

3

Wolf Communication

*Fred H. Harrington and
Cheryl S. Asa*

Overlooking Rookie Lake, Superior National Forest, Minnesota, U.S.A. 21 February 1974. Weather—cold, clear, and calm. I howled several times from a cliff overlooking the lake; a single wolf replied once from the northeast. Seconds later, a more distant pack howled from the west. When I howled again 20 minutes later, only the pack answered. Was the single wolf with the pack, or just keeping quiet?

Ten minutes later I got my answer when the single replied again from much closer. Ten minutes later it again replied. The pack remained silent. The single wolf's howls were beautifully modulated, long and haunting sounds. An approaching car forced me to end the session, but the next day the driver told me of a "large" adult wolf trotting down the highway just before the Rookie Lake lookout. Had I stayed, I likely would have had company!

I later followed every wolf track I could find nearby. The single wolf had nothing to do with the pack. At first, it had been about 600 m from the pack. Then it climbed a ridge toward me, stopping just over the crest where it left two beds of packed snow with scats [feces] in both. Not far away, it had urinated twice. After howling from one or both beds, it had moved toward the highway, where the driver had seen it.

This evidence, plus my knowledge of the local packs, led me to believe the single wolf was a lone adult female. The scat in the beds suggested she was fearful, excited, or anxious, when she howled. Her eventual approach indicated she may have been seeking contact. Was I being checked out, even courted? Why had the pack fallen silent after its first two replies? Did the animals consider the continuing serenade between two single animals of no importance to them?

The above notes of Fred Harrington portray what might be a typical night for a lone wolf during the breeding season. They also demonstrate the difficulties inherent in the study of communication. The howling interactions easily fit our expectations for communication (i.e., Smith 1977). One individual (the sender) produces a specialized signal (howl) in a specific context (breeding season), which has immediate (howl reply) and delayed (approach) effects on others (receivers) that perceive the signal. It is obvious that communication occurred, but what were the actual messages transmitted by the howling interaction?

And what about the olfactory signals left by the lone female? Were her defecations and urinations merely the involuntary result of fear or excitement? Or were they left as "calling cards" to announce her presence, sex, and reproductive state? What about the odor "rafts" she shed by the thousands and left wherever she traveled, or the smells left behind by her feet in the snow? All these olfactory signs can be perceived and acted on by other wolves, but should they be considered communication if they are entirely involuntary? At what point do these behaviors or physiological processes become communication?

Philips and Austad (1990, 258) propose that communication occurs when "an animal transfers information to an appropriate audience by use of signals." Signals are the behaviors and features of animals that have evolved to encode the information being conveyed. Information, itself, is the "property of entities and events that renders them, within limits, predictable" (Smith 1990, 235). Growling (the signal), for example, conveys aggressive-