

May 16, 2000

Colonel Allan B. Carroll
U.S. Army Corps of Engineers
Norfolk District
803 Front Street
Norfolk, Virginia 23510-1096

Attn: Mac McGlaun
Regulatory Branch

Re: George and Claire Passaro, Project
No. 00-V0201-51, Northumberland
County, Virginia

Dear Colonel Carroll:

This document transmits the U.S. Fish and Wildlife Service's biological opinion based on our review of the above referenced proposed installation of a riprap revetment and groins located in Northumberland, County, Virginia and its effects on the northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*), in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). Your March 24, 2000 request for formal consultation was received on March 27, 2000. This biological opinion is based on information provided in the permit application, telephone conversations, field investigations, and other sources of information. A complete administrative record of this consultation is on file in this office.

I. CONSULTATION HISTORY

- 03/27/00 The Service received the Corps' request to initiate formal consultation.
- 03/31/00 The Service participated in a site visit with the Corps.

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II. BIOLOGICAL OPINION

DESCRIPTION OF PROPOSED ACTION

This project is located in the Shoreline Estates Subdivision in Northumberland County, Virginia. This subdivision is located on the Chesapeake Bay and can be accessed from Reedville via Route 657 and then left onto Pelican Lane (Figure 1). This subdivision borders Owens Pond to the north and Chesapeake Beach to the south. The applicant proposes to install 443 feet of riprap revetment backed by filter cloth and properly toed into the substrate along the eroding escarpment (Figure 2). Approximately half of the revetment will be installed landward of the mean high water shoreline. In addition, five low-profile armor stone groins are proposed, varying in length from 35 feet to 48 feet (Figure 3). A 20 foot armor stone spur will be attached to the groins located at each end of the property (Figure 4).

The undeveloped property is approximately 525 feet long. The applicant's shoreline is a sandy beach with an average width of 40-50 feet, depending upon winds and tides. The widest portion of the beach is located at the southern end of the property and narrows to the north at Owens Pond. The beach on the northern portion of the property is covered by trees that have eroded into the Bay. An approximate 150-foot section of the shoreline at the southern end of the property, starting at the property line and measuring north, contains a broad beach with no fallen trees. This is the only section on the applicant's property that contains appropriate habitat for the northeastern beach tiger beetle. The beach north of this section is very narrow and contains a lot of debris.

The "action area" is defined as all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action. The Service has determined that the action area for this project is the applicant's property between MLW and the landward edge of the beach or toe of the bank.

STATUS OF THE SPECIES RANGEWIDE

This information on the northeastern beach tiger beetle was provided to the Corps in a biological opinion dated April 2, 1998 for permit application 97-1951-30.

ENVIRONMENTAL BASELINE

Status of the Species Within the Action Area - In 1998, Knisley documented 283 adults and 42 larval tiger beetles at a site named Chesapeake Beach North. It appears that a portion of this project lies within the area surveyed in 1998 (Knisley and Hill 1999). The applicant has declined to have a survey performed and is willing to assume the presence of the northeastern beach tiger beetle.

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Factors Affecting Species Habitat Within the Action Area - Beach erosion, from natural and anthropogenic modifications, affects the habitat at the project site. Historical erosion rate for bay fronting shoreline in this area is documented at an average rate of 6.1 feet per year (Morgan 1978).

EFFECTS OF THE ACTION

Direct Effects - Direct impacts to the tiger beetle will result from the crushing of adult beetles, and subsequent injury or death, during construction from use/placement/stockpiling of equipment and materials on the beach and foot traffic within the construction area. Construction will also result in temporary loss of habitat for adults through disruption of their daily activity patterns (*i.e.*, foraging, mating, basking, egg-laying). Larval tiger beetles will be directly affected through crushing, dislodging, and entombment, resulting in death or injury, during construction by use/placement/stockpiling of equipment and materials on the beach and heavy foot traffic within the construction area. Larval beetles will also be prevented from feeding during that time due to their sensitivity to vibrations, movements, and shadows, resulting in injury and potentially death. Existing habitat, for both larval and adult beetles, will be permanently lost within the footprint of the groins and the riprap between MLW and the landward edge of the beach.

Interrelated and Interdependent Actions - An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation. No activities interrelated to and interdependent with the proposed action are known at this time.

Indirect Effects - 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). The riprap will prevent larvae from being able to migrate landward as they mature, resulting in an inability to survive winter storms and erosion. In addition, the riprap will eliminate the natural sloughing and erosion of sand from the banks and, subsequently, the upland replenishment of sand to the beach. Groins are designed to capture sand from longshore movement and will help ensure that a beach continues to exist at this site. However, because groins change the pattern of sand movement, accelerated erosion may occur on adjacent shorelines. It is difficult to determine how and to what extent the proposed revetment and groins will effect the adjacent shoreline to the south. The spur may prevent scour to the south of this property.

Future maintenance of the proposed shoreline stabilization structures may not require Corps' authorization. These activities may result in injury or death to adult and larval tiger beetles through heavy foot traffic on beach areas, use/stockpiling of heavy equipment, and stockpiling/placement of materials. Maintenance activities may also result in temporary or permanent habitat loss. These activities may result in further impacts to the tiger beetle population at this site.

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CUMULATIVE EFFECTS

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological 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 ESA. The Service is not aware of any cumulative effects at this time.

CONCLUSION

After reviewing the current status of northeastern beach tiger beetle throughout its range and in the action area, the environmental baseline for the action area, the effects of the proposed riprap and groins, and the cumulative effects, it is the Service's biological opinion that the issuance of a DOA permit for this project, as proposed, 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.

III. INCIDENTAL TAKE STATEMENT

Sections 9 of the ESA and federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without a special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service 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 by the Service as intentional or negligent 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. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out 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 to be prohibited taking under the ESA 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 undertaken by the Corps so that they become binding conditions of any permit issued to the applicant, as appropriate, for the exemption in action 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) 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 or grant document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the Corps or applicant must report

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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

The Service anticipates incidental take of the northeastern beach tiger beetle will be difficult to quantify and detect because any beetles (adult or larvae) that are killed during project construction, stockpiling of equipment and materials, and habitat loss will be difficult to observe or locate due to their coloring, small body size, and tendency for larvae to remain beneath the surface. However, the following level of take of this species can be anticipated by aerial extent of the habitat affected. Only a 150-foot long section of shoreline adjacent to the southern property line contains appropriate habitat for the northeastern beach tiger beetle. This 150-foot section contains a beach that is approximately 50-feet wide. This incidental take statement anticipates the taking of northeastern beach tiger beetles from the beach between the toe of the bank and MLW (7,500 square feet) resulting from construction activities, stockpiling of materials and equipment, habitat alteration (modifications to the beach profile, width, and distribution and amount of sand), and temporary and permanent habitat loss.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of the northeastern beach tiger beetle:

- o Construction activities must be conducted when adult beetles are not present.
- o Human activity, materials, and equipment on the beach must be minimized to reduce the impact to adult and larval tiger beetles.

TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the ESA, the Corps must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. Monitoring is not required for this project because the anticipated take is minimal. These terms and conditions are nondiscretionary.

1. No construction, earth-moving, or placement of materials or equipment will occur on the beach between June 1 and September 15 of any year.
2. No maintenance of riprap, groins, or spurs between June 1 and September 15 of any year if any beach exists between MLW and the toe of the riprap.
3. Materials will be transported to the beach only on an as-needed basis.

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4. No ground disturbance or use of vehicles or heavy equipment will occur on the beach outside of the applicants' property boundaries.
5. No refueling of equipment or vehicles will occur on the beach.
6. No use of pesticides on the beach.
7. The applicant is required to notify the Service before initiation of construction and upon completion of the project at the address given below. All additional information to be sent to the Service should be sent to the following address:

Virginia Field Office
U.S. Fish and Wildlife Service
6669 Short Lane
Gloucester, Virginia 23061
Phone (804) 693-6694
Fax (804) 693-9032

8. Care must be taken in handling any dead specimens of northeastern beach tiger beetle that are found in the project area to preserve biological material in the best possible state. In conjunction with the preservation of any dead specimens, the finder has the responsibility to ensure that evidence intrinsic to determining the cause of death of the specimen is not unnecessarily disturbed. The finding of dead specimens does not imply enforcement proceedings pursuant to the ESA. The reporting of dead specimens is required to enable the Service to determine if take is reached or exceeded and to ensure that the terms and conditions are appropriate and effective. Upon locating a dead specimen, notify the Service at the address provided.

The Service believes that a small number of individuals within an area measuring approximately 150 feet long by 50 feet wide (7,500 square feet) will be incidentally taken as a result of the proposed action. Due to the variability in numbers of adults and larvae from year to year, it is difficult to quantify incidental take, however, we anticipate a small reduction in the numbers of adults using the beach zone and a significant reduction in larval numbers. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures. The Corps must immediately provide an explanation of the causes of the take, and review with the Service the need for possible modification of the reasonable and prudent measures and the terms and conditions.

IV. CONSERVATION RECOMMENDATIONS

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Section 7(a)(1) of the ESA directs federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to further 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 Service recommends that the applicant consider the construction of breakwaters to stabilize the property in lieu of the groins and riprap revetment. A breakwater system would avoid direct impacts to the northeastern beach tiger beetle and would likely create a wide beach that the tiger beetle could utilize. After discussions with personnel from the Wetlands Program at the Virginia Institute of Marine Science and Mr. James Davis-Martin from Department of Conservation and Recreation, this alternative appears to be practicable and meets the project purpose.

Due to the amount of shoreline stabilization/alteration taking place along the shoreline of the Chesapeake Bay, the Service recommends that mitigation for adverse impacts to and loss of northeastern beach tiger beetle habitat be undertaken. As the Corps continues to issue permits for shoreline alteration, the amount of habitat available for the continued existence of this species is decreasing. For recovery and delisting of the tiger beetle within the Chesapeake Bay of Maryland and Virginia, at least 26 populations must be permanently protected at extant sites (U.S. Fish and Wildlife Service 1994). In Virginia, 4 large (>500 adults) populations and 4 other (100 to 499 adults) populations must be protected on the Eastern Shore; 3 large populations and 3 others must be protected on the western shore of the Chesapeake Bay north of the Rappahannock River; and 3 large populations and 3 others must be protected on the western shore of the Bay south of the Rappahannock River. Presently, there 6 large (2 protected) and 6 other (3 protected) populations on the Eastern Shore; 9 large (2 protected) and 12 (1 protected) others on the western shore north of the Rappahannock; and 6 large (2 protected) and 6 (1 protected) others on the western shore south of the Rappahannock.

The Service is concerned that in the near future, projects proposed in areas critical to the continued existence of the tiger beetle will result in jeopardy to the species. Therefore, the Service recommends that the Corps require mitigation for this project. Alteration of tiger beetle sites that support more than 500 adult beetles should be mitigated at a ratio of 3:1. Areas that support less than 500 adult beetles should be mitigated at a ratio of 2:1. All other areas should be mitigated at a ratio of 1:1. As the Service receives additional information on the location and status of tiger beetles, the relative importance of a given tiger beetle site may change.

Because the proposed project is located in an area not deemed critical for recovery by the Service, compensation of 1:1 is recommended. That is, 150 linear feet of shoreline with an appropriate upland buffer should be permanently protected via a permanent conservation easement. The Service will be glad to work with the Corps and the applicant to locate and preserve such an area.

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

V. REINITIATION NOTICE

This concludes formal consultation on the action(s) outlined in the request. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (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, any operations causing such take must cease pending reinitiation.

The Service appreciates this opportunity to work with the Corps in fulfilling our mutual responsibilities under the ESA. If you have any questions, please contact Kim Marbain of this office at (804) 693-6694, extension 126.

Sincerely,

Karen L. Mayne
Supervisor
Virginia Field Office

Enclosures

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LITERATURE CITED

Knisley, C.B. and J.M. Hill. 1999. Distribution and abundance of *Cicindela dorsalis dorsalis*, the northeastern beach tiger beetle, along the Western Shoreline of the Chesapeake Bay in Virginia. Report to the U.S. Fish and Wildlife Service.

Morgan, L. et. al. 1978. Shoreline situation report Northumberland County. Special report No. 161. Virginia Institute for Marine Science.

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bcc: Program Supervisor-ES-South, Region 5
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