

A Multi-state Approach to Black-tailed Prairie Dog Conservation and Management in the United States

(invited paper)

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Introduction

The black-tailed prairie dog (*Cynomys ludovicianus*) is unusual among species proposed for Endangered Species Act (ESA) listing in that several million individuals currently exist across a large area in the wild. The National Wildlife Federation's 1998 listing petition estimated the current area occupied by the species at 283,500-324,000 ha. Although widespread, the species occurs mostly in remnant, highly segregated subpopulations with little genetic interchange and limited potential for long-term persistence.

A multi-state conservation effort begun in 1998 included the following elements:

- 1) formation of the Interstate Black-tailed Prairie Dog Conservation Team (Conservation Team) by eleven state wildlife agencies, with each designating a representative to attend planning meetings
- 2) signing of a Memorandum of Understanding (MOU) for a range-wide management approach by nine state wildlife agencies (two states declined to sign)
- 3) agreement to cooperate with the nine Native American tribes that form the Inter-Tribal Prairie Ecosystem Restoration Consortium
- 4) development of a Conservation Assessment and Strategy (Van Pelt 1999)
- 5) agreement on an implementation schedule that set dates for completing various stages of the process
- 6) formation within each state of a Working Group that includes all major stakeholders

The Assessment portion of the Conservation Assessment and Strategy (CA&S) used published data and range maps, and gray literature to delineate historic and current distribution. It also summarized the management status in each state and presented a risk assessment based on the five listing criteria the U.S. Fish and Wildlife Service (Service) must consider when evaluating a species proposed for threatened or endangered listing.

The Black-tailed Prairie Dog Working Group in each state includes all entities involved with prairie dog

management. Private landowners are well represented, either by individuals who own land with prairie dog populations or by umbrella organizations such as Stockgrowers and Cattlemen's Associations, Farm Bureau, and Woolgrowers. Energy development organizations, conservation organizations, hunting outfitters, sportsmen, Bureau of Land Management, U.S. Forest Service, and state chapters of The Wildlife Society are some of the other entities represented. Each working group will write a management plan tiered off of the CA&S. The nine Native American tribes expect to develop a management plan for each reservation.

Management plans will identify factors limiting the species and the approach each state will take in dealing with those factors. Target goals for occupied habitat will be set based on the Adaptive Management Process (Federal Register, Vol. 65, No. 247, Friday, December 22, 2000), which recognizes that agencies or tribes may need to modify management plans and goals to develop more effective management as new conditions evolve and new data become available. The objective of the management plan process will be to remove threats to the species and provide long-term management.

Historical Background

Historically the black-tailed prairie dog range extended from Canada to Mexico through the Great Plains states and west to southeastern Arizona (Foster and Hygnstrom 1990). The current range is similar to historic, but the number of occupied acres has been dramatically reduced over much of the former range (Hoogland 1996).

Black-tailed prairie dogs historically occupied the shortgrass, midgrass, Chihuahuan desert grasslands, Nebraska sandhills, and tallgrass prairie terrestrial ecoregions (Ricketts, et al. 1999). The historical range encompassed approximately 162,000 ha (Black-tailed Prairie Dog Conservation Team Internal Planning Document 2000), of which an estimated 40-100 million ha were occupied by prairie dogs at any one time

(Mulhern and Knowles 1995). Black-tailed prairie dog populations have been restricted to about 405,000 ha in the United States (Black-tailed Prairie Dog Conservation Team Internal Planning Document, 2000) and 20,250 ha in Mexico (Ceballos et al. 1993).

At least six federal agencies; and state wildlife departments, agriculture departments, departments of state lands, weed and pest districts, counties and private land-owners in 11 states manage prairie dogs either directly or indirectly. Prairie dog management goals and objectives vary among these entities, and management between states varies significantly. This variation can range from total protection of prairie dogs to a legal mandate to exterminate. Most states classified the prairie dog as a pest in 1998; a few classified it as wildlife, often with opposing management goals between state agencies. Federal policy regarding prairie dogs has been inconsistent over time and across geographic regions.

Knowles (1995) and Mulhern and Knowles (1995) summarized ownership of occupied black-tailed prairie dog habitat in the seven states that comprise the majority of occupied habitat. They found that 55 percent of the habitat was private and state-owned, 29 percent was on Native American reservations, and 16 percent was under federal management. Of the area under federal management, 6 percent was under BLM management, 6 percent was under Forest Service management, and 3 percent was under National Park Service, Fish and Wildlife Service or other federal agency management (Knowles 1995).

The best black-tailed prairie dog habitat is found on non-sandy, flat ground with less than 10 percent slope (Koford 1958, Krueger 1986). The bulk of prairie dog habitat in areas suitable for cultivated agriculture has already been converted and lost as prairie dog habitat (Mulhern and Knowles 1995).

Livestock owners have long perceived a conflict between prairie dogs and cattle and have traditionally poisoned prairie dog colonies on both private and public land (Merriam 1902). However, research by Koford (1958), Bonham and Lerwick (1976), Gold (1976), Hansen and Gold (1977), O'Melia et al. (1982), and Archer et al. (1987) suggests that prairie dogs, both historically and currently, have had beneficial or neutral effects on livestock forage. Hansen and Gold (1977) documented an overlap in diets of cattle and prairie dogs of only 4-7 percent. At this level of competition 300 prairie dogs consume as much forage as one cow and calf (Uresk and Paulson 1989). Several studies have shown that both domestic cattle and wild ungulates preferentially graze on prairie dog colonies (Knowles and Knowles 1994). Prairie dog colonies historically occupied only a small portion of the rangeland, however they may have increased productivity of the entire rangeland ecosystem.

Black-tailed prairie dogs are herbivores and feed on a variety of vegetation including grasses and forbs (Koford 1958), and to some extent seeds and insects (Foster and Hygnstrom 1990). They clip grasses and other vegetation close to the ground to allow for a greater range of vision. The burrowing action of prairie dogs enhances soil structure (White and Carlson 1984) and forb growth (Coppock et al. 1983) within the colony. The black-tailed prairie dog's significant influences on ecosystem function cause it to be considered keystone species of the prairie grasslands (Miller et al. 1996).

Prairie dog predators include coyote (*Canis latrans*), golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), and black-footed ferret (*Mustela nigripes*). Black-tailed prairie dogs are very susceptible to the introduced disease sylvatic plague, and it is one of the factors that limits colonies. Although probably not so historically, prairie dog populations now appear to be cyclic due to the presence of sylvatic plague. Dramatic die-offs severely reduce local populations and the recovery period can take up to 10 years (Knowles 1995).

Threats

The threats identified in the Service's 12-month finding for the black-tailed prairie dog were:

- 1) habitat loss over the range
- 2) over-utilization for recreational purposes (unregulated shooting)
- 3) the disease sylvatic plague
- 4) inadequate regulatory mechanisms (unregulated poisoning and pest status, unregulated shooting).

The Service, in its 12-month finding of February 3, 2000, determined that listing of the species was warranted but precluded by other priorities. The "warranted but precluded" finding will be reviewed annually. During the Candidate Assessment, the Service will evaluate whether biological conditions or other threats listed in the 12-month finding warrant issuing a new one.

Primary range-wide habitat concerns are conversion of prairie grassland to farmland, urbanization, and conversion of grassland and savanna to shrubs. Native grasslands have been reduced by 33-37 percent across the species' distribution, mostly as a result of conversion to croplands, but also in some areas through urban development. In the remaining rangelands, increased presence of shrubs has discourage prairie dog occupancy and reoccupation.

Even before human intervention, prairie dogs only occupied approximately 20 percent of available habitat in a constantly shifting mosaic (Miller et al. 1996). Prairie dog control programs and conversion of prairie habitats

to croplands, pasture and areas of human occupation have dramatically reduced and fragmented prairie dog habitat. As a result of past actions the species currently exists in isolated, disjunct, and relatively small islands of colonies of varying size that are vulnerable to extirpation from genetic inbreeding, plague, human development of the landscape, and stochastic events.

Dispersal and interchange, which would normally offset catastrophic losses, are now limited because distances between colonies are generally greater than maximum prairie dog dispersal distances. Prairie dogs are reasonably good dispersers over moderate distances of up to 8 km following roadways, trails, or drainages (Garrett and Franklin 1988 cited in Knowles and Knowles 1994). Habitat alterations between islands of remaining habitat often present impossible barriers to immigration that would repopulate extirpated colonies. These and other factors may interact to increase the probability of extinction more than would be the case if each factor operated independently (Wilcox and Murphy 1985).

Shooting may depress colony productivity and health, fragment populations, cause some loss of non-target species, and preclude or delay recovery of colonies reduced by other factors such as sylvatic plague. Recreational shooting can significantly impact colonies in areas where shooting is intense or persistent over an entire year.

Black-tailed-prairie dogs suffer almost 100 percent mortality when exposed to plague, and there is little evidence that they develop antibodies against or immunity to the disease (Tonie Rocke, personal communication 2000). Plague was first identified in the United States in a population of California ground squirrels in 1908. Since then, the disease has spread throughout the western states infecting at least 76 species of rodents, rabbits, hares, shrews, ungulates, and primates (Poland and Barnes 1979). Plague is primarily a disease of rodents, and its effect on the different rodent species varies. Sylvatic plague was first documented in black-tailed prairie dogs near Lubbock, Texas, in 1946-47 (Miles et al. 1952 cited in Cully 1989). The disease has subsequently infected populations throughout the species' range west of about the 103rd Meridian.

The black-tailed prairie dog was classified as a pest by all states within its historic range at the time the listing petition was filed in 1998. Some state statutes required eradication and all states permitted uncontrolled take (Van Pelt 1999). The major federal land management agencies, Bureau of Land Management and Forest Service, managed prairie dogs to meet multiple-use policy objectives, and generally allowed poisoning and shooting before listing was proposed.

Extensive poisoning throughout most of the black-tailed prairie dog's range from 1912 to 1972 sought to reduce competition between prairie dogs and domestic

livestock. This effort likely reduced the prairie dog occupied acreage from 20,250,000 ha to about 140,130 ha (Bureau of Sport Fisheries and Wildlife 1961 cited in U.S. Fish and Wildlife Service 1999). From the early 1900s through the late 1960s extensive eradication by landowners and state and federal agencies was funded largely with federal money.

Animal Plant Health Inspection Service (APHIS) and Environmental Protection Agency records indicate an annual average of 81,000 ha of prairie dog acreage are poisoned annually in the United States under the permitting authority of these agencies (Captive Breeding Specialist Group 1992, cited in Miller et al. 1996).

The Bureau of Land Management no longer allows control except in specific circumstances. The U.S. Forest Service currently restricts poisoning on National Grasslands.

Management Approach

The states of Arizona, Colorado, Kansas, Montana, Nebraska, North Dakota, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming are concerned with addressing the threats identified in the Service's 12-month finding to prevent advancement of the species from "warranted but precluded" to "threatened." To that end they are:

- 1) Cooperating to determine each state's contribution to a range-wide occupied acreage and distribution objective; and maintaining, at a minimum, the current black-tailed prairie dog population and distribution over 11 states. This approach is both fair and biologically defensible in that the mega-population will be less vulnerable to plague and stochastic factors if widely distributed.
- 2) Cooperating with the Inter-Tribal Consortium Coordinator and tribal land managers to develop occupied acreage goals.
- 3) Working on 11 individual statewide black-tailed prairie dog management plans.
- 4) Monitoring the poisoning program within each state. Ideally, this process will include annual reporting of acreage controlled and location so the impact on prairie dog acreage and distribution objectives can be measured, and if necessary, adjustment made to assure meeting the acreage objectives set forth in the Management Plan.
- 5) Working to allow the wildlife agencies to promulgate prairie dog shooting regulations and close the season if monitoring indicates the occupied acreage falls below objective. Hunter questionnaires could be used to collect harvest information.

- 6) Addressing fragmentation by: a) maintaining per state one or more complexes of at least 2,025 ha in size, b) maintaining at least 10% of the total occupied acreage in complexes more than 405 ha in size, c) maintaining or improving distribution (i.e. acreage by county), d) maintaining distribution of colonies and complexes such that corridors allow genetic interchange and re-colonization.
- 7) Providing incentives to private landowners critical to management success. The majority of the land that is currently occupied, and most of the land that is suitable habitat for black-tailed prairie dog expansion is in private ownership and used primarily for crop production and livestock forage. Incentives may include financial benefits, authority to control nuisance prairie dogs, and continued use of lands to generate income. Financial incentives are not included in state management plans and therefore require outside funding sources. Without this key element, it may be impossible to engage private landowners in conserving black-tailed prairie dogs.

Summary

The black-tailed prairie dog currently occurs over most of its historical range although at well below the historical occupied acreage and population level. The threats to the black-tailed prairie dog are real and significant, therefore adequate management is needed to ensure long-term survival of the species. Fortunately the black-tailed prairie dog is a very resilient species, has moderately high reproductive capability, and is able to reoccupy suitable habitat even after severe population declines, whether natural or man-caused. Therefore a pre-listing management effort has a high probability of success.

State wildlife agencies are well suited to manage this species to maintain viable populations and adequate distribution and effectively address the threats listed in the Service's 12-month finding. Because habitat, management approach, private landowner participation, and other factors differ among states, each of 11 state wildlife agencies will have its own black-tailed prairie dog management plan. However, the multi-state cooperative effort will ensure that management of the species and its habitat is consistent across the range in the U.S.. Effective implementation of a management plan in each state will prevent the need to manage a listed species at some point in the future.

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Enfoque Multi-estatal Para la Conservación y Manejo del Perro Llanero de Cola Negra en los Estados Unidos

(resumen)

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El perro llanero de cola negra (*Cynomys ludovicianus*) es singular entre las especies propuestas para el listado de la Ley de Especies en Peligro (Endangered Species Act - ESA) porque actualmente existen varios millones de individuos viviendo en zonas silvestres extensas. La petición de listado de *The National Wildlife Federation* de 1998 calculó el área actual ocupada por la especie en 283,500 a 324,000 hectáreas. Sin embargo, aunque está distribuida ampliamente, la especie habita en su mayor parte en subpoblaciones remanentes altamente segregadas, con poco intercambio genético y un potencial limitado de persistencia a largo plazo.

En 1998 se inició un esfuerzo de conservación multi-estatal que incluye los siguientes elementos:

1. Formación del Equip de conservación interestatal del perrito llanero de cola negra (*Interstate Black-tailed Prairie Dog Conservation Team*) por once instituciones estatales de vida silvestre, con un representante designado para asistir a las reuniones.
2. Firma de un acuerdo de entendimiento (MOU por sus siglas en inglés) para un manejo de amplio rango por nueve estados.
3. Acuerdo para cooperar con las nueve tribus Americanas Nativas que forman el Consorcio Intertribal para la Restauración de Ecosistemas de Pradera (*Inter-Tribal Prairie Ecosystem Restoration Consortium*).
4. Desarrollo de una Evaluación y Estrategia de Conservación (Conservation Assessment and Strategy) (Van Pelt 1999).
5. Acuerdo sobre la implementación de un programa que establece fechas para completar varias etapas del proceso.
6. Formación dentro de cada estado de un grupo de trabajo que incluya a la mayor parte de los propietarios de tierras.

El grupo de trabajo en cada estado reúne al sector privado, a organizaciones de energía, conservación, caza, a dependencias federales y a organizaciones no gubernamentales, entre otros. Cada grupo de trabajo redactará un plan de manejo en base al proceso de evaluación y estrategia de conservación.

Los planes de manejo identificarán los factores que limitan la especie y el enfoque que cada estado tomará para tratar con esos factores. Las metas a alcanzar en los hábitat ocupados se realizarán en base al Proceso de Manejo Adaptativo (Federal Register, Vol. 65, No. 247, Friday, December 22, 2000), el cual reconoce que las agencias o tribus pueden tener la posible necesidad de modificar planes y objetivos a medida que las condiciones evolucionen y se obtenga nueva información.

Antecedentes Historicos

Históricamente, el perrito llanero de cola negra habitaba desde Canadá hasta México, a través de las praderas Gryes y al oeste hasta el sudeste de Arizona (Foster y Hygnstrom 1990). El área actual es similar a la histórica, pero el número de acres ocupados se ha reducido dramáticamente (Hoogly 1996).

Los perritos llaneros de cola negra en años pasados ocuparon los pastizales altos y medianos de Chihuahua, los cerriles arenosos de Nebraska y las ecoregiones terrestres con praderas de altos pastos (Ricketts et al. 1999). Los datos históricos mencionan una superficie de 162,000 ha (Black-tailed Prairie Dog Conservation Team Internal Planning Document 2000), de las cuales 40 – 100 millones de ha fueron ocupadas por perritos llaneros en algún tiempo (Mulhern y Knowles 1995). Las poblaciones de perritos llaneros de cola negra han sido restringidas a cerca de 405,000 ha en los Estados Unidos (Black-tailed Prairie Dog Conservation Team Internal Planning Document 2000) y a 20,250 ha en México (Ceballos et al. 1993).

Muchas entidades federales, estatales, municipales y privadas manejan perritos llaneros directa o indirectamente. Los objetivos de manejo varían entre estas entidades, y el manejo entre los estados varía significativamente. Esta variación abarca desde una protección total del perro llanero, hasta un mandato legal de exterminio.

Knowles (1995) y Mulhern y Knowles (1995) resumieron el tipo de propiedad ocupado por el perro llanero

en siete estados y encontraron que el 55% del hábitat es ocupado por propiedades privadas y estatales, 29% se ubica en reservaciones de Nativos Americanos y 16% está bajo manejo federal. De las áreas bajo manejo federal, 6% pertenecen al BLM, 6% al Servicio Forestal (Forest Service) y el porcentaje restante está bajo el manejo del National Park Service, el Fish y Wildlife Service y otras agencias federales (Knowles 1995).

El mejor hábitat para el perro llanero de cola negra se encuentra en suelos no arenosos, planos con pendientes menores al 10% (Koford 1958, Krueger 1986). La mayor parte del hábitat del perro llanero ha sido convertido en áreas agrícolas (Mulhern y Knowles 1995).

Desde hace mucho tiempo, los ganaderos han percibido un conflicto entre el perro llanero y el ganado, y tradicionalmente han envenenado las colonias en tierras públicas y privadas (Merriam 1902). Sin embargo, las investigaciones de Koford (1958), Bonham y Lerwick (1976), Gold (1976), Hansen y Gold (1977), O'Melia et al. (1982), y Archer et al. (1987) sugieren que los perritos llaneros, tanto histórica como actualmente, tienen efectos benéficos o neutrales en el forraje del ganado. Hansen y Gold (1977), sostienen que existe un traslape de solo 4 – 7% en las dietas del ganado y los perritos llaneros. A este nivel de competencia, 300 perritos llaneros consumen una cantidad de forraje igual a una vaca con su cría (Uresk y Paulson 1989). Otros estudios muestran que tanto el ganado doméstico como los rumiantes salvajes prefieren pastar en las colonias (Knowles y Knowles 1994), lo cual podría aumentar la productividad del ecosistema al sumarse a la diversidad.

Los perritos llaneros de cola negra son herbívoros que se alimentan de zacates y hierbas (Koford 1958), y en ocasiones de insectos y semillas (Foster y Hygnstrom 1990). Ellos cortan el forraje hasta el suelo para permitir un mayor rango de visibilidad. La acción excavadora de los perritos llaneros mejora la estructura del suelo (White y Carlson 1984) y el crecimiento de hierbas (Coppock et al. 1983) dentro de la colonia. Las influencias significativas de los perritos llaneros de cola negra sobre el funcionamiento del ecosistema hacen que sean la especie clave en los pastizales de pradera (Miller et al. 1996).

Además de sus depredadores naturales, los perritos llaneros son muy susceptibles a la plaga silvática, que constituye uno de los factores que limita la persistencia y expansión de las colonias (Knowles 1995).

Amenazas

Las amenazas identificadas son:

1. Pérdida de hábitat.
2. Uso excesivo para propósitos recreativos (caza no regulada).

3. Plaga silvática.

4. Mecanismos reguladores inadecuados (envenenamiento y caza no regulada, denominación de plaga).

Las tres cuestiones principales en relación al hábitat son la conversión de pradera de pastizal a tierras de cultivo, urbanización, y conversión de pastizal y sabana a matorral. Estas cuestiones, aunadas a los programas de control de perritos llaneros han reducido y fragmentado dramáticamente el hábitat de los perros de las praderas. La dispersión y el intercambio son limitados porque las distancias entre colonias y complejos de colonias son mayores que las distancias de dispersión de la especie. Los perros de las praderas son buenos para dispersarse en distancias de hasta 8 km a lo largo de caminos, veredas y drenajes (Garrett y Franklin 1988, citado en Knowles y Knowles 1994). Las alteraciones del hábitat entre islas presentan barreras que imposibilitan la inmigración para repoblar colonias extirpadas. Estos y otros factores pueden interactuar para incrementar la probabilidad de extinción que no sucedería si cada factor operara en forma independiente (Wilcox y Murphy 1985).

La plaga silvática, otro factor de reducción importante, afecta principalmente a los roedores, y su efecto en diferentes especies varía. Los perritos llaneros sufren casi 100% de mortalidad al exponerse a la enfermedad y existe poca evidencia de que ellos desarrollan anticuerpos o algún tipo de inmunidad contra esa enfermedad (Tonie Roche, comunicación personal 2000). La plaga fue identificada por vez primera en ardillas en el estado de California en 1908. Desde entonces, se ha dispersado por todos los estados del occidente donde infectó al menos 76 especies de roedores, rumiantes y primates (Poly y Barnes 1979). En perritos llaneros de cola negra fue primeramente documentada en Texas en los años de 1946 – 47 (Miles et al. 1952 citado en Cully 1989).

En 1998, el perro llanero de cola negra fue clasificado como una plaga en todos los estados dentro del hábitat histórico. Algunos estados en sus estatutos requirieron su erradicación y todos los estados en conjunto permitieron su caza incontrolada (Van Pelt 1999). De 1912 al 72 se llevó a cabo un envenenamiento extensivo para reducir la competencia entre el perro llanero y el ganado. Este esfuerzo redujo la superficie ocupada por el perro llanero de 20, 250, 000 ha a 140,130 ha (Bureau of Sport Fisheries y Wildlife 1961 cited in U.S. Fish y Wildlife Service 1999).

Los datos del Servicio de Inspección de Salud de Animales y Plantas (*Animal Plant Health Inspection Service*) y la Agencia de Protección Ambiental (*Environmental Protection Agency*) indican que un promedio de 81,000 ha de perritos llaneros son envenenados anualmente en los Estados Unidos bajo consentimiento oficial de esas instituciones (Captive Breeding Specialist Group 1992, citado en Miller et al. 1996).

Propuesta de Manejo

Los estados de Arizona, Colorado, Kansas, Montana, Nebraska, Dakota del Norte, Nuevo México, Oklahoma, Dakota del Sur, Texas y Wyoming están conscientes de la situación y están haciendo lo posible por situar a la especie en categoría de “amenazada”, para lo cual ellos están:

1. Cooperando para determinar la contribución de cada estado y manteniendo, al mínimo, la población y distribución de perritos llaneros de cola negra en 11 estados.
2. Cooperando con el Consorcio Intertribal para la Restauración de Ecosistemas de Pradera y los manejadores de tierras tribales para desarrollar metas en superficies ocupadas.
3. Trabajando con 11 planes de manejo estatales de perritos llaneros de cola negra.
4. Monitoreando el programa de envenenamiento dentro de cada estado.
5. Trabajando para permitir a las agencias de vida silvestre la promulgación de regulaciones para la caza de perritos llaneros de cola negra y cerrar la temporada de caza si el monitoreo indica que la superficie ocupada cae por debajo del objetivo.
6. Tratando la fragmentación mediante: a) el mantenimiento por estado de uno o más complejos de al menos 2,025 ha, b) el mantenimiento de al menos 10% de la superficie total ocupada en complejos mayores a 405 ha, c) el mantenimiento de la distribución (i.e. hectareaje por condado) y d) el mantenimiento de la distribución de las colonias y complejos de tal forma que los corredores permitan el intercambio genético y la recolonización.
7. Proporcionando incentivos a los propietarios de terrenos en situación crítica para obtener éxito en el manejo.

Resumen

Las amenazas al perro llanero de cola negra son reales y significativas. Se debe desarrollar un manejo adecuado para asegurar la supervivencia de la especie a largo plazo. Afortunadamente es una especie muy resistente, tiene una capacidad reproductiva moderadamente alta, y es capaz de recuperar su hábitat aún después de una disminución severa de la población. Por esta razón, un esfuerzo de manejo antes de incluir a la especie en el listado tiene altas probabilidades de éxito.

Puesto que el hábitat, el enfoque de manejo, la participación de terratenientes privados y otros factores difieren

entre los estados, cada una de las agencias de protección a la fauna tendrán un plan específico para cada estado. Sin embargo, el esfuerzo cooperativo multi-estatal asegurará que el manejo de la especie y de su hábitat sea consistente a lo largo de los Estados Unidos.

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