people killed and used mountain sheep, they could not kill and use rabbits. Great Basin ethnography and archaeology puts the lie to that absurd idea. Great Basin groups had diverse food, which included mountain sheep, deer, rabbits, and birds, among other animals. These people could—and did—hunt more than one thing. We are well aware of the

Mountain Shoshone occupation of this area, and we can only wonder how they managed to make rabbit-skin blankets (Loendorf and Stone 2006:100) without catching rabbits.

- (5) In the limited space allowed by the journal, we indeed did not discuss drop nets or mountain-sheep traps. The net is a net, not a cribbed log mountain-sheep trap like those found elsewhere in the area. If anything, the presence of timber mountain-sheep traps nearby suggests that people were capturing the animals that way rather than with nets. It is not plausible the Sheep Mountain net was a drop net. It is the wrong size, shape, and configuration for such use. Unfortunately, there is no ethnographic evidence for use of sheep nets prior to modern times, and the goal of modern capture (avoiding harm to animals to be studied or relocated) is different from that of hunters. Modern drop nets for mountain sheep are of two sizes and shapes: a large (ca. 17 m diameter) round or oval canopy net suspended from long, light poles for capturing groups of animals and smaller (ca. 5 × 5 m) squares deployed from net guns to capture individual animals (Kock et al. 1987). The stakes included in the net are much too short to permit mountain sheep to walk under a canopy net, and other kinds of drop nets do not employ stakes at all.
- (6) We considered the faunal assemblages of the area and noted that archaeological sites in the area include both mountain sheep and rabbits. This is not in dispute. Whether one or the other species dominates is not relevant when both were used. As both we and Francis et alia noted, Sheep Mountain lies within the mapped distributions of sage grouse, desert cottontail, mountain cottontail, and white-tailed jackrabbits. Francis and colleagues assert that no sites near Sheep Mountain contain large amounts of rabbit bone. They ignore Rabbit Bone Cave, less than 32 km (20 mi.) from where the net was found. This single-component Late Archaic occupation site contained a minimum of 48 rabbits (Walker 1988). The site configuration suggests that hunters

carried some portion of a communal kill back to shelter for processing and abandoned the site before the remains putrefied.

Does it indeed “defy logic” (Francis et al. 2022) that someone could carry a “highly portable” (Frison et al. 1986:354) bundle about the size of a modern sleeping bag a distance of 29 km (18 mi.)? Was the effective territory of hunter-forager groups in western Wyoming less than 29 km (18 mi.) in radius? If so, one wonders how the occupants of Mummy Cave “captured [rabbits] in large numbers during forays into lower-altitude basins of their range” (Loendorf and Stone 2006:100)—a range elsewhere estimated at 12,950–15,540 km² (5,000–6,000 sq. mi.; Loendorf and Stone 2006:35).

Acknowledgment. No permits were required for this work.

Data Availability Statement. All data were presented in the original article (Sundstrom and Walker 2021).

Competing Interests. The authors declare none.

References Cited

- Francis, Julie, Lawrence L. Loendorf, Marcel Kornfeld, Mary Lou Larson, and James M. Adovasio
2022 Down the Rabbit Hole: Comment on Sundstrom and Walker. *American Antiquity*. DOI:10.1017/aaq.2022.34.
- Frison, George C.
2004 *Survival by Hunting: Prehistoric Human Predators and Animal Prey*. University of California Press, Berkeley.
- Frison, George C., Rhonda L. Andrews, James M. Adovasio, Ronald C. Carlisle, and Robert Edgar
1986 A Late Paleoindian Animal Trapping Net from Northern Wyoming. *American Antiquity* 51:352–361.
- Hansen, Dan L., Greg L. Beatty, and Geoffrey Bedrosian
2017 Biology of Jackrabbits (*Lepus* spp.) as Prey of Golden Eagles (*Aquila chrysaetos*) in the Western United States. Unpublished report prepared by the Western Golden Eagle Team, U.S. Fish and Wildlife Service. Electronic document, <https://ecos.fws.gov/ServCat/Reference/Profile/87137>, accessed March 2, 2022.
- Hansen, Dan L., Geoffrey Bedrosian, and Greg L. Beatty
2017 Biology of Cottontail Rabbits (*Sylvilagus* spp.) as Prey of Golden Eagles (*Aquila chrysaetos*) in the Western United States. Unpublished report prepared by the Western Golden Eagle Team, U.S. Fish and Wildlife Service. Electronic document, <https://ecos.fws.gov/ServCat/Reference/Profile/87137>, accessed March 2, 2022.
- Kock, Michael D., David A. Jessup, Richard K. Clark, Charles E. Franti, and Richard A. Weaver
1987 Capture Methods in Five Subspecies of Free-Ranging Bighorn Sheep: An Evaluation of Drop-Net,

- Drive-Net, Chemical Immobilization and the Net-Gun. *Journal of Wildlife Diseases* 23:634–640.
- Loendorf, Lawrence L., and Nancy Medaris Stone
2006 *Mountain Spirit: The Sheep Eater Indians of Yellowstone*. University of Utah Press, Salt Lake City.
- Sundstrom, Linea, and Danny N. Walker
2021 The Sheep Mountain Animal Net Revisited. *American Antiquity* 86:833–844.
- US Fish and Wildlife Service
2014 Greater Sage Grouse Range [map]. Electronic document, https://www.fws.gov/greatersagegrouse/maps/20140815_GRSG_Range.jpg, accessed March 2, 2022.
- Walker, Danny N.
1988 Archaeological Evidence for the Use of Small Mammals by Prehistoric Inhabitants on the Northwestern High Plains. In *The Prairie: Roots of Our Culture, Foundation of Our Economy*, edited by Arnold Davis and Geoffrey Stanford, pp. 6.08.1–6.08.6. Proceedings of the Tenth North American Prairie Conference. Native Prairie Association of Texas, Dallas.

Submitted January 19, 2022; Accepted January 23, 2022