

In several instances (Units 2, 13, and 21), the surface or subsurface drainage basin associated with the occupied cave, as defined by Veni (2002), extends outside of the area originally designated in the proposed rule and therefore was not included in the final rule (see "Critical Habitat Unit Descriptions" section). Also, in several instances (Units 1e1, 3, 6, 8b, and 17), the cave, cave footprint, and portions of the cave cricket foraging area plus buffer, the drainage basins, and the 16-ha (40-ac) vegetative area are located on lands protected under the La Cantera HCP which were not included in the designation (see "Unit Description" and Lands Covered Under Existing Conservation Plans" sections). The critical habitat area encompassing Robber Baron Cave (Unit 20) includes both the known and estimated extent of the cave's footprint. This cave is a complex maze cave consisting of approximately 1.51 km (0.94 mi) of passages known within a square area approximately 100 m (328 ft) on each side (Veni 1988). Prior to the extensive development that has occurred in the area, the cave's footprint was estimated

to extend at least 100 m (328 ft) farther east to a water well, 600 m (1,969 ft) southwest to a now-sealed, extensive maze cave and about 1.2 km (0.75 mi) to the southwest to another well (Veni 1988). Exploration and mapping of these possible passages is continuing under the direction of the Texas Cave Management Association, which owns the cave entrance.

#### Critical Habitat Delineation

Lands designated as critical habitat for the seven endangered karst invertebrates occur in 22 separate units, with a total area of approximately 431 ha (1,063 ac). The lands within the critical habitat units are under private, city, and State ownership. Table 3 lists the known occupied caves, the total critical habitat unit area, land ownership, and the listed species that occur within each designated unit. Table 4 shows the listed species and the critical habitat unit(s) where they occur.

Each critical habitat unit contains one or more of the primary constituent elements needed by the karst invertebrate species. The "Critical Habitat Unit Descriptions" section

(below) provides a description of lands within each unit and a description of how unit boundaries were delineated.

Areas within the boundaries of mapped units that have existing human-constructed, above-ground, impervious structures do not contain the primary constituent elements and are not considered to be critical habitat. Such features and structures include, but are not limited to, buildings and paved roads. However, subsurface areas under these structures are considered to be critical habitat since subterranean spaces containing these species or transmitting moisture and nutrients through the karst ecosystem extend, in some cases, underneath these existing human-constructed structures. Landscaped areas associated with existing human-constructed structures also are also not considered critical habitat because they do not contain the primary constituent elements. Although not considered to be critical habitat, these landscaped areas may provide some foraging area for cave crickets and other troglomenes which are an important source of nutrients to the karst ecosystem.

TABLE 3.—KNOWN OCCUPIED CAVES, LAND OWNERSHIP AND LISTED SPECIES THAT OCCUR WITHIN EACH CRITICAL HABITAT UNIT DESIGNATED FOR ONE OR MORE OF THE ENDANGERED BEXAR COUNTY KARST INVERTEBRATES

Unit	Known occupied caves in unit	Total area of unit	Ownership	Listed species in unit
1e1	Pig Cave ..... San Antonio Ranch Pit .....	15 ha (38 ac) .....	Private, city .....	<i>Rhadine exilis</i> <i>R. infernalis</i> <i>Batrissodes venyivi</i>
1e2	Continental Cave .....	16 ha (40 ac) .....	City .....	<i>R. infernalis</i>
1e3	Creek Bank Cave .....	19 ha (46 ac) .....	Private, city .....	<i>R. exilis</i>
2	Tight Cave .....			
	Logan's Cave .....	37 ha (92 ac) .....	Private .....	<i>Cicurina madla</i> <i>R. exilis</i> <i>R. infernalis</i>
	Madla's Drop Cave .....			<i>C. madla</i> <i>R. exilis</i> <i>R. infernalis</i>
3	Helotes Blowhole * .....	17 ha (41 ac) .....	Private .....	<i>B. venyivi</i> <i>R. exilis</i> <i>R. infernalis</i>
	Helotes Hilltop Cave * .....			<i>C. madla</i> <i>R. exilis</i> <i>R. infernalis</i>
4	Kamikazi Cricket Cave .....	16 ha (40 ac) .....	Private .....	<i>B. venyivi</i> <i>R. exilis</i> <i>R. infernalis</i>
5	Christmas Cave .....	16 ha (40 ac) .....	Private .....	<i>C. madla</i> <i>R. exilis</i> <i>R. infernalis</i>
				<i>B. venyivi</i> <i>R. exilis</i> <i>R. infernalis</i>
6	John Wagner Ranch .....	16 ha (40 ac) .....	Private, city .....	<i>R. exilis</i> <i>R. infernalis</i>
	Cave No. 3 * .....			<i>R. exilis</i> <i>R. infernalis</i>
7	Young Cave No. 1 .....	16 ha (40 ac) .....	Private .....	<i>R. exilis</i> <i>R. infernalis</i>
8a	Three Fingers Cave .....	16 ha (40 ac) .....	Private .....	<i>C. madla</i> <i>R. infernalis</i> <i>R. exilis</i>
8b	Hills and Dales Pit * .....	28 ha (69 ac) .....	Private, city .....	<i>R. infernalis</i> <i>R. exilis</i> <i>R. infernalis</i>
	Robber's Cave .....			<i>R. exilis</i> <i>R. exilis</i>
9	Mastodon Pit .....	16 ha (40 ac) .....	State .....	<i>R. exilis</i>
12	Hairy Tooth Cave .....	21 ha (51 ac) .....	Private .....	<i>R. exilis</i>
	Ragin' Cajun Cave .....			
13	Black Cat Cave .....	16 ha (40 ac) .....	Private .....	<i>R. exilis</i>
14	Game Pasture Cave No. 1 .....	26 ha (64 ac) .....	Private .....	<i>R. infernalis</i>
	King Toad Cave .....			
	Stevens Ranch Trash Hole Cave .....			
15	Braken Bat Cave .....	34 ha (85 ac) .....	Private .....	<i>Cicurina venii</i> <i>R. infernalis</i>
	Isopit .....			