

**List of Subjects in 49 CFR Part 375**

Advertising, Arbitration, Consumer protection, Freight, Highways and roads, Insurance, Motor carriers, Moving of household goods, Reporting and recordkeeping requirements.

**List of Subjects in 49 CFR Part 377**

Credit, Freight forwarders, Highways and roads, Motor carriers.

**Authority:** 23 U.S.C. 315 and 49 CFR 1.48.

Issued on: August 5, 1998.

**Kenneth R. Wykle,**

*Federal Highway Administrator.*

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**DEPARTMENT OF THE INTERIOR****Fish and Wildlife Service****50 CFR Part 17**

RIN 1018-AD09

**Endangered and Threatened Wildlife and Plants; Withdrawal of Proposed Rule to List the Black Legless Lizard as Endangered**

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Proposed rule; withdrawal.

**SUMMARY:** The U.S. Fish and Wildlife Service (Service) withdraws the proposed rule, published in the **Federal Register** on August 2, 1995 (60 FR 39326), to list the black legless lizard (*Anniella pulchra nigra*) as an endangered species under the Endangered Species Act of 1973, as amended (Act). The black legless lizard is now known to occur in a much wider variety of habitat than previously thought, and the threats to its survival have decreased since the proposed rule was published. The Installation-Wide Multispecies Habitat Management Plan (HMP) for Former Fort Ord, now provides preservation and habitat management on 546 hectares (ha) (1,366 acres (ac)) of coastal and interior dune sheets occupied by the black legless lizard. Elsewhere, a large proportion of the remaining habitat of the black legless lizard is already protected from urbanization and commercial development on public lands, and widespread losses of habitat are unlikely to continue in the foreseeable future. Recent and ongoing restoration efforts on dunes colonized by alien vegetation are likely to benefit the black legless lizard. Furthermore, extensive new invasion of existing black legless lizard habitat by alien plants is unlikely to occur. Based on this information the

Service concludes that listing of the black legless lizard is not warranted.

**ADDRESSES:** The complete file for this action is available for inspection, by appointment, during normal business hours at the Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service, 2493 Portola Road, Suite B, Ventura California 93003.

**FOR FURTHER INFORMATION CONTACT:** Mr. Carl T. Benz, Assistant Field Supervisor, Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service, at the above address (805/644-1766).

**SUPPLEMENTARY INFORMATION:****Background**

On August 2, 1995, the Service published a proposal to list five plant species and the black legless lizard from Monterey County, California as endangered or threatened in the **Federal Register** (60 FR 39326). The subject of this withdrawal, the black legless lizard, was originally described by Fischer in 1885 as *Anniella nigra* (in Hunt 1983). The description of *A. nigra* as distinct from *A. pulchra*, which had been previously described by Gray in 1852 and Richardson in 1854 (in Hunt 1983), was based on unique scalation, body proportions, and coloration observed in a single specimen. Since the original description, the taxonomic status of the black legless lizard has been open to interpretation (Hunt 1983 and references therein; Murphy and Smith 1985, 1991; Jennings and Hayes 1994). However, since at least the 1940s, most authors have concluded that the black legless lizard is a subspecies of *A. pulchra*. As currently recognized, the California legless lizard, *A. pulchra*, consists of two subspecies; a wide-ranging form, *A. p. pulchra*, the silvery legless lizard, and a more narrowly ranging form, *A. p. nigra*, the black legless lizard.

The black legless lizard has been collected primarily from coastal dunes of the Monterey Peninsula and Monterey Bay between the Salinas and Carmel rivers (Miller 1943, Bury 1985). However, *Anniella* with dark backs and other morphological traits resembling the black legless lizard have been collected north of the Salinas River as far as the San Francisco Bay area and south of the Carmel River in the Morro Bay and Pismo Beach areas, and on the Santa Maria dune sheet at the Guadalupe (San Luis Obispo County) and Mussel Rock (Santa Barbara County) dunes. The relationship of these lizards to *A. p. nigra* remains unresolved (Miller 1943, Bezy *et al.* 1977, Hunt 1983, Bury 1985, Jennings and Hayes 1994). Miller (1943) and Bury

(1985) believed unambiguous black legless lizard populations to be restricted to the coastal area between the Salinas and Carmel rivers. Stebbins (1985) considered the distribution of this taxon to be the Monterey Peninsula, Monterey Bay, and Morro Bay. Hunt (1983) showed an even more extensive distribution. All of these authors agree that coastal specimens of *Anniella* from between the Salinas and Carmel rivers are black legless lizards. As a result, the August 2, 1995, proposal of *A. p. nigra* as endangered was applied only to the range of this taxon as described by Miller (1943) and Bury (1985).

Based on electrophoretic analyses of *Anniella* from a small number of localities in California and Baja California, Mexico, Bezy *et al.* (1977) concluded that the genetic distance between *Anniella p. nigra* and *A. p. pulchra* was consistent with subspecific classification. Rainey (1984) conducted biochemical analyses of *Anniella* from several coastal central California localities with the goal of resolving the distinctness of the black legless lizard. The results suggested genetic differences between dark forms of *A. p. pulchra* from Morro Bay and *A. p. nigra* from the Monterey Peninsula. The results of more fine-scaled sampling in the vicinity of Monterey Bay revealed differences in allele frequencies even among adjacent sites, suggesting genetic subdivisions even within a limited area, but too few samples were analyzed to draw any reliable conclusions.

The black legless lizard is a burrowing, limbless lizard about the diameter of a pencil and reaches a maximum length of about 23 centimeters (cm) (9 inches (in)). It has a black or dark brown back (hatchlings are light colored) and a yellow underside (Fisher 1934, Miller 1943, Hunt 1983, Stebbins 1985). The black legless lizard is distinguished from the silvery legless lizard by dark back coloration, fewer back scales count, and a relatively short tail (Miller 1943, Hunt 1983, Bury and Corn 1984).

Although the historical distribution of the black legless lizard is somewhat uncertain, museum specimens collected since the late 1800s suggest a distribution restricted to coastal and interior dunes and other areas of sandy soils in the vicinity of Monterey Bay and the Monterey Peninsula. Over the last 20 years, biological surveys and anecdotal accounts of naturalists and area residents confirm that the black legless lizard is still extant within this range; however, much of the coastal sandy plains and dunes that were habitat for this lizard, particularly on

the Monterey Peninsula, have been converted to urban or other uses.

Bury (1985) surveyed most potential habitat for the black legless lizard, as well as sites as far south as Morro Bay and north to Año Nuevo State Reserve in San Mateo County where intergrades might occur. Black legless lizards were found at 17 sites, all of which lie on or near approximately 45 kilometers (km) (28 miles (mi)) of coastline between the Salinas and Carmel rivers. Within the range of the black legless lizard, habitat destruction due to urbanization, particularly on the Monterey Peninsula, has reduced and fragmented the habitat available to this lizard. The remaining coastal habitat is degraded to varying degrees by current or previous human effects such as trampling, sand mining, vehicular use, and introduction of exotic plants, particularly *Carpobrotus edulis* and *Ammophila arenaria*.

### Summary of Comments on the Proposed Rule

In the August 2, 1995, proposed rule (60 FR 39326) and associated notifications, all interested parties were requested to submit factual reports or information to be considered in making a final listing determination. The proposed rule opened a public comment period through October 9, 1995. A public hearing was requested by one commenter. Due to the Federal moratorium on final listing actions, imposed on April 10, 1995, the public hearing and processing of the final rule could not be scheduled immediately. Once the moratorium was lifted, on April 26, 1996, the Service established its priority for listing actions and the public hearing was scheduled. The public hearing was held on August 20, 1996, in Monterey, California, and allowed presentation of both oral and written comments. An associated 60-day public comment period closed August 30, 1996. During the hearing and public comment period substantial new information was submitted concerning the range, habitats, and taxonomic status of the legless lizards. To allow the public to comment on this new information and to permit submission of any new information that had become available on the other taxa in the package, the comment period was reopened. The second 30-day public comment period closed on May 2, 1997. Appropriate Federal and State agencies, local governments, scientific organizations, and other interested parties were contacted and asked to comment. Legal notices of the availability of the proposed rule were published in the *Monterey Herald* and the *Santa Cruz Sentinel* during the

initial comment period, and in the *Monterey Herald*, *Half Moon Bay Review*, and *Pacifica Tribune* on the 1997 comment period.

During the public comment periods and public hearing, 20 agencies, groups, and individuals commented on the plant taxa included in the proposed rule, some of them multiple times. The majority of comments received concerned the proposal to list the black legless lizard. Written comments and oral statements presented at the public hearing and received during the comment periods were given equal consideration and are addressed in the following summary. Because the proposed rule included five plant taxa in addition to the black legless lizard, only those comments specific to the black legless lizard are addressed in this notice. Comments specific to the five plant taxa and general comments on the proposed rule are discussed in a separate **Federal Register** notice being published concurrently with this withdrawal. Comments of a similar nature are grouped into a single issue. These issues and the Service's responses are discussed below.

*Issue 1:* Several commenters warned that the economic development or revitalization of the jurisdictions within the range of the black legless lizard could be threatened by the listing. Additionally, noting that the black legless lizard is regularly encountered on agricultural, commercial and residential properties, several commenters were concerned that the listing could curtail, or make illegal, the everyday activities of property owners, such as tilling soil for farming, yard work, and landscaping.

*Service Response:* Section 4(b)(1)(A) of the Act requires that a listing determination be based solely on the best scientific and commercial data available. The legislative history of this provision clearly states the intent of Congress to "ensure" that listing decisions are "based solely on biological criteria and to prevent non-biological criteria from affecting such decisions" (H.R. Rep. No. 97-835, 97th Cong. 2nd Sess. 19 (1982)). As further stated in the legislative history, "economic considerations have no relevance to determinations regarding the status of species." Because the Service is specifically precluded from considering economic impacts in a final determination on a proposed listing, possible economic consequences of listing the black legless lizard were not considered.

*Issue 2:* Several commenters argued that there is insufficient basis for a listing at this time because experts

disagree on the distinctness of the black legless lizard as well as the basis for distinguishing between the black legless lizard and the more common silvery form. On the other hand, one commenter submitted an unpublished manuscript which included a phylogeny of legless lizards based on mitochondrial DNA sequencing.

*Service Response:* A brief review of the taxonomic history of the black legless lizard is provided in the background section of this notice. All available evidence indicates that the California legless lizard, *Anniela pulchra*, is subdivided into a number of more or less genetically distinct groups. Unresolved evolutionary relationships continue to interest workers in the fields of evolutionary biology, systematics, and natural history, and it is recognized that taxonomic studies that may result in the revision of *A. pulchra* are likely. Nevertheless, the black legless lizard has been regarded as taxonomically distinct for over 100 years. Despite ambiguities that exist regarding the distinctness and relationships of legless lizards north of the Salinas River and south of the Carmel River, the presence of a distinct, more or less isolated, legless lizard in the vicinity of Monterey Bay has not been seriously debated for several decades.

*Issue 3:* Citing new information relating to the closure of the former Fort Ord, several commenters pointed out that legless lizards have now been found to occur over a much wider range and in a more complex array of habitats than was described in the proposed rule. These commenters encouraged the Service to delay the listing decision until the taxonomic identity of these lizards and their distribution and abundance on the former Fort Ord lands are established.

*Service Response:* The Service acknowledges that new information on distribution and habitat use has been made available since the proposal to list the black legless lizard as endangered (60 FR 39326). In 1995 and 1996, legless lizards were encountered by U.S. Army personnel during unexploded ordnance cleanup operations at the former Fort Ord (James W. Willison, Director of Environmental and Natural Resources Management, Presidio of Monterey, *in litt.* 1997). Late in 1996, the Fort Ord Coordinated Resource Management and Planning (CRMP) team formed a special subcommittee to coordinate surveys for legless lizards on the former base and nearby areas. Field surveys have been conducted in the interior of the former base on lands managed by the City of Marina, the University of California, and the Bureau of Land Management (BLM)

(Robert E. Beehler, Area Manager, Hollister Resource Area, BLM, *in litt.* 1997). During these surveys, legless lizards have been encountered in many new localities and in a variety of habitats including live oak woodland, non-native grassland/oak woodland ecotone, grassland/shrub, dune scrub, and maritime chaparral. The implications of these survey results with respect to the status of the black legless lizard are discussed under Factor A in the "Summary of Factors Affecting the Species" section.

*Issue 4:* Several commenters argued that the habitat of the black legless lizard is much more secure than indicated in the proposed rule because the lizard will now be protected on 6,800 ha (17,000 ac) as part of the HMP for former Fort Ord, and because parts of its range overlap with the range of the federally listed Smith's blue butterfly (*Euphyllotes enoptes smithi*).

*Service Response:* The Service agrees. Roughly 6,800 ha (17,000 ac) on the former Fort Ord is permanently protected under the provisions of the HMP (U.S. Army Corps of Engineers 1997). The HMP was established in April, 1994, and subsequently revised in November, 1996, and again in April, 1997. Since 1995, surveys conducted under the auspices of the CRMP team have demonstrated a wide, but apparently patchy, distribution of dark-colored legless lizards on former Fort Ord lands. Within the HMP boundaries, legless lizards have been encountered on lands that have already been developed, on lands that are proposed for development, and on lands that are permanently protected and will be managed for sensitive plants and animals.

Over much of its range, the black legless lizard is found in habitats occupied by the Smith's blue butterfly. On public lands, where the habitat of the Smith's blue butterfly is largely protected, management actions such as removing exotic vegetation and restoring native plant communities may benefit the black legless lizard when it is present. On private lands occupied by the Smith's blue butterfly, proposed developments may be permitted via the habitat conservation plan (HCP) process pursuant to section 10 of the Act. Black legless lizards are likely to benefit from the permanent maintenance of natural plant communities on HCP lands preserved for the Smith's blue butterfly.

*Issue 5:* Several area residents pointed out that the black legless lizard is common in residential neighborhoods and on commercial property in the cities of Seaside and Marina. More than 80 residents of the City of Marina

reported black legless lizards on their property. The commenters questioned the need to list such a common organism as endangered. An opposing view was presented by other commenters who argued that the lizard is imperiled by human impacts and that Federal listing could provide greater assurances for the survival of the black legless lizard.

*Service Response:* A questionnaire attached to the City of Marina newsletter, was sent to 7,000 businesses and residences in the spring of 1997. Of 247 responses, 81 (33 percent) of the respondents indicated they had seen legless lizards on their property. Most of the respondents had seen legless lizards within the last 3 years, and many indicated they observe legless lizards year after year. The results of the City of Marina survey are not surprising. Legless lizards are occasionally encountered on residential and commercial property throughout their range. In the Monterey Bay area, it is not unusual for residents of Marina, Seaside, and portions of Monterey and Pacific Grove to encounter black legless lizards on residential and commercial properties. Legless lizards can clearly persist for decades in and around highly altered man-made settings, although this may not be optimal habitat for them. Habitat fragmentation is discussed further in Factor E of the "Summary of Factors Affecting the Species" section of this notice.

*Issue 6:* One respondent questioned the need for listing the black legless lizard at this time, noting the California Environmental Quality Act (CEQA) and the California Coastal Act recognize the lizard as a special status species.

*Service Response:* The black legless lizard is often given special consideration in CEQA compliance documents. Legislation and State regulations require mitigation or other compensation for impacts to sensitive or rare species. However, CEQA provides for "Statements of Overriding Consideration" which allow adverse impacts with less than full mitigation. The California Coastal Act regulates development within the coastal zone and has slowed the loss of coastal habitats such as the dune habitats used by black legless lizards.

*Issue 7:* Several commenters questioned the need for listing at this time because the lizard is very abundant in suitable habitat. On the other hand, other commenters argued that the distribution of legless lizards is patchy, and abundance does not assure survival when the human impacts involve habitat destruction.

*Service Response:* The black legless lizard, like other small, burrowing reptiles can occur in dense populations, up to several hundred per hectare, in a wide range of habitats (Turner 1977). The distribution of legless lizards within their range, however, is dictated largely by soil texture (Hunt 1997, *in press*). Thus, the distribution of the black legless lizards in the vicinity of Monterey Bay is expected to be somewhat patchy. The results of surveys conducted under the auspices of the CRMP on the former Fort Ord have conformed to the prediction of a patchy distribution. Primary threats to the lizard identified in the proposed rule involved uncertainties associated with the clean-up and transfer of lands formerly managed by Fort Ord and the invasion of lizard habitat by exotic vegetation (60 FR 39332-39334). The significance of these threats is discussed under factors A and E of the "Summary of Factors Affecting the Species" section.

*Issue 8:* Two commenters questioned the current severity of the threats to the black legless lizard related to conversion of the dune habitats by invasion of exotic plants such as *Carpobrotus edulis* and *Ammophila arenaria*. The commenters described dune restoration projects in detail, including exotic plant eradication on previously preserved Federal and State lands, newly protected lands associated with the closure of former Fort Ord, and private property, and argued that lizard habitat is becoming more, not less common in the Monterey Bay area. On the other hand, several commenters supported listing because of concerns about invasion of black legless lizard habitat by exotic plant species.

*Service Response:* Most of the evidence that exotic plants are associated with low abundances of black legless lizards is indirect. Using an intensive sampling method, Bury (1985) demonstrated that black legless lizards were less abundant in mats of Hottentot fig than they were in and around native dune vegetation. Soil chemistry, thermal properties and invertebrate prey abundance differ between dune habitats dominated by *Carpobrotus edulis* and natural dune habitats (Bury 1985; Lawrence Hunt, University of California, Santa Barbara, *in litt.* 1995). Since about 1985, a host of programs on Federal, State, and private lands have been initiated to eradicate exotic plants and restore native plant communities on the dune ecosystems of the Monterey Bay area.

At present, our knowledge of the habitat requirements of the black legless lizard, and of the methods and results

of the ongoing dune restoration efforts suggests that the black legless lizard will benefit substantially if these programs continue. A more complete analysis of impacts of exotic vegetation and dune restoration programs on the black legless lizard is given under Factor E of the "Summary of Factors Affecting the Species" section.

*Issue 9:* One commenter criticized the Service's heavy reliance on the Bury (1985) status report, which is over 10 years old. The respondent stated that the report is stale and no longer accurate. Citing *Roosevelt Campobello Intern. Park v. U. S. E. P. A.*, 684 F.2d 1041, 1052-1055 (1st Cir. 1982) the commenter argued that in cases where insufficient information exists, the Service is obliged to develop further scientific data. Likewise, the same commenter argued, citing *City of Carmel-By-The-Sea v. U.S. Dept. Of Transp.*, 95 F.3d 892, 900 (9th Cir. 1996), that reliance on stale scientific data can constitute an abuse of discretion. These arguments based on the same court decisions also were made by a second commenter.

*Service Response:* Although the Bury (1985) status report on the black legless lizard is now 12 years old, it remains accurate and still useful. It provides an extensive analysis of the distribution of black legless lizards, their variation, and their habitats. The descriptions of collection localities and the habitat conditions are of sufficient detail to allow current workers to evaluate short-term changes in legless lizard habitat. In a clear demonstration that the Bury report still provides valuable historical information, the Service received, during the public comment period, a copy of a site-by-site comparison between the habitat conditions described by Bury in 1985 and the current conditions at those same sites (Michael J. Zander, Zander and Associates, *in litt.* 1995). Without the specific site and habitat condition information contained in the Bury report, such a comparison would not have been possible. Furthermore, the Act is clear in its requirement that listing decisions be based "solely on the best scientific and commercial data available [emphasis added] after conducting a review of the status of the species . . ." (16 U.S.C. 1533, section 4(b)(1)(A)). The Service, therefore, is not obliged to develop further scientific data beyond that which is available to it during its status review.

*Issue 10:* Two commenters supported the listing, registering their concern that hybridization between black and silvery legless lizards represents a substantive threat to the distinctness of the black

legless lizard as a distinct biological entity.

*Service Response:* Anecdotal and published reports of interbreeding between black legless lizards (*Anniella p. nigra*) and silvery legless lizards (*A. p. pulchra*) are common and are based on apparent intermediate morphological traits including scalation, body proportions, and coloration. The currently available biochemical and molecular evidence is insufficient to determine the extent of gene flow, past or present, between populations of legless lizards in the Monterey Bay area. No evidence exists, therefore, that hybridization poses a threat to the black legless lizard.

#### Summary of Factors Affecting the Species

The Act and implementing regulations found at 50 CFR 424.17(3) provide the basis for determining a species to be endangered or threatened and for withdrawing a proposed rule when the proposal has not been found to be supported by available evidence. The five factors described in section 4(a)(1) of the Endangered Species Act, as they apply to the withdrawal of the proposed listing of the black legless lizard (*Anniella pulchra nigra*), are as follows:

##### A. The Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range

Primary threats to the black legless lizard identified under Factor A in the proposed rule were associated with the anticipated closure of Fort Ord, including clean-up and the disposition and future uses of the former Army base, which at the time were unknown (60 FR 39332). Now that the closure of Fort Ord has occurred, the significance of these threats can be more accurately assessed. Under the Installation-Wide HMP, roughly 6,800 ha (17,000 ac) of the former Fort Ord will be permanently protected and managed for plants and wildlife, including the black legless lizard (Michael Houlemard, Fort Ord Reuse Authority, *in litt.* 1997). At the time of the proposed rule, the extent of occupied black legless lizard habitat was uncertain, with estimates ranging from 190 ha (470 ac) to 1,206 ha (2,980 ac). Based on surveys conducted since the proposed rule was published (60 FR 39332), it is now known that at least 546 ha (1,366 ac) of habitat for the black legless lizard will be protected on the former Fort Ord (US Army Corps of Engineers 1997). In addition, at the time of the proposed rule, the black legless lizard was thought to be restricted to sandy coastal plains and dunes (60 FR

39332). It has now been found in a wider variety of habitats, including live oak woodland, non-native grassland/oak woodland ecotone, grassland/shrub, dune scrub, and maritime chaparral (R. Beehler, *in litt.* 1997). The major land manager responsible for maintaining natural habitats in the interior of the former Fort Ord is the BLM, to which the U.S. Army has already transferred several thousand acres. The University of California Natural Reserve System will manage about 240 ha (600 ac) for field research and teaching as well as for protection and enhancement of biological resources. With the implementation of the HMP a large portion of the undeveloped remainder of the interior Monterey Dune sheets will be protected, making the Monterey dune complex (Cooper, 1967) the largest protected dune mass in California. Since 1995, surveys conducted under the auspices of the CRMP team have demonstrated a wide, but apparently patchy, distribution of dark-colored legless lizards on former Fort Ord lands (M. Houlemard, *in litt.* 1997).

The Department of the Army also is currently in the process of transferring over 320 ha (800 ac) of coastal dunes along a roughly 6.4 km (4 mi) reach to the California Department of Parks and Recreation (CDPR). CDPR management plans on Marina State Beach and on the adjoining coastal dune habitat being transferred from the former Fort Ord offer permanent protection to over 340 ha (850 ac) of black legless lizard habitat (U.S. Army Corps of Engineers 1997). Furthermore, as a result of a recent Memorandum of Understanding between the City of Sand City, the Monterey Peninsula Regional Parks District, and the California Coastal Commission, 75 to 80 percent of Sand City coastal habitat adjacent to the former Fort Ord will be preserved as open space (David Pendergrass, Mayor, City of Sand City, *in litt.* 1997).

Other threats to the black legless lizard cited under Factor A in the proposed rule included military activities, off-road vehicle activities, human trampling, and sand mining (60 FR 39332). With the closure of Fort Ord, military activities no longer threaten the species or its habitat. Off-road vehicle use has been prohibited on all public lands along Monterey Bay and coastal portions of the Monterey Peninsula for many years. The effects of human trampling are being reduced by active programs that involve restricting access to designated trails with symbolic and cable fencing and construction of sand ladders and boardwalks. Sand mining occurs at only two sites and, therefore, is not considered to be a significant

threat in the absence of major threats to the species or its habitat.

Although land development was not specifically identified as a major threat in the proposed rule, at least one comment received during the public comment period suggested that this might be the case. A comparison of the habitat conditions at sites described by Bury (1985) with their current status (J. Dack, City of Marina, *in litt.* 1997) shows that only a small amount of black legless lizard habitat, mostly on private lands, has been developed or proposed for development. In fact, during this period both land ownership and land use has favored the protection of natural habitats. The majority of black legless lizard habitat is now in protected status on public lands such as the State Beaches where most dunes have been designated as Natural Preserves. Almost all of the undeveloped private property parcels are already the subject of studies and planning efforts which will, in all likelihood, lead to the resolution of future land uses within the next 10 years. The future land uses on the stretch of private property along the coast between the Salinas River National Wildlife Refuge and Marina State Beach represent, by far, the greatest area of uncertainty about future conversion of black legless lizard habitat for human uses.

Because of the widespread occurrence of the endangered Smith's blue butterfly along the Monterey coast, many future development proposals along the coastline will probably be subject to the Act and the habitat protections that accompany it. On these lands, proposed developments may be permitted via the habitat conservation plan (HCP) process pursuant to section 10 of the Act. Black legless lizards are likely to benefit from the permanent maintenance of natural plant communities on HCP lands preserved for the Smith's blue butterfly. Thus, the Service finds no evidence that future losses of black legless lizard habitat from land conversion constitute a significant threat to the species.

#### *B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes*

Although the black legless lizard is of interest to many people because it is an unusual reptile, overutilization does not appear to be a factor threatening the species (Bury 1985). The State of California prohibits taking or possession of black legless lizards without a special permit (see Factor D). Collection of species by reptile collectors could pose a serious threat to populations that contain few individuals. Legless lizards are not commonly collected or traded,

however, and the black legless lizard's small size, secretive habits, and difficult maintenance requirements all suggest that the international trade in reptiles poses an insignificant threat to the taxon.

#### *C. Disease or Predation*

The black legless lizard is not known to be subject to catastrophic diseases. In surveys, many individuals have broken or scarred tails, suggesting predation (Bury 1985). Miller (1944) believed that predation by feral house cats may negatively affect some black legless lizard populations. Threats posed by house cats and other predators associated with humans can be expected whenever urban development encroaches on the habitat of this lizard. The well documented persistence of black legless lizards for several decades in urban and suburban areas within the Monterey Bay area and the Monterey Peninsula settings suggests, however, that predation is a minor threat and the risk of even local extirpation due to predators associated with humans is probably low.

#### *D. The Inadequacy of Existing Regulatory Mechanisms*

The black legless lizard is listed as a protected reptile under Section 650 of the Title XIV California Sport Fishing Regulations. Except under special permit from the California Department of Fish and Game, collection of black legless lizards is prohibited by the State of California. The habitat of this species is not specifically protected by any State or Federal regulation. Land use on black legless lizard habitat is controlled by local zoning, California State Park regulations on State Beaches such as Marina and Monterey State Beaches, and land management practices on Federal lands, including the Salinas River National Wildlife Refuge, portions of the former Fort Ord and the Naval Post-graduate School. The black legless lizard is often given special consideration in land use planning and in National Environmental Policy Act and CEQA compliance documents. The California Coastal Act regulates development within the coastal zone and has slowed the loss of coastal habitats such as the dunes and sand habitats used by black legless lizards. On Federal lands, the black legless lizard has also been afforded some protection indirectly through special management for Federal listed and candidate plant species that occur in coastal areas. Where the black legless lizard occurs with the endangered Smith's blue butterfly, which is the case throughout much of the black legless

lizard's range, protection of habitat for the butterfly is likely to also benefit the lizard. As discussed under Factor A, most undeveloped private property within the range of the black legless lizard is already the subject of impact studies and development planning efforts, and it is highly likely that a stable equilibrium between urbanization and habitat protection will be achieved in the foreseeable future. In addition, the trend toward conversion of natural dune plant communities by exotic vegetation has been reversed (see Factor E) and should soon lead to a significant increase in suitable habitat for the black legless lizard. Therefore, the inadequacy of existing regulatory mechanisms does not constitute a significant threat to the black legless lizard.

#### *E. Other Natural or Manmade Factors Affecting Its Continued Existence*

Nearly all known coastal black legless lizard localities support populations of exotic plants such as *Carpobrotus edulis*, *Ammophila arenaria*, ice plant (*Mesembryanthemum crystallinum*), and veldt grass (*Ehrharta calycina*). Legless lizards are primarily associated with moist soil and leaf litter under native vegetation such as bush lupine (*Lupinus albifrons*), mock heather (*Haplopappus ericoides*), and sagewort (*Artemisia* sp.) and appear to be less abundant in areas dominated by *Carpobrotus edulis* (Miller 1944, Stebbins 1954, Bury 1985, City of Sand City 1992). During habitat restoration at Asilomar State Beach, where *C. edulis* was removed by hand from over 12 ha (30 ac), black legless lizards were not found in pure stands of *C. edulis*, but were found where *Carpobrotus edulis* grew in mixed stands with native shrubs (Tom Moss, pers. comm. 1993). Pure stands of some exotic plants may alter the substrate or prey base in a way that is detrimental to black legless lizards. While the mechanism is unclear, exotic plants may influence soil temperature or moisture differently than native vegetation. Some types of exotic plants, including ice plants, support a smaller arthropod prey base than native plant communities (Miller 1944, Stebbins 1954, Nagano *et al.* 1981) and it is known that some ice plants can cause increased salt concentrations in soil (Kloot 1983). Bury (1985) speculated that ice plants may make habitat unsuitable for black legless lizards either because they have trouble maintaining their water balance in the substrate, or indirectly through reductions in arthropod abundance.

In his status report, Bury (1985) found widespread patches of ice plant and other exotic vegetation on most of the

sites he surveyed. On undeveloped sites such as the State beaches, as well as on smaller fragments of dunes along developed stretches of coastline, the amount of habitat available to black legless lizards was limited by the presence of exotic plants, primarily *C. edulis*. As a result of a variety of publicly and privately funded restoration projects and volunteer efforts since 1985, however, most extant coastal dunes in the Monterey Bay area have had at least some level of exotic plant removal and native plant revegetation. The sites Bury surveyed which now have dune restoration programs include all of the State beaches, most notably Sunset State Beach, Salinas River State Beach, Marina State Beach, and Asilomar State Beach. Another restoration effort is underway at the U.S. Navy Post-graduate School (Cowan 1996) where, at the time of the Bury status report, the natural dune plant community on this site was restricted to a 0.5-ha (1.2-ac) patch. Over the subsequent 15 years, restoration has occurred on 10 ha (25 ac) of the 16 ha (40 ac) of dunes on the site. Several other sites, most not specifically mentioned by Bury, have ongoing exotic plant removal and revegetation programs, including the Monterey Peninsula Regional Parks District lands near the City of Marina and the old landfill on the Sand City coastline, the old Phillips Petroleum site near the City of Monterey, which has recently been purchased by the CDPR, and the City of Monterey's program at Del Monte Beach. Some dune restoration projects including exotic plant removal and revegetation are also occurring on private property in and around Seaside and Sand City, and on the Monterey Peninsula. Two examples of projects on the Monterey Peninsula are the efforts to protect and manage about 24 ha (60 ac) of created and restored dunes and about 6.8 ha (17 ac) of natural dunes near the golf course at Spanish Bay and the restoration on about 2 ha (5 ac) of dunes at Fan Shell Beach near Spyglass Hill, Cypress Point.

The largest contiguous coastal tract of black legless lizard habitat surveyed by Bury was on the former Fort Ord. Bury identified about 190 ha (470 ac) along a roughly 6.4 km (4 mi) stretch of coastal dunes. At the time, Fort Ord was an active U.S. Army base and the dunes and native vegetation were highly disturbed by past and ongoing military activities. Bury reported that the dunes were covered by *Carpobrotus edulis* and supported little native vegetation. Although Fort Ord has been decommissioned, this habitat remains in

much the same condition as it was when Bury described it. However, under the authority of the HMP for the former Fort Ord, over 340 ha (850 ac) along the stretch of beach described by Bury will be transferred from the U.S. Army to the CDPR (U.S. Army Corps of Engineers 1997). The HMP calls for preservation and exotic plant removal, as well as restoration and maintenance of native dune plant communities on over 280 ha (700 ac).

Because the current trend is toward restoration of coast dune ecosystems, it is unlikely that, in the foreseeable future, conversion of black legless lizard habitat by exotic vegetation will occur at levels similar to those between the time of the natural history studies of Miller (1944) and the Bury status review (1985). Most likely, the ratio between exotic and native vegetation in the Monterey Bay area dunes within the foreseeable future will reflect funding levels and commitment to the various restoration programs. Because black legless lizards have been encountered recently on several restoration and revegetation sites on Monterey Bay and the Monterey Peninsula, including Marina State Beach, the U.S. Navy Post-graduate School and Asilomar State Beach, it appears that they are able to live in restored dune habitats.

Although there may be short-term negative effects on black legless lizards from some restoration methods (e.g., the use of glyphosphate instead of hand harvest for *Carpobrotus edulis* removal), the Service is aware of no evidence that any such effects pose a significant threat to the species.

Fragmentation of existing black legless lizard habitat due to the construction of roads, golf courses, and other urban development was identified as a potential threat in the proposed rule (60 FR 39334). However, based on additional review and new information the Service no longer believes that habitat fragmentation poses a significant threat to the species in the foreseeable future. The common occurrence of legless lizards in residential neighborhoods, on agricultural and commercial properties, in and around the roughs adjacent to golf course fairways, and even under paved roadways suggests that this is not a significant threat. Although fragmentation may increase the vulnerability of smaller populations to local extirpation from random events, the large blocks of relatively unfragmented habitat that are already protected, or will likely be protected in the foreseeable future, are sufficient to buffer the effects of random events on larger populations. Therefore, the

overall impact of random events to the black legless lizard is unlikely to be significant.

The proposed rule also identified relatively low fecundity in the black legless lizard as a potential threat, because it implied a relatively long population recovery time and a heightened sensitivity to habitat degradation from off-road vehicles, trampling, and other disturbances (60 FR 39334). Because the black legless lizard is now known to occur in many areas protected from such disturbances, and in other areas that will likely be protected from such disturbances in the near future, relatively low fecundity, in and of itself, is not likely to pose a significant threat to the survival of the species.

In the proposed rule (60 FR 39334), the Service also identified strong storms and periodic extremely high tides as potential threats to the species. Because the black legless lizard is now known to occur in protected areas throughout its range, the Service now believes that the threat posed by such rare, random weather events is unlikely to be significant to the survival of the species. There are other random factors with the potential to affect small, isolated populations. There is, however, too little known about population size and how it fluctuates, population structure, and the dispersal capabilities of the black legless lizard to support more than speculation about the potential threat posed by random events on this species. The Service is not aware of any evidence suggesting that random events pose a significant degree of threat to the black legless lizard.

#### **Finding and Withdrawal**

The Service carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by the black legless lizard. The withdrawal is based primarily on the finding that the black legless lizard is now known to occur in a wider variety of habitats than previously thought and that a large proportion of the remaining habitat of the lizard is already protected from urbanization and commercial development on public lands (U.S. Army Corps of Engineers 1997; D. Pendergrass, *in litt.* 1997; M. Houlemard, *in litt.* 1997), and on the likelihood that widespread losses of habitat due to the invasion of exotic vegetation are unlikely to continue in the foreseeable future. Moreover, the current trend is toward restoration of coastal ecosystems, a trend that should increase the available habitat for the black legless lizard. In addition, because

of the existing protected habitat areas and other areas likely to receive some protection in the foreseeable future, potential threats from habitat fragmentation, relatively low fecundity, and extreme weather events cited in the proposed rule are now considered unlikely to pose significant threats to the survival of the species.

#### **References Cited**

A complete list of all references cited herein is available upon request from the Ventura Fish and Wildlife Office (see **ADDRESSES** section).

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#### **Authority**

The authority for this action is section 4(b)(6)(B)(ii) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Dated: July 29, 1998.

**Jamie Rappaport Clark,**

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