



DWR Loggerhead Shrike Acoustic Survey Protocols

Wildlife Information and Environmental Services

March 29, 2023

Loggerhead Shrikes (*Lanius ludovicianus*) are listed Threatened in Virginia. Anyone proposing to band or otherwise handle one of these animals must be issued a Scientific Collections Permit by DWR. Please see www.dwr.virginia.gov/permits for additional information. Permits are not necessary for acoustic-only surveys.

Surveyor Qualifications:

Documentation of the following qualifications by any proposed surveyor should be provided to DWR for review and approval ahead of performing surveys:

- 1) ability to identify the species by sight and by sound
- 2) good hearing in order to detect the species by its vocalizations
- 3) prior field experience with the species preferred

Survey Timing:

Loggerhead Shrike surveys should be conducted between April 1 and July 31. In case of multiple surveys, we strongly recommend that a minimum of two surveys are completed prior to July. We are not supportive of surveying for this species ONLY during the month of July.

Weather conditions during the survey should be dry with a wind of less than 10 mph. Depending on the time of year during which surveys are conducted, they should be completed between dawn and 11 am and/or between 4 pm and dusk, which corresponds to the time of day when shrikes are most active. Shrikes usually have a period of inactivity during the heat of the day in the summer months, but surveys may be conducted throughout the day when the weather is cooler. Areas that provide suitable nesting and/or foraging habitat for the species should be surveyed. This includes any open/early successional habitats both on the target site and adjacent sites which can be surveyed without trespass.

Survey Protocols:

Loggerhead shrikes vocalize infrequently relative to other songbirds, such that its presence is most often confirmed by sight rather than by ear. It is therefore imperative that the surveyor be thorough in visually searching the site. During the surveys, the biologist should traverse the entire area slowly on foot, paying particular attention to perching structures and investigating potential sightings or vocalizations of loggerhead shrikes where detected. All potential perches (utility lines, fence lines, dead branches of live trees, stalks of robust herbaceous plants [ex. Mullein], brush piles, shrubs and saplings) should be scanned with binoculars or a spotting scope for perched shrikes. Shrikes may also be visible while flying between perches or while



hunting on the ground. In addition to stopping periodically to scan, listen and watch for shrikes, the biologist should use vocalization playback (see below) to increase the probability of detecting shrikes at occupied sites. All potential nesting trees and shrubs should be inspected for shrike presence. The location of any shrikes encountered should be recorded on a map of the area. In addition, fences and thorny trees and shrubs at the site should be examined for the presence of impaled prey items, which may include insects and small vertebrates.

Vocalization Playback:

We recommend using a portable device with connected external speakers to broadcast playback. Playback should be delivered at a volume where a human observer could recognize the call at >250 meters under windless conditions. This should be tested in advance to determine appropriate volume but generally will mean that playback should be broadcast as loudly as possible without distortion. If possible, volume should be increased if survey conditions are windy. During playback, the speaker should be rotated so that sound would be broadcast towards all possible nesting or perching habitat. Shrikes may respond to playback by vocalizing or by investigating playback without vocalizing or may not respond at all. We recommend that playback be broadcast at least once at every site during the “scanning” period described above, and that the surveyor continue to visually search for shrike during playback. It may be necessary to use playback more than one time over larger sites, roughly every 250 meters.

A playback sound file consisting of 20 seconds each of song, begging and alarm vocalizations, each separated by one minute of silence, is available upon request.