

The following is intended to be part of a larger barred owl removal protocol, and therefore is not specific on removal methods or barred owl identification.

**Interim Protocol for Identification of Barred and Hybrid Barred/Spotted Owls
Prior to Removal Distinguishing Barred and Hybrid Owls from Spotted Owls**

Developed by the Barred Owl Science Team

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The following identification protocol is specific to studies that include the removal of suspected hybrid owls. It is focused on insuring that spotted owls are not removed by accident but accepts a higher risk for barred owls to be removed, even if initially identified as hybrids.

Identification of hybrid owls requires both visual and auditory observations. If there is any doubt that it could be a spotted owl, do not remove the bird.

1. Visual identification of hybrids in the field can be very difficult, particularly at night when most removal occurs, so visual identification alone is not adequate for removal of suspected hybrid owls. The defining visual features for hybrids vary across specimens, and are understandably more subtle in nature than the difference between the two species. The focus of this identification is to ensure that spotted owls are not identified as hybrids.

Visual identification alone of a free ranging owl is often insufficient to positively verify a hybrid individual but is still an important part of the identification protocol. Before removal, the shooters must observe a frontal view of the bird to eliminate the possibility that the targeted bird may be a spotted owl. In general, barred and hybrid owls have the following characteristics that distinguish them from spotted owls:

- 1) vertical barring on the belly
- 2) horizontal barring on the breast, nape, or back (where visible)
- 3) Lighter facial disk

- 4) Wide and distinct light bars on the tails (spotted owls generally have less distinct, broken, or fainter bars on their tails, with the exception of the tail tip on juvenile spotted owls).

If a bird is identified as a barred owl and removed, but appears it may be a hybrid once it is in hand, it should be tagged and processed as a hybrid.

If a bird is identified as a barred or hybrid and removed, but once in hand appears to be a spotted owl, follow the requirements of the barred owl removal protocol concerning ceasing removals and reporting the errant removal.

2. Owl vocalizations provide the best identification of hybrids, although even these can be problematic. Observations to date of known hybrids reveal that their vocalizations are unusual. In particular, the territorial defense song is often somewhat intermediate between spotted and barred owls. Therefore, this protocol is centered on primary identification by territorial defense song. It is important to note that there is no single call that defines a hybrid and, in addition, not all hybrid calls are alike. To gain information for future hybrid removal protocols, birds should be recorded prior to removal, as long as doing so does not interfere with positive identification of targeted owls in the field.

To ensure the suspected hybrid owls are correctly identified, the observers must hear the bird use a territorial defense song (e.g. 8-note hoot or descending hoot of the barred owl) numerous times (at least 6). The observer must hear multiple complete calls before making a decision.

- a. If a suspected hybrid uses a standard barred owl territorial defense song eight-note hoot (sometimes called two-phrase-hoot = who-cooks-for-you who-cooks-for-you-too), and shows some definitive evidence of barred owl plumage characteristics, it can be removed per the barred owl removal protocol. Examine specimen in hand and if there is any question, any chance it is a hybrid, mark and process it as such. Barred owl calls are generally more resonant and more tremulous than spotted owls.

- b. If a bird **at any time** uses a typical spotted owl territorial defense song (4-note - hoot, hoot-hoot hoooooot) in its repertoire, then it may be a spotted owl. It is critical to realize that individual spotted owls do not always use the complete standard hoot. For example, individuals have been known to consistently drop the first note or add a tag note at the end, and different parts of the call attenuate at different rates over distance. Do not remove the owl if there is any question if it being a spotted owl. You can always return to a site and you may bring experts out into the field to help identify questionable calling owls on a later visit, but you cannot bring a dead bird back to life.
- c. If a bird gives multiple complete territorial defense song calls while visible, none of which can be clearly classified as typical barred owl or spotted owl calls, and the calls sound like a mix of barred and spotted owl characteristics, and shows some definitive evidence of barred owl plumage characteristics, the bird may be removed. Examine the bird in hand for the characteristics described below. Follow the post-removal procedure.

All suspected hybrids should be recorded prior to removal, if it can be done without interfering with the positive identification of targeted owls in the field. We recommend recording barred owls as well for future reference. *This will help us to develop locational specific samples for future work and allow us to examine how calls relate to species and hybrid parentage.*

Because this is an interim protocol and we are seeking to gather the information necessary to refine it, there are some requirements that are not specific to simply identification and removal -- for example, recording the bird prior to removal.

3. If a suspected hybrid cannot be identified as described above, the researcher has the option to capture and examine the bird in hand to identify the characteristics. If the bird is then confirmed as a barred owl or hybrid, it may be euthanized as described under the permit.

4. We recommend that all suspected hybrids be submitted for genetic testing to confirm their hybrid status. This is critical information for testing this interim protocol.