

INFO Guidelines for Staging/Swarming Habitat Mitigation

ASSUMPTIONS:

- Staging/swarming habitat is often not limiting;
- Protection and restoration are more valuable closer to hibernaculum opening;
- Staging/swarming restoration is immediately functional;
- Interspecific competition is minimal in Staging/Swarming habitat.

GUIDELINES:

- Staging/swarming habitat should be limited at the hibernaculum in order to use the staging/swarming mitigation option;
- Staging/swarming habitat shall not comprise more than 50% of required mitigation
- Prefer restoration in habitat limited sites, but forest restoration or forest protection are both acceptable and are credited the same;
- Mitigation will occur within 5 miles of hibernacula except mitigation can occur up to 10 miles from a Priority 1 or Priority 2 Indiana bat hibernaculum¹ where opportunities for mitigation are unavailable or not practicable within 5 miles;
- Mitigation crediting is 1 percent of the female covered bat population of the hibernaculum (calculated as 50% of the biennial estimated total population) for each 1 percent of total staging/swarming area within a concentric ring up to 5 miles (see *Crediting Process* below);
- Mitigation located between 5 and 10 miles from a hibernaculum is credited as 1 percent of the female bat population for every 723 acres protected (see *Crediting Process* below);
- Full mitigation credit is awarded for each covered bat species documented as present (i.e., there are no reductions in credit associated with mitigation stacking).
- Mitigation credit within each concentric ring is pro-rated based on acres mitigated;
- Overlap of mitigation swarming/staging habitat with summer habitat will receive full mitigation credit for both habitat types as applicable to the species present;
- Mitigation at overlapping hibernacula will receive full mitigation credit as applicable to the covered bat species populations (females) present at each hibernaculum;
- Mitigation credit calculated to a fraction of a bat is allowable to 0.25 bat and will not be credited for fractions less than 0.25.

¹ Priority 1 have a current or historically observed winter population of equal to or greater than 10,000 individuals (USFWS 2007b). Priority 2 hibernacula have a current or historical population of greater than 1,000 but less than 10,000 individuals (USFWS 2007b).

MITIGATION CREDITING PROCESS:

Mitigation credits will be awarded based on distances from a hibernaculum as described below and as illustrated in Figure 1.

- 0-1 mile ring (2010 acres) each 20 acres mitigation yields 1 percent of each covered bat species female population
- 1-2 mile ring (8064 acres) each 80 acres mitigation yields 1 percent of each covered bat species female population
- 2-3 mile ring (18,112 acres) each 181 acres mitigation yields 1 percent of each covered bat species female population
- 3-4 mile ring (32,192 acres) each 322 acres mitigation yields 1 percent of each covered bat species female population
- 4-5 mile ring (50,560 acres) each 506 acres mitigation yields 1 percent of each covered bat species female population
- 5-10 mile ring (72,320 – 200,960 acres) each 723 acres mitigation yields 1 percent of each covered bat species female population ²

INCREASED MITIGATION CREDITING OPTION:

At its discretion, the USFWS may allow up to 5 percent of mitigation credit instead of the 1 percent mitigation credit as described above for proposed staging/swarming habitat mitigation sites that meet one or more of the following criterion:

- The hibernaculum is deemed by the USFWS to be WNS resistant;
- The staging/swarming habitat associated with the hibernaculum is severely limited (less than 20 percent of land within a 5-mile radius of the hibernaculum is forested); or
- The USFWS documents that the proposed mitigation site is essential to supporting the covered bat species population.

DECREASED MITIGATION CREDITING OPTION:

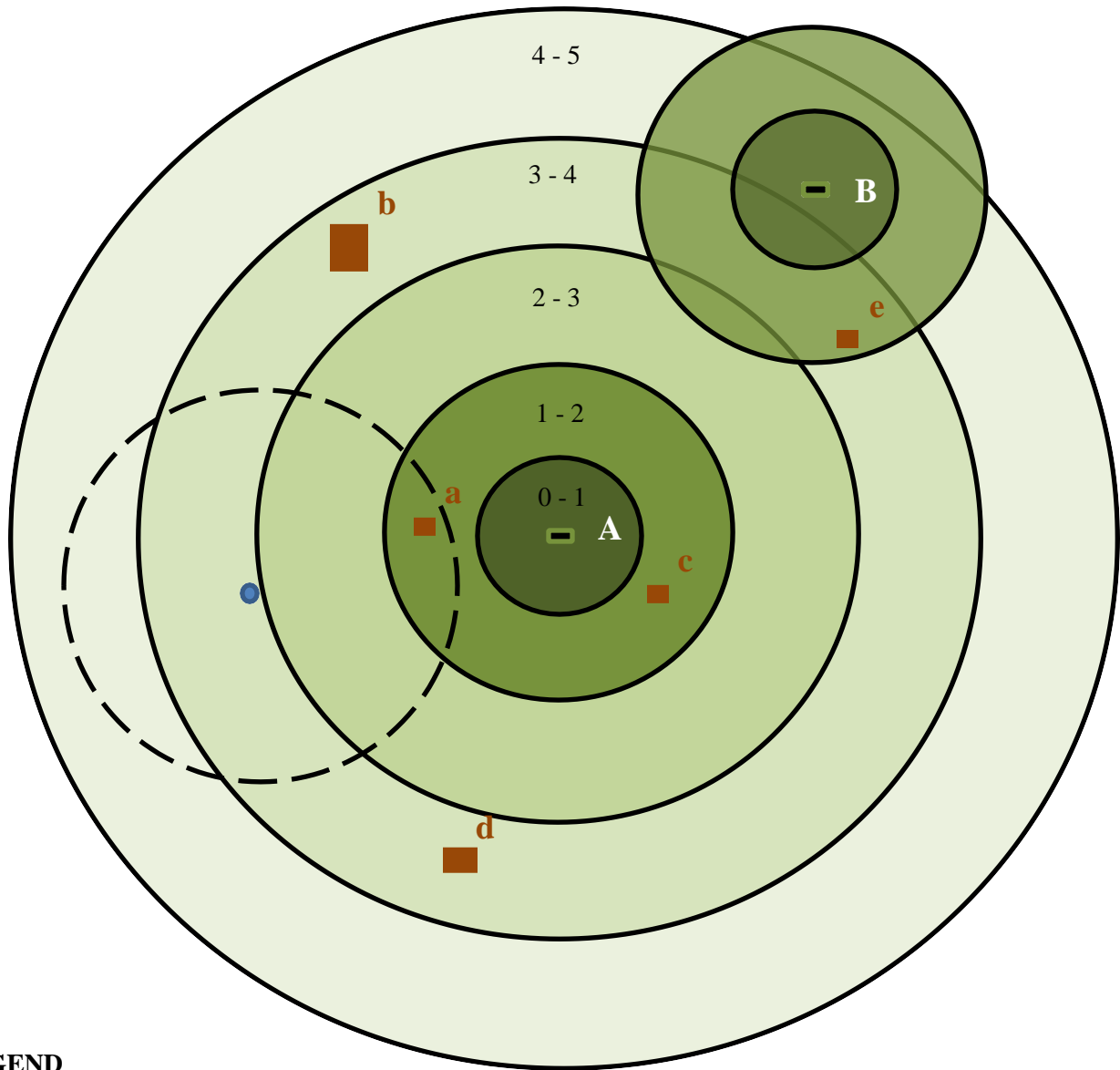
The USFWS may reduce or eliminate available credit at a staging/swarming habitat mitigation site if one or more of the following criteria apply:

- Abundant staging/swarming habitat exists around the hibernaculum(a)³;
- Sufficient staging/swarming habitat at the mitigation site is considered secure by the Field Office; or
- The population of the hibernaculum associated with the mitigation site is declining based on biennial census and therefore additional mitigation would not be productive at that time.

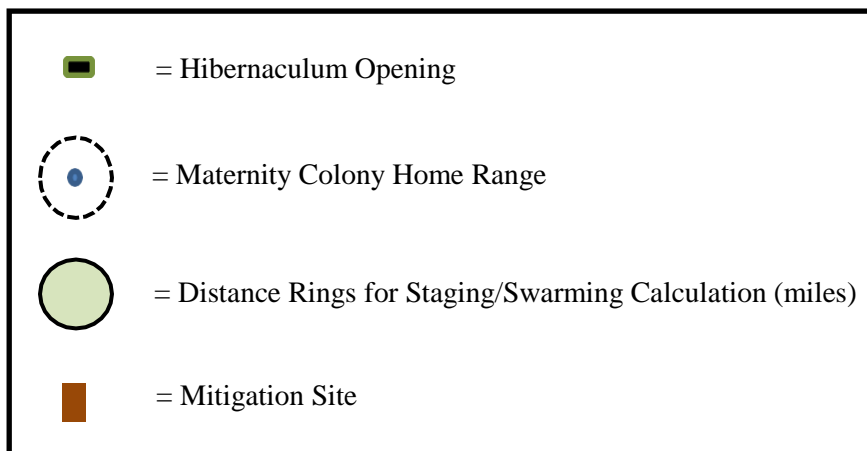
² Staging/swarming mitigation beyond 5 miles from a hibernaculum opening will be limited, but where appropriate, 723 acres is sufficiently large that it functions to yield 1% credit at any distance within the 5 to 10 mile ring.

³ Because bats are able to exploit staging/swarming habitat in a wide area around a hibernaculum, abundant staging/swarming habitat decreases the risk to bats of the loss of individual staging/swarming habitat parcels.

Figure 1. Staging/Swarming mitigation rings centered on hibernaculum opening.



LEGEND



The following are examples for applying the staging/swarming mitigation habitat guidelines described above and in Figure 1.

Example 1: 80 acres of suitable habitat (mitigation site a) is restored within the 1- 2 mile ring at a Hibernaculum A where the Indiana bat population is 500 females and the northern long-eared bat population is 50 females. The Indiana bat credit would be 5 bats and the northern long-eared bat credit would be 0.5 bat.

Example 2: 644 acres of suitable habitat (mitigation site b) is protected at Hibernaculum A within the 3 - 4 mile ring. The Indiana bat credit would be 10 bats and the northern long-eared bat credit would be 1 bat.

Example 3: 80 acres of essential habitat (mitigation site c) is protected within the 1-2 mile ring that meets the criteria described under *Increased Mitigation Crediting Option* above for which the USFWS determines that a 3 percent credit is allowable. The Indiana bat credit would be 15 bats and the northern long-eared bat credit would be 1.5 bats.

Example 4: 80 acres of suitable habitat (mitigation site a) is protected for summer habitat within a maternity colony home range. The 80 acres is also within the 1- 2 mile ring at a hibernaculum where the Indiana bat population is 500 females and the northern long-eared bat is 50 females. The Indiana bat staging/swarming credit would be 5 bats and the northern long-eared bat credit would be 0.5 bat. The summer habitat mitigation credit would be the full amount calculated in the REA Summer Habitat Protection module for each of the species.

Example 5: 161 acres of suitable habitat (mitigation site d) is protected at Hibernaculum A within the 3- 4 mile ring. This is acceptable in that the full 322 acres within the 3 – 4 mile ring is not required, but the credit is pro-rated on the acres mitigated so the 161 acres would yield 0.5 x one percent of the female bat population or 2.5 Indiana bats and 0.25 northern long-eared bat.

Example 6: 80 acres of suitable habitat (mitigation site e) is protected within the 1- 2 mile ring at Hibernaculum B, which has an Indiana bat population of 250 females and a northern long-eared bat population of 25 female bats. The Indiana bat credit would be 2.5 bats and the northern long-eared bat credit would be 0.25 bat for Hibernaculum B. Mitigation site e is also within the 3- 4 mile ring of Hibernaculum A. The Indiana bat credit for Hibernaculum A would be 1.25 bats and the northern long-eared bat credit would be zero (less than 0.25). Total credit for mitigation site e is 3.75 Indiana bats and 0.25 northern long-eared bat.

Example 7 (not shown in Figure 1): 1,450 acres of suitable habitat is protected in the 9 – 10 mile ring around Hibernaculum C, which supports 2,500 female Indiana bats and 100 female northern long-eared bats. The Indiana bat credit would be 50 bats and the northern long-eared bat credit would be 2 bats.