

An area with the largest amount of remaining habitat outside the fringe-toed lizard Preserve System is the Big Dune area between Palm Springs and Indian Wells, south of I-10. However, this area is fragmented with major roads and new development (e.g., residential housing, shopping centers, Agua Caliente Casino, and California State University of San Bernardino Extension) and is increasingly subject to new development because of its central location within the Coachella Valley.

Regional Habitat Conservation Plans in preparation by the Coachella Valley Association of Governments and the Agua Caliente Band of Cahuilla Indians would conserve a yet-to-be-determined amount of flat-tailed horned lizard habitat and the rest would be subject to development. However, these Habitat Conservation Plans are in progress and are subject to approval in the future; therefore their completion and implementation cannot be relied upon for conservation purposes.

#### West Side of Salton Sea/Imperial Valley (California)

This geographic area spans from Borrego Valley east to Salton Sea, and south to the border with Mexico, bounded on the west by the Peninsular Mountain ranges and to the east by the Salton Sea and agricultural development of the Imperial Valley. The majority of the private land that is potential flat-tailed horned lizard habitat is in the Borrego Valley and Ocotillo Wells area just south of State Route (SR) 78, west of the West Mesa MA. The geographic area contains three MAs (Borrego Badlands, West Mesa, and Yuha Basin) and the Ocotillo Wells SVRA research area.

This geographic area is fragmented from north to south by SR22, SR78, Interstate 8 (I-8), and SR98. Habitat loss has also resulted from the towns of Borrego Springs, Salton City, Ocotillo Wells, and Ocotillo. The largest of these towns is Borrego Springs, with a population of approximately 3,000 people. Due to the small size of these towns, it is unlikely that urban or agricultural development in or around these small towns is a significant threat to the flat-tailed horned lizard or its habitat in the foreseeable future.

#### Borrego Badlands MA

The Borrego Badlands MA is composed of about 17,159 ha (42,400 ac), of which 14,771 ha (36,500 ac) is habitat managed by signatories to the Management Strategy/CA, and 2,388 ha (5,900 ac) are private land. When we compared habitat disturbance and loss from aerial photographs taken in 2002

with the habitat loss and disturbance documented by Tierra Data Systems in 1997, we found that the length of dirt roads had slightly increased from 154 kilometers (km) (96 miles [mi]) to 192 km (120 mi), and the area disturbed had increased from 142 ha (351 ac) to 761 ha (1,881 ac). However, this increase in disturbed area may have been an artifact of what we designated disturbed versus what Tierra Data Systems called disturbed. The majority of the increase in disturbed habitat was attributed to an area that appeared to be an abandoned airfield.

#### West Mesa MA

The West Mesa MA consists of approximately 55,079 ha (136,100 ac), of which 46,257 ha (114,300 ac) is habitat managed by signatories to the Management Strategy/CA, and 8,822 ha (21,800 ac) are private land. No geothermal activity was found during BLM disturbance surveys, but about 2 percent of the surface has been affected by mining. In 2001, the BLM estimated that 11.4 percent of the West Mesa MA was covered with vehicle tracks (Wright 2002). Wright (2002) reported that the West Mesa and Yuha Basin MAs have relatively high levels of vehicular disturbance throughout and lack protected core habitats when compared with the East Mesa MA. The number of OHV routes in the West Mesa MA increased roughly fourfold from 1985 to 2001 (Wright 2002).

#### Yuha Basin MA

The Yuha Basin MA consists of about 24,363 ha (60,200 ac), of which 23,149 ha (57,200 ac) of habitat is managed by signatories to the Management Strategy/CA. This MA is bounded by I-8 to the north and fragmented by SR98 running east to west across the entire MA. In 2001, the BLM estimated that 10.5 percent of the eastern Yuha Basin MA was covered with vehicle tracks (Wright 2002). Wright (2002) estimated there was a 23 percent increase in routes and graded roads on this MA from 1994 to 2001, and commented that the vehicle track levels along SR98 in the eastern Yuha Basin MA are more consistent with an Open Area than they are with a limited area. Part of the high level of vehicle track disturbance in this area can be attributed to the increase in illegal drive-through traffic in the recent past from the border into the U.S. (BLM 2002). Drive-through traffic consists of vehicles that drive illegally across the International boundary, the majority off-road, without being inspected by Federal officers. The Border Patrol is planning to erect an "Anti-Vehicle Barrier System" along the international

order that will decrease this specific OHV threat in the future. This system has been effective in reducing illegal drive-through traffic near the Algodones Dunes.

The primary reason for the proliferation of trails in limited use areas is most likely due to the lack of route signing and law enforcement available not only on the Yuha Basin MA, but across all MAs. "Federal Lands: Information on the Use and Impact of Off-highway Vehicles," a U.S. General Accounting Office (USGAO) report to Congress (USGAO 1995), reported that BLM has "not completed inventories of their OHV areas, roads, and trails, and they have not finished preparing maps and posting signs to indicate where OHVs may or may not be used. Without such inventories, maps, and signs, neither the public nor the staff can be certain whether specific areas, roads, or trails are available for OHV use." The report did not specifically look at the resource areas containing flat-tailed horned lizard habitat, but it does illustrate the difficulty BLM offices across the western United States have in complying with their agency's own regulations requiring the designation of lands for OHV use be communicated to the public. Without maps and signs to identify OHV routes, the USGAO (1995) concluded that restricted-use areas are, in effect, used and managed as open-use areas.

Our analysis showed that, between 1997 to 2002, the percentage of area disturbed increased from 6.6 to 9.7, the area of disturbance increased from 1,376 ha (3,400 ac) to 2,145 ha (5,300 ac), and the length of roads increased from 394 km (246 mi) to 655 km (409 mi). We consider the BLM figures for vehicle track coverage to be more accurate for strictly measuring vehicle tracks, because of the finer resolution in sampling. BLM measured track coverage on the ground, while our measurements were derived from aerial photographs with obviously much coarser resolution.

#### Outside MAs

The Ocotillo Wells SVRA manages about 31,040 ha (76,700 ac) between the Borrego Badlands MA and the West Mesa MA, west of SR86. The Ocotillo Wells SVRA allows unrestricted use by OHVs across approximately 20,640 ha (51,000 ac) of this area, while the remaining land is a restricted area zone limited to OHV use on designated trails only (Hollenbeck, pers. comm. 2002). In addition to the Ocotillo Wells SVRA, in this geographic area unrestricted OHV use is also allowed in the BLM's Plaster City (approximately 6,070 ha [15,000 ac]) and Superstition Hills