

Mexican Wolf Blue Range Reintroduction Project Adaptive Management Oversight Committee Standard Operating Procedure

Title: Howling Surveys

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Purpose: This SOP provides context for conducting howling surveys, and describes specific techniques and record-keeping procedures. It supersedes relevant sections of the 1998 Mexican Wolf Interagency Management Plan (USFWS 1998), and therefore represents, in part, the “Service Approved Management Plan” referenced in the Mexican Wolf Final Rule (50 CFR 17.84(k)).

Exceptions: None. Per SOP 2.0, AMOC must approve any exceptions to this SOP.

Background: Howling to wolves to elicit a response can be a productive method for inferring if pups are present and the number of uncollared adults. Therefore, it is important to understand the role of howling and how to apply this technique with minimal impact to wolves.

For this Project, the three primary purposes of howling are: (1) inferring pup presence, and an estimated minimum number of wolves within a pack, (2) searching for unmarked packs in areas where consistent reports of wolves have occurred, and (3) locating rendezvous areas appropriate for trapping uncollared wolves.

Harrington and Mech (1982) described the following recommendations for successful howling surveys, based on 456 howling sessions: (1) the best times are dusk and night, (2) July, August, and September are the best months, (3) avoid howling during periods of precipitation and when winds are greater than 12 km/hour (8 mi/hour), (4) a sequence of five single howls (a trial series) should be used, alternating “flat” and “breaking howls, and (5) trial series should be repeated three times at two-minute intervals, with the first trial at lower volume.

Howling should not be used to survey large areas (e.g. entire states) for density estimates, but is useful for locating packs in localized areas (Fuller and Sampson 1988).

Procedures:

1. Prior to conducting surveys:
 - a. Listen to recordings of wolves and coyotes before conducting field surveys. The surveyor should become familiar with the difference in sounds between wolf pups and coyotes. Further information on various vocalizations of wolves can be obtained from Harrington and Mech (1977), which is available at the Alpine Field Office.
 - b. Consider the time of day and weather conditions when the howling is taking place.
 - i. Howling can be conducted at any time, but is usually most effective when it is calmest and the wolves are active (dusk and night).

- ii. Do not howl if wind speed exceeds 8 mph or if it is raining, as any response may not be heard.
2. Howling site selection. Howling sites shall be selected to maximize opportunities for wolves to respond, but also to minimize chances of unnecessarily disrupting human activities. When a site has been selected, inform any humans encountered in the area of your impending activities.
 - a. General Guidelines:
 - i. Do not howl in areas that are close (<1.5 miles) to campers or hunters.
 - ii. Howling near kill sites is an effective method to elicit a response from wolves.
 - iii. If Project personnel will be camping near wolves, listen for spontaneous howling by the wolves without simulated howling.
 - iv. When using the black plastic “bionic ears,” do not use headphones when pointing the ear in the direction of howling. With headphones on, it is much more difficult to determine the direction of the howls. Have the tape recorder ready with both the record and pause buttons depressed. When howls are heard, press the pause button to get instantaneous recording. Before the survey begins, make a recording with a voice stamp of the date, location, and howlers and replay it to test the system.
 - b. Radio-collared wolves.
 - i. Surveyors should use telemetry information to establish relative positions of wolves prior to howling and periodically (≤ 15 minutes apart) radio locate them after howling.
 - ii. Try to get within a mile of the wolves but no closer than $\frac{1}{4}$ mile.
 - c. Unmarked wolves.
 - i. Concentrate howling in areas where wolves have been reported or where project personnel have observed wolf sign.
 - ii. Howl every mile along a road where wolves may occur.
3. Howling process.
 - a. If possible, wait 5- 10 minutes after getting out of the vehicle to start howling. Start howling to the wolves solo at less than maximum volume.
 - b. Begin howling at a low volume in a series of “flat” and “breaking howls” up to 5 times, with 1-2 seconds between each howl (Harrington and Mech 1982). In general, howling in several different directions during the series of 5 howls is the most effective method.
 - c. Wait 2-3 minutes and then howl again at higher volume in a series of “flat” and “breaking howls” up to 5 times, with 1-2 seconds between each howl. Repeat this process for a minimum of 3 times with 2-3 minutes between each series of howls.
 - d. Wait 2-3 minutes, record the information associated with that howling site on the Howling Survey Form (Appendix A) and move to another location.
 - e. Howl every mile along a road where wolves may occur. In general, wolf responses can be heard up to .64 miles away (Fuller and Sampson 1988). If wolves respond:
 - i. Stop howling.
 - ii. If available, switch on bionic ear recorder (see Step 2, above).
 - iii. Take a bearing on the howl.
 - iv. Record your notes on the Howling Survey Form (Appendix A).
 - v. Radio-locate any wolves in the area to try and establish the pack involved with the

- howling. Record the wolves in the area on the Howling Survey Form.
- f. If an animal other than a wolf responds:
 - i. Stop howling.
 - ii. If available, record the howl or vocalization if you cannot identify it (see Step 2, above).
 - iii. Take a bearing on the direction of the sound.
 - iv. Record important notes on the Howling Survey Form.
 - g. Remain very quiet and motionless for at least 15 minutes after the last howl, and record all your results.

Approvals:

The Mexican Wolf Blue Range Reintroduction Project Adaptive Management Oversight Committee approved this SOP on November 18, 2004.

References:

- Fuller, T.K., and B.A. Sampson. 1988. Evaluation of a simulated howling survey for wolves. *Journal of Wildlife Management* 52:60-63.
- Harrington, F.H., and L.D. Mech. 1978. Wolf vocalization. Pages 109-132 *in* R.L. Hall and H.S. Sharp, eds. *Wolf and man: evolution in parallel*. Academic Press, Inc, New York, New York.
- Harrington, F.H., and L.D. Mech. 1982. An analysis of howling response parameters useful for wolf pack censusing. *Journal of Wildlife Management* 52:60-63.
- U.S. Fish and Wildlife Service. 1998. 1998 Mexican Wolf Interagency Management Plan. U.S. Fish and Wildlife Service, Albuquerque, New Mexico.

