

September 30, 1994

Colonel Andrew M. Perkins, Jr.
District Engineer
Norfolk District, Corps of Engineers
Fort Norfolk, 803 Front Street
Norfolk, VA 23510-1096

Attn: Gerry Tracy
Regulatory Branch

Re: Permit Application 94-1235-30,
Dorothy M. Justis et al., Northampton County, Virginia

Dear Colonel Perkins:

This responds to your September 14, 1994 letter (received September 20, 1994) requesting formal consultation under Section 7(a)(2) of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), regarding impacts of the Department of the Army (DOA) permit application 94-1235-30, Dorothy M. Justis et al., on the northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*), a Federally listed threatened species. This letter constitutes the U.S. Fish and Wildlife Service's (Service) biological opinion on this permit application as required by Section 7(b) of the Endangered Species Act.

SCOPE OF THE BIOLOGICAL OPINION

The permit applicants, Dorothy M. Justis/Mary Lee Pase (joint owners), Christine B. Elliot, Mary J. Canada, and Tilly Jo Beatty Emerson, have applied for a Federal permit to construct 300 linear feet of bulkhead with backfill 10 feet channelward of the toe of the bank. The project site is located along the Chesapeake Bay at 7006 Whittington Road in the Silver Beach Subdivision in Northampton County, Virginia. The proposed bulkhead will be a maximum of 8 feet channelward of mean high water. Also proposed are four 50-foot long groins spaced 75 feet apart connected to and extending channelward of the proposed bulkhead. The stated purpose of the project is shoreline protection and beach preservation and creation. This site has a 12-foot high bank that is rapidly eroding. On August 23, 1994, a U.S. ArmyCorps of Engineers (Corps) representative observed a two-foot wide beach between the eroding bank and mean high water. However, the shoreline in this area is very dynamic, alternating between beach building during calm periods and rapid erosion during storm events. According to the applicants, the erosion began in autumn of 1993 and has accelerated rapidly during the spring and summer of 1994. The applicants claim that they have lost 25 feet of shoreline during the summer of 1994.

CONSULTATION HISTORY

On August 24, 1994, the Service met with the applicants at the project site and observed two adult northeastern beach tiger beetles on the beach.

BIOLOGY AND STATUS OF THE NORTHEASTERN BEACH TIGER BEETLE

The northeastern beach tiger beetle is a beach-dwelling beetle with white wing covers, often with several fine grayish-green lines, and a grayish-green head and thorax, and measures 0.5 to 0.6 inches in length (Knisley 1991, U.S. Fish and Wildlife Service 1993). Adult tiger beetles, present on beaches from mid-June through August, forage along the water's edge on small amphipods, flies, and other beach arthropods or scavenge on dead amphipods, crabs, and fish (Knisley et al. 1987, U.S. Fish and Wildlife Service 1993). Larval tiger beetles dig 4- to 14-inch vertical burrows in the sand within and above the intertidal zone (Knisley et al. 1987, U.S. Fish and Wildlife Service 1993). Larvae pass through three developmental stages and emerge as adults two years following egg laying (Knisley et al. 1987, U.S.

Fish and Wildlife Service 1993). Northeastern beach tiger beetles are typically found on highly dynamic beaches with back beach vegetation and prefer long and wide beaches that have low human and vehicular activity, fine sand particle size, and a high degree of exposure (Knisley et al. 1987). Adult tiger beetles have a regular dispersal phase after peak numbers emerge in early July (Knisley and Hill 1989, U.S. Fish and Wildlife Service 1993). Mark-recapture studies have documented that tiger beetles may travel 5 to 12 miles (Knisley and Hill 1989) from sites where they were marked, and some individuals may disperse tens of miles (U.S. Fish and Wildlife Service 1993).

The northeastern beach tiger beetle historically was a common inhabitant of coastal beaches from Cape Cod, Massachusetts to central New Jersey, and along the Chesapeake Bay, from Calvert County, Maryland south. It is now extirpated from the Atlantic Coast except for one population on Martha's Vineyard, Massachusetts and a recently discovered population near Westport, Massachusetts. A 1989-90 Virginia Department of Conservation and Recreation, Division of Natural Heritage survey of potential beach habitats in the Virginia portion of the Chesapeake Bay identified 55 sites that harbor the tiger beetle, with 12 sites in Northampton County (Buhlmann and Pague 1992). Silver Beach is considered to be a significant tiger beetle site (U.S. Fish and Wildlife Service 1993). Although tiger beetles occur along Silver Beach, the majority of the beetles are located at a campground south of the project site. In addition, beetles have been documented to the north of the project site.

Threats to the northeastern beach tiger beetle include shoreline development, beach stabilization, high recreational use, off-road vehicular traffic, pollution, pesticides, and natural events, including winter beach erosion, flood tides, and hurricanes (Knisley et al. 1987, Knisley and Hill 1989, Knisley and Hill 1990, U.S. Fish and Wildlife Service 1993). Populations of northeastern beach tiger beetles are highly variable from year to year. This beetle is subject to local population extinctions but is capable of dispersal and recolonization (U.S. Fish and Wildlife Service 1993). The Service determined threatened status for this beetle because of its greatly reduced range and high susceptibility to natural and human threats (Federal Register, Vol. 55, No. 152, August 7, 1990).

EFFECTS OF THE FEDERAL ACTION ON THE NORTHEASTERN BEACH TIGER BEETLE AND ITS HABITAT

In evaluating the effects of the Federal action under consideration in this consultation, 50 CFR 402.02 and 402.14(g)(3) require the Service to evaluate the direct and indirect effects of the action on the species. This project may result in the direct killing of an undetermined number of adult northeastern beach tiger beetles along the 300 feet of shoreline within the project area. Adult tiger beetles present on the beach are likely to be crushed by placement of equipment and material on the beach. Due to the high rate of erosion at this site, it is not likely that any larval tiger beetles exist here. Knisley (1990) noted that his "surveys in various sites in the Chesapeake Bay indicate very few larvae at sites or within sites where groins or other beach stabilization structures are located." Existing habitat appropriate for northeastern beach tiger beetle adults will be permanently lost within the footprint of the bulkhead (approximately 600 square feet at high tide).

Indirect effects are defined as those that are caused by the proposed action and are later in time, but still are reasonably certain to occur (50 CFR 402.02). One indirect effect from this project will be the loss of larval habitat that could occur at this project site if the shoreline continued to erode until a more stable beach was established that could support larval beetles. In addition, the bulkhead will eliminate the natural sloughing and erosion of sand from the banks and, subsequently, replenishment of sand to the beach. Once in place, the groins will act to trap longshore sand transport, and each groin will trap sand on one of its sides while starving sand to its opposite side. The bulkhead and groins will stop or reduce longshore sand transport and, therefore, rob sand replenishment to the downdrift shoreline. However, immediately to the south of the project site the shoreline is stabilized with a concrete slab, some riprap, and deteriorated high profile groins. Further south, there are more bulkheads, groins, and riprap, resulting in a sand transport system that has already been interrupted and modified.

It is possible that the construction of groins at the project site may lead to the creation of habitat for larval and adult beetles. However, seasonal and yearly variation in amounts and distribution of sand between the groins will continually displace adult tiger beetles and expose and displace larval tiger beetles.

BIOLOGICAL OPINION

Given the minor effects of this project on the total northeastern beach tiger beetle distribution within the Chesapeake

Bay, it is the opinion of the Service that this project is not likely to jeopardize the continued existence of the northeastern beach tiger beetle. No critical habitat has been designated for this species, therefore, none will be affected.

This opinion is based on several factors: (1) currently, the project site provides little appropriate tiger beetle habitat due to the high erosion rate, (2) if left unstabilized, this site may never result in quality tiger beetle habitat due to the existing shoreline alterations on either side, and (3) after completion, this project may provide habitat similar to that currently existing at the site.

INCIDENTAL TAKE

Sections 4(d) and 9 of the Endangered Species Act, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns such as breeding, feeding, or sheltering. Harass is defined as actions that create 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, or sheltering. 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 provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are nondiscretionary, and must be implemented by the Corps so that they become binding conditions of any permit issued to the applicant in order for the exemption in 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity that is covered by this incidental take statement. If the Corps fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit, the protective coverage of 7(o)(2) may lapse.

Amount and Extent of Take

The Service anticipates that incidental take of northeastern beach tiger beetles will occur in the form of direct killing of an unknown number of adults occupying at least 600 square feet of marginal habitat (300 feet in length by an average 2 foot width at high tide) during project construction. The proposed project will also permanently eliminate tiger beetle habitat within the footprint of the bulkhead. Other sites containing northeastern beach tiger beetle habitat may be indirectly affected and potentially rendered unsuitable to the south of the project site as a result of loss of sand to the longshore sand transport system.

Reasonable and Prudent Measures

In order to be exempt from the prohibitions of Section 9 of the Endangered Species Act, the Corps and the applicants must comply with the following reasonable and prudent measures. These terms and conditions must be incorporated as binding conditions of any DOA permit issued by the Corps. These measures are mandatory.

1. No construction of or earth-moving for the proposed project between June 1 and September 30 of any year.
2. No placement of materials or equipment on the beach between June 1 and September 30 of any year.
3. No maintenance of structures between June 1 and September 30 of any year if sand has accumulated between or adjacent to the groins.

Reporting and Monitoring Requirements

The applicant is required to notify the Service before initiation of construction and upon completion of the project at the following address:

Virginia Field Office
U.S. Fish and Wildlife Service
P.O. Box 480

White Marsh, VA 23183
(804) 693-6694

Upon locating a dead specimen, initial notification must be made to the following Service Law Enforcement office:

Division of Law Enforcement
U.S. Fish and Wildlife Service
P.O. Box 187
Yorktown, VA 23690
(804) 890-0003

Care should be taken in handling dead specimens to preserve biological material in the best possible state. In conjunction with the preservation of biological materials for a dead animal, the finder has the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

REINITIATION OF FORMAL CONSULTATION

This concludes formal consultation on this Federal action. As required by 50 CFR 402.16, reinitiation of formal consultation by the Corps is required if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the action that may impact listed species or critical habitat in a manner or to an extent not considered in this 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 opinion; (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, all activities that are causing such take must cease pending reinitiation.

The Service appreciates this opportunity to work with the Corps in fulfilling our mutual responsibilities under the Endangered Species Act. Please contact Cindy Schulz of this office at (804) 693-6694 if you require additional information or wish to discuss our comments further.

Sincerely,

Karen L. Mayne
Supervisor
Virginia Field Office Literature Cited

Buhlmann, K. A. and C. A. Pague. 1992. Natural heritage inventory of Cicindela dorsalis dorsalis (northeastern beach tiger beetle). Natural Heritage Technical Report #92-16. Department of Conservation and Recreation, Division of Natural Heritage. Richmond, VA. 41 pp.

Knisley, C. B. 1990. A survey of the Cape Charles (Virginia) Accawmacke Plantation for the northeastern beach tiger beetle, and possible impact of the proposed development on this beetle. Final Report for Espey, Huston and Associates, Incorporated.

Knisley, C. B. 1991. Northeastern beach tiger beetle. Pages 233-234 in K. Terwilliger, ed. Virginia's Endangered Species, Proceedings of a Symposium. McDonald and Woodward Publishing, Co., Blacksburg, VA.

Knisley, C. B. and J. M. Hill. 1989. Human impact on Cicindela d. dorsalis on Flag Ponds, Maryland. Final Report to U.S. Fish and Wildlife Service, Annapolis Field Office, Maryland.

Knisley, C. B. and J. M. Hill. 1990. Studies of two endangered tiger beetles, Cicindela dorsalis dorsalis and Cicindela puritana, in Maryland, 1989. Part I. Human impact and biological studies in Calvert County. Final Report to Maryland Natural Heritage Program, Annapolis.