United States Department of the Interior

FISH AND WILDLIFE SERVICE
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SUMMARY
FINAL CONFERENCE OPINION ON THE EFFECTS TO THE SACRAMENTO MOUNTAINS CHECKERSPOT BUTTERFLY FROM THE PROPOSAL FOR THE VILLAGE OF CLOUDCROFT WATER WELLS AND PIPELINES, SACRAMENTO RANGER DISTRICT, LINCOLN NATIONAL FOREST, NEW MEXICO

Cons. #2-22-04-F-721

Date of the final opinion: September 21, 2004

Action agency: Sacramento Ranger District, Lincoln National Forest

Project: The project concerns the proposal for the Village of Cloudcroft to drill two water wells and, if water is found, construct two pipelines and wellheads. The first proposed location is just west of the Apache Gravel Pit, whereas the second is near Highway 82 where the powerline extends from the scout camp. Both locations are on the Sacramento Ranger District, Lincoln National Forest, New Mexico. Construction will include installing an 8 by 8 foot cement pad surrounded by a 24 by 24 foot graveled area, a heated house, and pipelines. There will also be a 20-foot buffer around the described area of work for any construction activities that may take place while installing the cement or gravel pads, heated house, or the pipeline. The proposed project will impact approximately 3 acres of occupied and proposed critical habitat.

Proposed species affected: Sacramento Mountains checkerspot butterfly (*Euphydryas anicia cloudcrofti*) and its proposed critical habitat.

Conference opinion: Non-jeopardy; no destruction or adverse modification of proposed critical habitat.

Incidental take statement: We anticipate that less than 3 acres of occupied checkerspot butterfly habitat will be taken within the footprint of the proposed action. An unknown number of Sacramento Mountains checkerspot butterflies are expected to be taken as a result of this project. Implementation of reasonable and prudent measure and terms and conditions is discretionary unless the species becomes listed.

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September 21, 2004

Cons. #2-22-04-F-721

Jose M. Martinez, Forest Supervisor
Lincoln National Forest
Federal Building
1101 New York Avenue
Alamogordo, New Mexico 88310-6992

Dear Mr. Martinez:

This letter responds to your September 20, 2004, biological assessment (BA) that we received on the same day. You requesting initiation of formal conferencing under the Endangered Species Act of 1973, as amended (Act). The request concerns the proposal to issue a special use permit for the Village of Cloudcroft water wells and possibly pipeline and associated infrastructure on the Sacramento Ranger District, Lincoln National Forest, New Mexico. The Biological Assessment (BA) evaluates the potential impacts of this project on the proposed endangered Sacramento Mountains checkerspot butterfly (*Euphydryas anicia cloudcrofti*) (checkerspot butterfly) and its proposed critical habitat. You have determined that the proposed action "may affect, is likely to adversely affect" the checkerspot butterfly and its proposed critical habitat and requested formal conferencing. Therefore, this document represents our conference opinion the effects of the proposed project on the proposed checkerspot butterfly and its proposed critical habitat in accordance with section 7 of the Act.

This conference opinion is based on information provided in the BA; email and telephone conversations between our staffs; data presented in the proposed rule to list the checkerspot butterfly as endangered with critical habitat (66 FR 46575); data in our files; Forest Service (FS) checkerspot butterfly data from survey reports; literature review; and other sources of information. References cited in this conference opinion are not a complete bibliography of all literature available on the checkerspot butterfly, the proposed action and its effects, or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office.

Consultation History

Formal conferencing began for this project began on September 20, 2004, when we spoke to Danney Salas about the proposal to issue a special use permit to the Village of Cloudcroft to drill

exploratory wells in these locations. Your staff informed us that the Village of Cloudcroft had requested a special use permit to drill and possibly develop the wells and associated infrastructure. Your staff indicated that you would be requesting formal conferencing, and we discussed the project and any concerns with potential adverse impacts of the proposal on the proposed checkerspot butterfly and its proposed critical habitat. On September 20, 2004, you submitted the BA with request for formal conferencing.

CONFERENCE OPINION

It is our conference opinion that the implementation of the proposal for the Village of Cloudcroft water wells and associated infrastructure on the Sacramento Ranger District, Lincoln National Forest, New Mexico, as addressed in this document, is not likely to jeopardize the continued existence of the proposed checkerspot butterfly or destroy or adversely modify its proposed critical habitat.

DESCRIPTION OF THE PROPOSED ACTION

The Village of Cloudcroft is proposing to drill two wells. The purpose of this project is to create a permanent source of water for the Village and supplement existing sources that are not adequate for current and future water needs. One is located just west of the Apache Gravel Pit (Apache Well), whereas the second is located near Highway 82 where the powerline extends from the scout camp (Powerline Well). The proposed project locations are T15S R13E Section 31 and T16S R13 Section 4. If water is found, new wellheads will be constructed and are to be raised approximately 2 feet on an 8 by 8 foot cement pad. The wellheads will be situated in the middle of a 24 by 24 foot gravel pad. The Village is also proposing a 20' buffer around the described area of work for any construction activities that may take place while installing the gravel pad, drilling, or other associated activities. If water is located a temporary pipeline will be laid along the gravel pit access road and highway 82 to the existing Village waterlines. Long-term improvements would also require a utility pole and a buried waterline on the gravel pit location. The highway 82 location would use the existing road access and only require a short pipeline. Additionally, both water wells would need a small building for pump protection.

The BA indicates that, as part of the proposed action, the following conservation measure will be implemented:

1. The Village of Cloudcroft will attempt to restore the area surrounding the construction site to pre-disturbance conditions.

STATUS OF THE SPECIES (range-wide)

The checkerspot butterfly is a member of the brush-footed butterfly family

(Nymphalidae). The adults have a wingspan of approximately 2 inches and are checkered with dark brown, red, orange, white, and black spots and lines. The taxon was described in 1980 based on 162 adult specimens (Ferris and Holland 1980).
The checkerspot butterfly inhabits meadows within the mixed-conifer forest (Lower Canadian Zone) at an elevation between 8,000 and 9,000 ft in the vicinity of the Village of Cloudcroft, Otero County, New Mexico. The adult checkerspot butterfly is often found in association with the larval food plants New Mexico penstemon and valerian, and adult nectar sources such as sneezeweed. New Mexico penstemon is a narrow endemic species (Sivinski and Knight 1996), restricted to the Sacramento Mountains of south-central New Mexico. Other plants that have been documented in checkerspot butterfly habitat include: arrowleaf groundsel (*Senecia triangularis*), curly-cup gumplant (*Grindelia squarrosa*), figworts (*Scrophularia* sp.), penstemon (*Penstemon* sp.), skyrocket (*Ipomopsis aggregata*), milkweed (*Asclepias* sp.), Arizona rose (*Rosa woodsii*), and Wheeler's wallflower (*Erysimum capitatum*) (USDA Forest Service 1999d).

Adult checkerspot butterflies apparently lay their eggs on New Mexico penstemon and also use Valerian, the known larval host plants. After hatching, larvae feed on host plants and, during the 4th or 5th instar (the period between molts in the larval stage of the checkerspot butterfly), enter an obligatory and extended diapause (maintaining a state of extended inactivity), generally as the food plants die back in the fall from freezing. Some larvae may remain in diapause for more than one year, depending on environmental conditions. During diapause, larvae probably remain in leaf or grass litter near the base of shrubs, under the bark of conifers, or in the loose soils associated with pocket gopher (*Thomomys bottae*) mounds (Moore 1989, T. Narahashi, Lincoln National Forest, pers. comm. 1999). Once larvae break diapause, they feed and grow through three or four more instars before pupating (entering the inactive stage within a chrysalis) and emerging as adults. Diapause is generally broken in late spring (March-April) and adults emerge in mid-summer (June-July).

The extent of the historical range of the checkerspot butterfly is not known due to limited information collected on this subspecies prior to its description (Ferris and Holland 1980). However, based upon the location of its meadow habitat, the general trend of commercial and private development in suitable habitat, and the encroachment of conifers into suitable habitat due to fire suppression on public and private lands, it is likely that the species once occupied a more extensive, but still limited area.

Based on data gathered by the Forest Service, the subspecies has been documented at 15 general localities (i.e., the geographic extent of occupied areas were not delimited and discrete populations were not identified) (USDA Forest Service 1999a, 1999b, 1999c, 2000a, 2000b, 2002, 2002a; Blue Earth Ecological Consultants 2003). The known range of the checkerspot butterfly is delimited on the north by the Mescalero Apache Nation lands, on the west by Bailey Canyon at the mouth of Mexican Canyon, on the east by Spud Patch Canyon, and on the south by Cox Canyon (USDA Forest Service 2000a,

2000b). The potential range of the checkerspot butterfly to the east and west is likely restricted because the non-forested areas are below 8,000 ft in elevation and the majority of checkerspot butterflies have been consistently documented at higher elevations (USDA Forest Service 1999a 1999b, 1999c, 2000a, 2000b, 2002, 2002a).

Checkerspot butterflies have a patchy distribution throughout the Sacramento Ranger District. Approximately 50 percent of all lands that might support the checkerspot butterfly are in non-Federal (i.e., private) ownership, subject to ongoing and future development activities. The Forest Service has estimated there are about 5,198 ac of potential habitat, composed of 2,553 and 2,645 ac on private and Forest Service lands, respectively (USDA Forest Service 1999b).
Based on available information on topography, soils, and vegetation, it is likely that the distribution of the checkerspot butterfly was more extensive and continuous prior to the increase in commercial and private development, construction of roads, overgrazed range conditions, and the encroachment of conifers and subsequent decrease in the amount of non-forested lands. The isolated localities and limited geographic range of the checkerspot butterfly indicate that the species is particularly vulnerable to large-scale perturbations (disturbances that impact the habitat and host plants associated with the species), which could lead to extinction (Ehrlich et al. 1972; Thomas et al. 1996).

The threats that have been identified for the checkerspot butterfly are commercial and private development, Forest Service activities, fire suppression and wildfire, highway and forest road reconstruction, recreational impacts, domestic livestock grazing, nonnative vegetation, and insect control (USDI Fish and Wildlife Service 2001a; 66 FR 46575).

Commercial and private development is a significant threat to the checkerspot butterfly. Habitat conversion activities from commercial and private development have likely reduced many historic checkerspot butterfly localities. Approximately 50 percent of all lands that might support the checkerspot butterfly are in private ownership, and may be subject to ongoing and future development activities. Much of these private lands are currently being developed for residential or commercial uses (USDA Forest Service 1986; Forest Service 1997; Holland 2001). Within the known range of the checkerspot butterfly, there are two golf courses, at least 12 private developments, the Village of Cloudcroft, schools, several recreational parks, a ski area, and a network of paved, gravel, or dirt roadways.

The construction of homes, businesses, and associated infrastructure in the habitat of the checkerspot butterfly could directly affect the species through mortality or result in indirect effects, such as the introduction of nonnative plants and animals or loss of movement corridors (Holland 2001). Ground disturbance and vegetation clearing for commercial or private development can disturb soils, remove or eliminate diapause sites (i.e., leaf litter and grasses) and larval or adult food plants, and kill or injure individuals (Wilcox and Murphy 1985; Murphy and Weiss 1988).

We are aware of Forest Service projects proposed within the known range of the checkerspot butterfly that have the potential to affect the species. Recent or future projects include: (1) a capital improvement project for three campgrounds; (2) a new power line, service road, and corridor; (3) livestock grazing activities in several allotments; (4) a land transfer to the Village of Cloudcroft (USDA Forest Service 1999a, 1999b, 1999d, 2000a; Service 1999, 2001a); (5) Otero Electrical Cooperative 10-year Powerline Maintenance activities; and (6) Sacramento Ranger District Road Maintenance activities.

The Forest Service has eliminated some proposed projects (e.g., the construction of new administrative building) in habitat used by the checkerspot butterfly. They have also taken some actions to protect and manage the checkerspot butterfly, including instituting a checkerspot butterfly closure order, fencing a portion of one checkerspot butterfly locality, conducting checkerspot butterfly surveys to determine range and occupancy (USDA Forest Service 1999a, 1999b, 1999e, 2000a, 2000b, 2002, 2002a), and funding checkerspot butterfly studies (USDA Forest Service 2002b; Blue Earth Ecological Consultants 2003). These actions have been beneficial, especially for increasing our knowledge of this species. However, other multiple use priorities on Forest Service lands, such as range management, powerline and road maintenance, or capital improvement projects, have the potential to impact this species.

The results of 100 years of fire suppression in the Sacramento Ranger District currently threatens the checkerspot butterfly. Fire exclusion and suppression have reduced the size of grasslands and meadows by allowing the encroachment of conifers, and these trends are projected to continue (USDA Forest Service 1995, 1999e). The natural fire regime historically maintained non-forested openings and meadows. Prior to 1900, the mean natural fire interval for forests in the Sacramento Mountains was about 4 to 5 years (Kaufmann et al. 1998). These frequent, low-intensity, surface fires historically maintained a forest that was more open (i.e., more non-forested patches of different sizes, more large, older trees, and fewer dense thickets of evergreen saplings) than it is currently (Kaufmann et al. 1998). Such low-intensity fires are now a rare event. In the next few years, the Sacramento Ranger District may have a catastrophic burn that eliminates some or all of the remaining checkerspot butterfly habitat. This risk of catastrophic wildfire is one of the most significant threats facing this species and projects resulting from increased fire risk funding will need to be implemented before significant risk reduction for the checkerspot butterfly is achieved (USDI Fish and Wildlife Service 2001a; 66 FR 46575).

The reconstruction of forest roads is a threat to the checkerspot butterfly, causing elimination of larval food and adult host plants, crushing of butterflies, and increasing the amount of soil erosion or dust. Because roads are usually sited in open non-forested areas, larval food and adult nectar plants are frequently found in large concentrations along roadways. These areas can similarly contain aggregations of pre- and post-diapause larvae, because bare soils provide sites for thermoregulation (maintenance of a

constant internal body temperature regardless of environmental temperature) (Porter 1982). Therefore, activities that disturb suitable habitat adjacent to roadways can impact very high quality sites, important for the development of various life history stages (e.g., pre-diapause instar development). Construction of roadways has historically eliminated or reduced the quality or quantity of checkerspot butterfly habitat (Pittenger 1999; USDI Fish and Wildlife Service 2001a; 66 FR 46575).

The New Mexico State Highway and Transportation Department (NMSHTD) recently improved portions of an approximately 2 mi long stretch of State Highway 130 between the Village of Cloudcroft and the intersection of SH 130 and Sunspot Road (Metric Corporation 1996; Steve Reed, NMSHTD, pers. comm. 1999). The project cleared all vegetation by scraping and widening the road and shoulders, constructing retaining walls, adding drainage ditches and culverts, and reconstructing a curve. In 1998 and 1999, checkerspot butterflies were located within the construction footprint (USDA Forest Service 1999a, 1999b; 1999c); however, none were observed during surveys in 2000 and 2001 (E. Hein, U.S. Fish and Wildlife Service pers. obs.). Some topsoil and larval food plants were stockpiled and used in the revegetation when the project was completed. This revegetation effort was not successful, and no butterflies have been observed within the footprint since 1999 (John Pittenger, Blue Earth Ecological Consultants, pers. comm., 2003).

PROPOSED CRITICAL HABITAT

The primary constituent elements of critical habitat for the checkerspot butterfly include those habitat components providing for breeding, ovipositing (egg laying), diapausing, roosting or resting, or foraging areas and are described below. The proposed critical habitat designation includes the area found within an approximate 54 mi^2 polygon centered around the Village of Cloudcroft, Otero County, New Mexico. The primary constituent elements are: 1) elevation between 8,000 and 9,000 ft within the mixed-conifer forest (Lower Canadian Zone) and within an approximate 54 mi2 polygon centered around the Village of Cloudcroft, Otero County, New Mexico, south of the Mescalero Apache Nation boundary; 2) drainages, meadows, or grasslands; 3) supporting the known food plants New Mexico penstemon, sneezeweed, or valerian; 4) less than 5 percent canopy cover; and 5) composed of plants such as arrowleaf groundsel, curly-cup gumplant, figworts, penstemon, skyrocket, milkweed, Arizona rose, or Wheeler's wallflower. Areas adjacent to or linking areas that have some or all of the above elements and are sufficient to provide for dispersal between areas of checkerspot butterfly habitat are necessary for the conservation of the species and thus are proposed as critical habitat. Habitat that provides for dispersal may not support all of the other primary constituent elements.

ENVIRONMENTAL BASELINE

Under section 7(a)(2) of the Act, when considering the effects of the action on federally listed species, we are required to take into consideration the environmental baseline. Regulations implementing the Act (50 CFR 402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal actions in the action area that have undergone section 7 consultation, and the impacts of State and private actions that are contemporaneous with the consultation in progress. The environmental baseline defines the current status of the species and its habitat in the action area to provide a platform to assess the effects of the action now under consultation.

To date, five projects have undergone formal conferencing for the proposed checkerspot butterfly and its proposed critical habitat. The projects with anticipated take include: 1) Cloudcroft Water Wells (2-22-02-F-012; 3.7 acres of occupied habitat); 2) Genetics Study (2-22-02-F-667; 100 pre-diapause larvae harmed); 3) Mark-release movements study (2-22-02-F-470; 15 adult butterflies harmed, unlimited number harassed); 4) Rio Peñasco II vegetation management project (2-22-02-F-397; 36.4 acres of occupied habitat); and 5) Pines Campground Reconstruction project (2-22-03-F-0061; 10.5 acres of occupied habitat).

Past and present Federal, State, private, and other human activities that may affect the checkerspot butterfly include: commercial and private development, recreational activities; development of recreation sites (campgrounds); issuance of rights-of-way; livestock grazing; vegetation manipulations (such as prescribed burns), and road construction and maintenance activities (e.g., Consultation numbers: 2-22-96-F-456; 2-22-98-I-248; 2-22-01-I-379). In addition, forest management activities on other adjacent lands, several residential development projects throughout the area, and fire suppression affect the environmental baseline. Further, the risk of habitat loss due to catastrophic wildfire is extremely high within the Sacramento Ranger District.

STATUS OF THE SPECIES (within the Action Area)

The proposed action is located in an area currently managed by the FS and non-Federal entities. Various facilities and land uses (e.g., the Village of Cloudcroft, state highway 82, campgrounds) already exist in the area. The proposed development of the water wells will likely provide an additional source of water to supplement current and future needs for the Village of Cloudcroft and may support the growth of commercial or private development.

Surveys for eggs and larvae were conducted in August and September of 2004 and both eggs and pre-diapause larvae were found adjacent to proposed well locations, but not within the well locations. Both areas also contain proposed critical habitat (e.g., there are larval food plants very near or within the proposed project area). Much of these areas have been surveyed previously and documented the presence and successful reproduction

of the checkerspot butterfly within adjacent meadows (FS 1999a 1999d, 2000a, 2000d, 2002).

EFFECTS OF THE ACTION

Our primary tasks in developing a conference opinion are to determine whether the proposed action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10). The jeopardy/non-jeopardy determination is based on an evaluation of: 1) a species' status in the project area and range wide (see above sections); 2) the effects of the proposed action on the survival and recovery of a listed species (including effects of interdependent and interrelated actions); 3) the aggregate effects of other Federal actions on a listed species (e.g., amount of take occurring as a result of Federal actions subject to previous consultations); and 4) the cumulative effects on a listed species (i.e., future non-Federal actions that are reasonably certain to occur in the action area).

The drill site for the Apache wellhead is not within suitable checkerspot butterfly habitat. However, suitable habitat is found on three sides of the project site within 50 feet. The Powerline Well, access road, and temporary pipeline would be within suitable checkerspot butterfly habitat. These areas were previously surveyed for the checkerspot butterfly and proposed critical habitat as part of the Penasco project. As detailed above, recent surveys located both eggs and pre-diapause larvae in areas adjacent to the proposed well locations. The project areas also contain proposed critical habitat. We estimate that the proposed project will impact less than 3 acres of the habitat that is occupied by the checkerspot butterfly and is also proposed as critical habitat. For this conference we have defined the action area to include the habitat within the immediate project areas including a 20-foot buffer around all construction on Forest Service and non-Federal (i.e., private) lands.

Implementation of the proposed project will result in direct impacts to the habitat immediately surrounding the wells, including the indirect effects within a 20-foot buffer, from the construction of cement pads surrounding graveled areas, other associated impacts. These impacts will result in the loss of larval food plants New Mexico penstemon (*Penstemon neomexicana*) and valerian (*Valeriana edulis*) and the adult nectar source orange sneezeweed (*Helenium hoopesii*). Additionally, we believe that some individual checkerspot butterflies (mostly likely larvae) will be taken in the course of this project.

Checkerspot butterfly eggs and larvae have recently been observed in these areas. There are also known hostplants observed throughout the project areas. Hostplants are also known throughout the action area. We expect that the impacts to the species from this proposed action will be related to the disturbance of habitat by construction activities. These actions will result in the loss of less than 3 acres occupied habitat, the elimination of some larval food and adult host plants, and the crushing of various life history stages

of the checkerspot butterfly. For example, these areas may contain pre- and post-diapause larvae, because checkerspot butterfly larvae thermoregulate (maintenance of a constant internal body temperature regardless of environmental temperature) on patches of open soils (Porter 1982). Consequently, the proposed action related to permanent habitat altering activities will likely result in the take of an unknown number of checkerspot butterflies.

The construction of the some facilities will also result in temporary habitat alternation (e.g., blading roads, installing water lines, etc). Through these activities it is expected that an unknown number of checkerspot butterflies (e.g., eggs, larvae) will also be taken activities that result in crushing of individuals. Nevertheless, the Village of Cloudcroft has indicated that they will attempt to revegetate the area following construction. Moreover, we expect that the checkerspot butterfly's host plants may naturally recolonize these areas in the years following the project.

Because the checkerspot butterfly has a life history pattern similar to other butterflies in the genus *Euphydryas* that exist as metapopulations, it is likely that this checkerspot butterfly has a metapopulation structure (Murphy and Weiss 1988; Harrison 1989; Hanski and Gilpin 1991; Blue Earth Ecological Consultants 2003). A metapopulation is a set of local populations within an area, where typically migration from one local population to other areas containing suitable habitat is possible, but not routine. Movement between areas containing suitable habitat (i.e., dispersal) is restricted due to inhospitable conditions around and between areas of suitable habitat. A metapopulation's persistence depends on the combined dynamics of these local extinctions and the subsequent recolonization of these areas by dispersal (Hanski 1999, Hanski and Gilpin 1991).
Habitat altering activities have likely eliminated or interrupted dispersal of butterflies between suitable habitat patches and thus affected the metapopulation dynamics of the checkerspot butterfly. Although impacts of habitat-altering projects may have the potential to fragment the population between occupied areas, we do not believe that this proposed action will result in the severe disruption of the metapopulation dynamics or the local checkerspot butterfly population. We believe this is a reasonable conclusion because the impacts will be relatively minor and the local checkerspot butterfly population dynamics should remain intact. Furthermore, the areas proposed to be impacted are less than 1 percent of the suitable checkerspot butterfly habitat on Forest Service lands (66 FR 46575). Moreover, the Forest Service has included a conservation measure to ensure that impacts to the habitat are minimized to the extent feasible. The majority of construction-related activities will result in temporary impacts to habitat (e.g., pipeline installation). The impacted habitat along the pipeline will be restored immediately following installation, resulting in impacts to the habitat for no more than one or two growing seasons.

We also must consider indirect effects and the effects of interdependent and interrelated actions of this project to the checkerspot butterfly. Indirect effects are those that are

caused by, or result from, the proposed action, and are later in time, but are reasonably certain to occur. Interrelated actions are actions that are part of a larger action, and are dependent on the larger action for their justification. Interdependent actions are actions that have no independent utility apart from the action under consideration. The use of access roads, field crews and vehicles in the project areas, operation and maintenance of the constructed structures and pipeline, and emergency repairs are considered interrelated and interdependent with the implementation of the current project. Affects of the project from indirect impacts and interdependent and interrelated actions should not be any greater than those described above, since the construction will occur within the construction footprint and field crews and vehicles will likely stay on developed roads (e.g., Highway 82). Operations and maintenance on the pipelines will likely not involve habitat altering activities over the entire project area, since the pipelines will be buried, which will further avoid or minimize permanent impacts to the habitat over the majority of the project area. Consequently, these affects are not expected to be significant.

Critical Habitat

This project areas contain the primary constituent elements of proposed critical habitat for the checkerspot butterfly. The construction of the project will impact those checkerspot butterfly habitat components that provide for breeding, ovipositing (egg laying), diapausing, roosting or resting, and foraging. For example, one of the primary constituent elements that is composed of food plants for the checkerspot butterfly (i.e., New Mexico penstemon, sneezeweed, and valerian) occur within the action area and will be adversely affected by the project. Additionally, other plants that compose a primary constituent element occur or likely occur within the action area and will also be affected include arrowleaf groundsel, curly-cup gumplant, figworts, penstemon, skyrocket, milkweed, Arizona rose, or Wheeler's wallflower.

The proposed construction activities, including the construction of infrastructure immediately surrounding the wells, will result in impacts to approximately 3 acres of proposed critical habitat. These impacts, when added to the environmental baseline, will not appreciably diminish the capability of the proposed critical habitat to satisfy the essential requirements of the checkerspot butterfly. To ensure that the majority of impacts to proposed critical habitat are short-term, the Forest Service has included a conservation measure to restore the habitat to pre-construction conditions. Because the surrounding proposed critical habitat will remain intact, we do not anticipate that the impacts from this project will result in significant adverse affects to proposed critical habitat.

We have also considered the indirect effects and the effects of interdependent and interrelated actions of this project on the proposed critical habitat of the checkerspot butterfly. The use of access roads, field crews and vehicles in the project areas, operation and maintenance of the constructed structures and pipelines, and emergency repairs are considered interrelated and interdependent with the implementation of the current project.

Impacts from indirect affects and the interdependent and interrelated actions of this project should not be any greater than the direct impacts to proposed critical habitat, since the construction footprint and field crews and vehicles will likely stay on developed roads (i.e., Highway 82). Operations and maintenance of the pipelines will likely not involve habitat altering activities over the entire project area, because the pipeline will be buried. Therefore, we conclude that the affects of interdependent and interrelated actions and indirect impacts will not result in additional permanent impacts and will not result in the destruction or adverse modification of proposed critical habitat.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local, or private actions on endangered or threatened species or critical habitat that are reasonably certain to occur in the foreseeable future in the action area considered in this biological and conference opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. Cumulative effects analysis as stated here applies to section 7 of the Act and should not be confused with the broader use of this term in the National Environmental Policy Act or other environmental laws.

The action area is located near the Village of Cloudcroft, New Mexico. It is surrounded by mostly National Forest land and private inholdings (e.g., subdivisions), existing infrastructure (e.g., powerlines), private campgrounds, subdivisions, and small communities and surrounding areas, where activities occur either seasonally or year-round. Many roads and public highways that are adjacent to and located within the action area and are used throughout the year, but especially during the checkerspot butterfly's active season. Consequently, the checkerspot butterfly population in this area is subjected to a variety of other impacts including trampling, road maintenance, and vegetation management (e.g., mowing). These activities have the potential to reduce the quality and quantity of occupied, unoccupied, and proposed critical habitat of the checkerspot butterfly, cause adverse affects to checkerspot butterflies, and contribute as cumulative effects to the proposed action.

There has been a recent increase in commercial or private development projects on non-Federal lands. In addition, future actions on non-Federal lands adjacent to the Forest Service lands that are reasonably expected to occur include grazing, road construction, vegetation management (e.g., mowing or herbicide treatments), fuels management, fire suppression activities, and other associated actions. The major concern in assessing cumulative impacts is the further loss of currently occupied and unoccupied habitat or proposed critical habitat that contributes to a functioning metapopulation, including those areas necessary to provide connectivity between populations. We believe that the continuing rate of habitat loss has the potential in the future, to disrupt the metapopulation dynamics of this species.

CONCLUSION

After reviewing the current status of the checkerspot butterfly, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's conference opinion that the action, as proposed, is not likely to jeopardize the continued existence of the proposed Sacramento Mountains checkerspot butterfly and is not likely to destroy or adversely modify proposed critical habitat.

We reached this conclusion for the following reasons: 1) the relatively low level of take of butterflies; 2) the minor effects to the checkerspot butterfly and its proposed critical habitat from the construction-related impacts; and 3) the implementation of the conservation measure to further minimize impacts or avoid take.

INCIDENTAL TAKE

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or attempting to engage in any such conduct. Harass is further defined by us as intentional or negligent actions that creates the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Harm is further defined by us to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of the agency action is not considered a prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The prohibitions against taking the species found in section 9 of the Act do not apply until the species is listed. However, the Service advises the Forest Service to consider implementing the following reasonable and prudent measures. If this conference opinion is adopted as a biological opinion following a listing or designation of critical habitat, these measures, with their implementing terms and conditions, will be non-discretionary. The Forest Service has discretion to regulate the activity that is covered by this incidental take statement. If the species is listed and the Forest Service: 1) fails to require that permittee adheres to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit, grant, or contract document, and/or 2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, we recommend that the Forest Service report the progress of the action and its impact on the species to the Service as specified in the incidental take statement.

Amount or extent of take

Based on the best available information concerning the checkerspot butterfly, the habitat needs of this species, the project description, and information furnished by the Forest Service, take is considered likely for the checkerspot butterfly. Nevertheless, because of the cryptic nature of the various life history stages of the checkerspot butterfly (e.g., eggs, larvae, chrysalis) and the variation in population sizes from year to year, it is difficult to estimate the number of individuals that will be taken with implementation of this project. Based upon the proposed project, it is estimated that approximately 3 acres of occupied habitat will be taken within the footprint of the project. However, using the information provided in the BA and our knowledge of the checkerspot butterfly and this site, we anticipate that some individual checkerspot butterflies within the 3 acres will be taken in the form of harm and harassment.

Effect of the take

In the accompanying conference opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the proposed Sacramento Mountains checkerspot butterfly or destruction or adverse modification of proposed critical habitat.

Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take.

1) Minimize disturbance to the Sacramento Mountains checkerspot butterfly during project implementation, operations and maintenance, and emergency repairs.

2) Conduct all construction activities, operations and maintenance, and emergency repairs activities in a manner that will minimize modification and loss of Sacramento Mountains checkerspot butterfly habitat.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Forest Service and their employees, contractors, or subcontractors must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are nondiscretionary.

The following Terms and Conditions are established to implement Reasonable and Prudent Measure 1:

1.1 Conduct surveys prior to any impacts within suitable checkerspot butterfly habitat. These surveys should focus on locating New Mexico penstemon, valerian, or orange sneezeweed or any life stages of the checkerspot butterfly; and

1.2. If any life stages of the checkerspot butterfly are located, they should be relocated onto appropriate food plants (e.g., relocate pre-diapause larvae to New Mexico penstemon) within similar sites.

The following Terms and Conditions are established to implement Reasonable and Prudent Measure 2:

2.1. Any staging areas (i.e., areas where vehicles or equipment will be located during the construction of the project) should be situated within areas that do not contain New Mexico penstemon, valerian, or orange sneezeweed, or any life stages of the checkerspot butterfly. The staging areas should be clearly delineated (e.g., with surveys stakes or flagging) and the special use permittee should be informed of and adhere to these requirements;

2.2. The Forest Service shall ensure that any habitat that is proposed to be temporarily impacted by the project is revegetated with appropriate native plants, including the checkerspot butterfly's foodplants;

2.3. The Forest Service shall monitor the project to ensure compliance with the appropriate conditions contained within the special use permit, or shall otherwise ensure that project is implemented in a manner consistent with these terms and conditions; and

2.4 The Forest Service shall ensure that the habitat that is proposed to be revegetated remains free of non-native weeds (e.g., Russian knapweed (*Acroptilon repens*), musk thistle (*Carduus nutans*), oat grass, and teasel (*Dipsacus sylvestris*)).

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The recommendations provided here relate only to the proposed action and do not necessarily represent complete fulfillment of the agency's section 7(a)(1) responsibility for these species. In order for us to be kept informed of actions that either minimize or avoid adverse effects or that benefit listed species and their habitats, we request notification of the implementation of the conservation recommendations. We recommend the following conservation recommendations be implemented:

1. The Forest Service should work cooperatively with the Service and other entities to develop and implement a regional conservation strategy for the Sacramento Mountains checkerspot butterfly.

2. Inform the special use permittee that the impacts of this or other projects could be further minimized if implemented during the non-active season for the checkerspot butterfly (i.e., October - March).

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

DISPOSITION OF DEAD OR INJURED LISTED ANIMALS

Upon finding a dead, injured, or sick individual of an endangered or threatened species, initial notification must be made to the nearest Service Law Enforcement Office. In New Mexico, contact (505/346-7828) or the New Mexico Ecological Services State Office (505/346-2525). Written notification must be made within five calendar days and include the date, time, and location of the animal, a photograph, and any other pertinent information. Care must be taken in handling sick or injured animals to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible condition. If feasible, the remains of intact specimens of listed animals shall be submitted to educational or research institutions holding appropriate State and Federal permits. If such institutions are not available, the information noted above shall be obtained and the carcass left in place.

Arrangements regarding proper disposition of potential museum specimens shall be made with the institution before implementation of the action. A qualified biologist should transport injured animals to a qualified veterinarian. Should any treated listed animal survive, we should be contacted regarding the final disposition of the animal.

REINITIATION - CLOSING STATEMENT

This concludes formal conference on the proposal to issue a special use permit for the Village of Cloudcroft for the Apache and Powerline water wells and pipelines, Sacramento Ranger District, Lincoln National Forest, New Mexico. You may ask the Service to confirm the conference opinion as a biological opinion issued through formal consultation if the Sacramento Mountains checkerspot butterfly is listed or critical habitat is designated. The request must be in writing. If the Service reviews the proposed action and finds that there have been no significant changes in the action as planned or in the information used during the conference, the Service will confirm the conference opinion as the biological opinion on the project and no further section 7 consultation will be necessary.

After listing of the Sacramento Mountains checkerspot butterfly as endangered/threatened and/or designation of critical habitat for the Sacramento Mountains checkerspot butterfly and any subsequent adoption of this conference opinion, the Federal agency shall request reinitiation of consultation if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may impact listed species or critical habitat in a manner or to an extent not considered in this conference opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this conference opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

The incidental take statement provided in this conference opinion does not become effective until the species is listed and the conference opinion is adopted as the biological opinion issued through formal consultation. At that time, the project will be reviewed to determine whether any take of the Sacramento Mountains checkerspot butterfly or its habitat has occurred. Modification of the opinion and incidental take statement may be appropriate to reflect that take. No take of the Sacramento Mountains checkerspot butterfly or its habitat may occur between the listing of the Sacramento Mountains checkerspot butterfly and the adoption of the conference opinion through formal consultation, or the completion of a subsequent formal consultation.

In future communications regarding this project, please refer to consultation #2-22-04-F-721. If you have any questions or would like to discuss any part of this conference opinion, please contact Eric Hein of my staff at (505) 761-4735.

Sincerely,

Susan MacMullin

Susan MacMullin
Field Supervisor

cc:
Forest Biologist, Lincoln National Forest, Alamogordo, New Mexico
District Ranger, Sacramento Ranger District, Lincoln National Forest, Cloudcroft, New Mexico

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