

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

Attn: Gerry Tracy  
Regulatory Branch

Re: Joseph Black, William Martin, Mathew Orsi, Clyde Plotner, Frank Sabatino, Thomas and Christina Sica, Project No. 98-1400, 98-1399, 98-1402, 98-1401, 98-1398, 98-1397, Northampton 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 shoreline stabilization projects located in Northampton County, Virginia and their effects on the northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*) in accordance with section 7 of the Endangered Species Act of 1973, as amended, (16 U.S.C. 1531 et seq.). Your October 7, 1998 request for formal consultation was received on October 13, 1998. This biological opinion is based on information provided in the permit applications, 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

- 08-28-98      The U.S. Army Corps of Engineers sent information on the proposed projects to the Service for review.
- 09-01-98      The Service and the Corps discussed the projects via telephone and agreed that the projects would require formal consultation regarding impacts to the northeastern beach tiger beetle.
- 10-13-98      The Service received the Corps' request to initiate formal consultation.
- 11-04-98      The Service sent a letter to the Corps indicating that the Corps' request for formal consultation had been received and was complete.

## II. BIOLOGICAL OPINION

### DESCRIPTION OF PROPOSED ACTION

The proposed projects are located along the Chesapeake Bay in the Peaceful Beach Estates subdivision in Northampton County, Virginia (Figure 1). The applicants collectively propose to construct 1066 linear feet of bulkhead with backfill landward of mean high water (MHW). The bulkheads do not require Corps permits. The applicants also propose to construct 18 ten-foot long low profile timber groins (three groins per lot), which will extend approximately two feet channelward of MHW. The stated purpose is shoreline protection and beach preservation. Specific information on proposed activities by each applicant is provided below.

Joseph Black (lot 6) - 166 linear feet of bulkhead with backfill; three 10-foot long groins 80 feet apart.

William Martin (lot 5) - 200 linear feet of bulkhead with backfill; three 10-foot long groins 100 feet apart.

Mathew Orsi (lot 3) - 200 linear feet of bulkhead with backfill; three 10-foot long groins 100 feet apart.

Clyde Plotner (lot A) - 100 linear feet of bulkhead with backfill; three 10-foot long groins 50 feet apart.

Frank Sabatino (lot 4) - 200 linear feet of bulkhead with backfill; three 10-foot long groins 100 feet apart.

Thomas and Christina Sica (lot 1) - 200 linear feet of bulkhead with backfill; three 10-foot long groins 100 feet apart.

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 beach from lot 6 to 720 feet south of lot A from the toe of the eroding bank to mean low water (MLW). The distance of 720 feet is based on the amount of erosion documented in the action area from previous construction of bulkheads and groins to the north (Knisley 1997).

### 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 - The proposed projects are located at the Peaceful Shores tiger beetle site, which has not been determined by the Service to be necessary for the recovery/survival and delisting of the tiger beetle. In 1989, adult northeastern beach tiger beetles were documented at this site (Buhlmann and Pague 1992). In 1993, the Peaceful Shores site had larval beetle densities of over 20 per transect which “is considered high for this species and thus indicate very favorable habitat” (Knisley 1993). In 1994, the beetle survey results indicated that the action area “is an excellent *C. dorsalis* larval and apparently adult habitat” (Knisley 1994). In 1995, larvae and adult beetles were present in the action area, but their numbers had declined mainly due to the bulkhead/groins constructed on lots to the north of the action area (Knisley 1995). The data for 1993 through 1997 from Knisley (1997) is presented below.

Northeastern Beach Tiger Beetle Data for Peaceful Beach Estates Lots 2 - 6

Year	Number of Adult Beetles	Number of Larval Beetles	Average Beach Width (m)
1993	no count	111	3.3
1994	460	129	1.9
1995	230	5	0.04
1996	199	1	1.8
1997	37	14	2.1

Northeastern Beach Tiger Beetle Data for Peaceful Beach Estates Lots A - 1

Year	Number of Adult Beetles	Number of Larval Beetles	Average Beach Width (m)
1993	no count	78	5.0
1994	no count	67	5.5
1995	280	38	2.5
1996	no count	7	4.0
1997	133	8	1.75

Factors Affecting Species Habitat Within the Action Area - Peaceful Beach Estates is one of several subdivisions in the Battle Point area. On August 25, 1994 the Corps issued a permit (93-9596) to the Peaceful Beach Estates Property Owners Association, c/o William O’Leary (lots 7 through 14). The subsequent construction of bulkhead and groins have resulted in approximately 60 landward feet of

erosion of the natural shoreline to the south. On August 20, 1998, the Corps issued a permit (98-0555) to Barry Marke (lot 2) to construct 200 linear feet of bulkhead with backfill landward of MHW and three 40-foot long low profile timber groins 100 feet apart, extending 40 feet channelward of the bulkhead and approximately 32 feet channelward of MHW. Collectively, the proposed project site consists of 1066 linear feet of beach, a 5 to 6 foot high upland bank, an 8-foot wide beach between the toe of the upland bank and MHW, and a 25-foot wide intertidal zone. To the south of Marke are lots 1 and A, with a natural shoreline.

### 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 result in 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 bulkhead/backfill and the groins (between MLW and the bulkhead).

Interrelated and Interdependent Actions - As defined in 50 CFR § 402.02, interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. The Service is not aware of any interrelated or interdependent actions.

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 construction of the bulkhead will cut off the existing sand supply to the beach now occurring from erosion of the upland bank. This will cause an increase in reflected wave energy off of the bulkhead and could cause accelerated erosion of the beach. The groins are designed to capture sand from longshore movement. Net sand transport is to the south. Each groin will trap sand on its north side, while starving sand on its south side, alternately building/eroding beach. There will be seasonal and yearly differences in amounts and distribution of sand between the groins. The southernmost groin will result in loss of sand affecting approximately 720 feet. Because erosion is likely to occur to the south of the proposed project, it is reasonable to assume that at some point in the future the landowners to the south will want shoreline stabilization structures. This will result in further degradation of tiger beetle habitat; however, based on the 1993-1997 tiger beetle survey results in Knisley (1997), the beach immediately to the south of lot A will be eroded and likely no longer provide beetle habitat within a short time period after shoreline stabilization at lot A.

### 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. Construction/maintenance of shoreline stabilization structures (*e.g.*, riprap) landward of MHW may occur within the action area in the future and such activities would not require Corps authorization. This type of activity would adversely affect tiger beetles directly through death or injury during pre-construction and construction activities and temporary and permanent habitat loss.

### CONCLUSION

After reviewing the status of the northeastern beach tiger beetle, the environmental baseline for the action area, the effects of the proposed action and the cumulative effects, it is the Service's biological opinion that the shoreline stabilization activities, as proposed, are 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 grant or 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 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 that 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. This incidental take statement anticipates the taking of northeastern beach tiger beetles between the landward edge of the beach and MLW on the applicants' properties and 720 feet to the south, a total area of approximately 58,938 square feet. Between MHW and MLW there will be an immediate loss of habitat within 1800 square feet along the groin alignments resulting from construction activities, stockpiling of materials and equipment, and temporary and permanent (360 square feet within the footprint of the groins) habitat loss within a 10-foot wide construction area for each groin.

#### 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:

- C Modify the permit applications to result in more appropriate placement of groins.
- C Construction activities must be conducted when adult beetles are not present.
- C 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. These terms and conditions are nondiscretionary.

1. Revise permit applications for lots 3 through 6 to result in the construction of seven 40-foot long, low profile groins 100 feet apart, such that the southernmost groin on lot 3 is 100 feet north of the property boundary of lot 2 and 3. If no groin exists on lot 7 (*i.e.*, within 100 feet of the property boundary of lot 6 and 7), construct one 40-foot long, low profile groin at the northernmost end of lot 6.

2. Revise permit applications for lots 1 and A to result in the construction of three 40-foot long, low profile groins such that one groin is located 100 feet south of the boundary between lot 1 and 2, one groin is located at or near the property boundary between lot 1 and A, and one groin is located at the south end of lot A.
3. No construction, earth-moving, placement of materials or equipment, or maintenance of structures will occur on the beach between June 1 and September 15 of any year.
4. Materials will be transported to the beach only on an as-needed basis.
5. No ground disturbance or use of vehicles or heavy equipment will occur on the beach to the north of lot 6 or to the south of lot A.
6. No refueling of equipment or vehicles will occur on the beach.
7. Care must be taken in handling any dead specimens of proposed or listed species 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.
8. 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  
P.O. Box 99  
6669 Short Lane  
Gloucester, VA 23061  
Phone (804) 693-6694  
Fax (804) 693-9032

#### IV. CONSERVATION RECOMMENDATIONS

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.

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. Since its listing in 1990, the Service has written biological opinions for 31 projects adversely impacting 13 tiger beetle sites in Virginia. 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 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 and 6 other (100 to 499 adults) populations on the Eastern Shore; 7 large and 2 others on the western shore north of the Rappahannock; and 4 large and 5 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 necessary for recovery/survival and delisting that support more than 500 adult beetles should be mitigated at a ratio of 3:1. Areas necessary for recovery/survival and delisting that support less than 500 adult beetles should be mitigated at a ratio of 2:1. Areas not necessary for recovery/survival and delisting, 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 necessary for recovery by the Service, compensation of 1:1 is recommended. That is, 1066 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.

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. Please contact Cindy Schulz of this office at (804) 693-6694, extension 127, if you require additional information.

Sincerely,

Karen L. Mayne  
Supervisor  
Virginia Field Office

Enclosures

## 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. 1993. Survey for the northeastern beach tiger beetle, *Cicindela dorsalis*, at Peaceful Beach Estates, W. O'Leary property. Report to U.S. Fish and Wildlife Service, White Marsh, VA.
- Knisley, C.B. 1994. Adult and larval inventory and habitat study of the northeastern beach tiger beetle, *Cicindela dorsalis*, at Peaceful Beach Estates, Northampton County, Virginia. Report to U.S. Fish and Wildlife Service, White Marsh, VA.
- Knisley, C.B. 1995. Adult and larval inventory and habitat study of the northeastern beach tiger beetle, *Cicindela d. dorsalis*, at Peaceful Beach Estates (O'Leary site) Northampton County, Virginia. Report to U.S. Fish and Wildlife Service, White Marsh, VA.
- Knisley, C.B. 1997. Monitoring of the northeastern beach tiger beetle, *Cicindela d. dorsalis*, at Peaceful Beach Estates (O'Leary site) Northampton County, Virginia. Report to U.S. Fish and Wildlife Service, Gloucester, VA.
- U.S. Fish and Wildlife Service. 1994. Northeastern beach tiger beetle (*Cicindela dorsalis dorsalis* Say) Recovery Plan. Hadley, MA.

(CSchulz:11/4/98)

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bcc: GARD-South, Region 5  
ARD-ES, Region 5  
Endangered Species Coordinator, Region 5  
Endangered Species Biologist, CBFO  
Law Enforcement, Yorktown  
Law Enforcement, Richmond  
(Attn: Senior Resident Agent)  
DNH, Richmond  
(Attn: Tom Smith)  
VDACS, Richmond  
(Attn: John Tate)