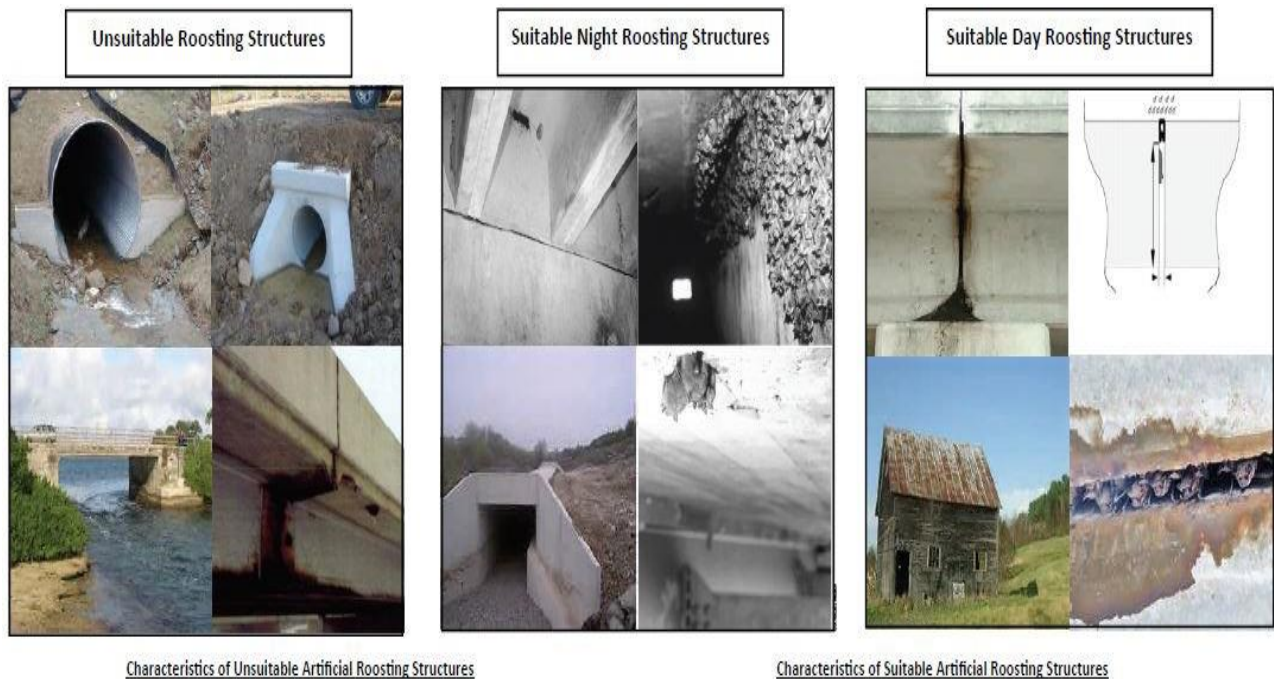


## Bat Guidance for Bridge/Culvert Replacement Projects

If uncertain whether or not a structure would be considered a suitable day or night roost for federally listed bats, refer to *Bats in American Bridges* (<https://rosap.nrl.bts.gov/view/dot/35502>), or contact the USFWS Ecological Services Office bat biologist Shannon Holbrook in Daphne, AL at 251-214-0632. Day and night roosts for bat species differ. Day roosts are used for extended rest periods and rearing young, while night roosts are used briefly for resting during foraging. Over the course of a night, bats may rest more than once at different roosting locations. The biggest concern regarding bridges and listed bats is disturbance of potential day roosts. If a potential night roost structure is part of a proposed project, but would not be considered a day roost (i.e., it lacks cracks or crevices), conduct all construction activities during daylight hours only to avoid any impacts to listed bats.



### Characteristics of Unsuitable Artificial Roosting Structures

- Corrugated metal and small concrete culverts are the least preferred artificial roost structures. These structures are prone to flooding, and they do not exhibit cracks or crevices. All corrugated metal culverts and concrete culverts under 5 feet tall can be excluded from further analysis.
- Concrete box culverts that are frequently inundated/flooded are generally considered unsuitable for both day and night roosting sites.
- Flat slab bridges would not be considered suitable day or night roosting structures.
- Crevices must be sealed at the top. Evidence of storm-water staining along the length of the crevice indicates that it is not sealed properly and should not be considered an ideal roost.
- During the summer months, sun-exposed bridges act as thermal sinks. Therefore, bridges receiving no sun have been shown to have little or no bat use.

### Characteristics of Suitable Artificial Roosting Structures

- Ideal day roosting structures be constructed of concrete, with vertical crevices (0.5 to 1.25 inches wide) at least 12 inches deep and protected from weather. Structures must be located 10

feet or more above the ground. Ideal night roosting structures include concrete structures with protection from wind. Parallel box beam bridges offer ideal day and night roost conditions. Pre-stressed concrete girder bridges could also offer ideal day and night roosting locations.

- Old buildings may offer several areas that could have ideal roosting areas. However, if a building is to be removed, but is not within close proximity (1.5 miles) to wooded areas, then the structure would not be considered a suitable roost site due to a lack of nearby foraging areas and alternative roosting locations.
- Concrete box culverts that are 5 to 10 feet tall, have openings protected from high winds, and are not susceptible to flooding may be suitable day or night roosting sites, especially if they are older and contain cracks, crevices, or imperfections.