

May 24, 2002

Colonel David L. Hansen  
U.S. Army Corps of Engineers  
Norfolk District  
803 Front Street  
Norfolk, Virginia 23510-1096

Attn: Adrian Jennings  
Regulatory Branch

Re: Biological Opinion for Mill Creek  
Harbor Association, Permit Application  
# 02-V0669, Middlesex County,  
Virginia

Dear Colonel Hansen:

This document transmits the U.S. Fish and Wildlife Service's biological opinion based on our review of the above referenced proposed maintenance dredging project located in Middlesex County, Virginia and its effects on the northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*), in accordance with section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). This biological opinion is based on information provided in the permit application, telephone conversations, field investigations, and other sources of information. The U.S. Army Corps of Engineers' (Corps) proposed action is to issue a Department of the Army permit to the applicant for the proposed construction activity. A complete administrative record of this consultation is on file in this office.

### I. CONSULTATION HISTORY

- 05/08/02      The Service participated in a site visit with the Corps.
- 05/10/02      The Service received the Corps' request to initiate formal consultation.
- 05/13/02      Letter from Service to the Corps stating that a biological opinion would be provided to the Corps by September 22, 2002.

### II. BIOLOGICAL OPINION

#### DESCRIPTION OF PROPOSED ACTION

This project is located near the confluence of Mill Creek and Jackson Creek in Middlesex County, Virginia (Figure 1). The applicant, the Mill Creek Harbor Association, proposes to maintenance dredge the entrance channel to Mill Creek to a depth of six feet below mean low water (MLW) to improve navigational ingress and egress. The applicant further proposes to dredge/excavate approximately 800 square feet of the sub-tidal/inter-tidal and beach area in the two groin cells adjacent to the channel to preclude the drifting of sand into the channel, and thereby reduce the need for future maintenance dredging (Figure 2). The sandy dredge material will be used to renourish an estimated 500 square foot area of the nearby shoreline property of Mr. Robert Bodie.

The shoreline is a high energy sand beach that is exposed to wind driven waves and frequent boat-wake from the vessels using the entrance channel to Jackson Creek. The beach has an average width of 20 feet at MLW and gently slopes up to a higher beach vegetated with *Spartina patens*. The portion of the applicant's beach containing tiger beetle habitat is approximately 160 feet long by 20 feet wide, depending upon winds and tides. This section of beach is bordered on the north by the channel and on the south by rip rap revetment. Further south is more sandy beach with appropriate habitat for tiger beetles. Mr. Bodie's beach lies between two groins, averages 15 feet wide from MLW to the toe of the steep vegetated bank, and is approximately 150 feet long. However, the applicant estimates the renourishment will cover 500 square feet of this area. The area east of Mr. Bodie's property supports a much wider beach for several hundred meters and the area west of Mr. Bodie's property is a narrow beach abutting the vegetated bank.

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 includes the beach area between MLW and the higher vegetated beach that falls within the two groin cells that will be dredged and the extent of Mr. Bodie's property between MLW and the toe of the bank where the dredged material will be placed. These areas measure 160 feet long by 20 feet wide, and 150 feet long by 15 feet wide, respectively, and have a total area of 5,450 square feet.

#### STATUS OF THE SPECIES RANGEWIDE

Information on the status of the northeastern beach tiger beetle was provided to the Corps in a biological opinion dated August 23, 2001 for permit application 00-V1662. That information remains pertinent.

#### ENVIRONMENTAL BASELINE

Status of the Species Within the Action Area - In 2001, Dr. Barry Knisley documented 65 adult and 22 larval tiger beetles (3.7/transect) on a 265 m stretch of beach containing both the dredge and

renourishment sites (Knisley 2001). The applicant has declined to have a survey performed and is willing to assume the presence of the northeastern beach tiger beetle.

Factors Affecting Species Habitat Within the Action Area - Beach erosion and modification, from natural and anthropogenic modifications, affects the habitat at the project sites. The channel has been maintenance dredged almost yearly since its construction. The groin on the west side of Mr. Bodie's property was breached (water flowed around the landward edge of the groin) in a storm last winter. Groins and revetment divide the beaches on both sides of the dredge and renourish sites, and it is unclear what impact this has had on this beach strand in the past.

### EFFECTS OF THE ACTION

Direct Effects - Direct impacts to larval tiger beetles will occur through crushing, dislodging, and entombment, resulting in death or injury, during both the removal and placement of the dredged material. Further direct impacts will result from foot traffic and the activity of light equipment on the beach during the mechanical dredging. Some 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 temporarily lost as sand is removed from one beach and covers existing sand on the other.

The Service also anticipates that recolonization of beetles in the action area will be delayed post-dredging, from destabilization of beach sediments. However, it is anticipated that beach sediments will stabilize sufficiently to support beetle larvae and adults, within two years following dredging.

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. It has been determined that there are no interrelated or interdependent actions associated with this project.

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). It has been determined that there are no indirect effects associated with this project.

### 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 within the action area 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 dredge and renourishment, and the cumulative effects, it is the Service's biological opinion that the issuance of a Department of the Army 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

Section 9 of the ESA and federal regulations 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 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 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 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 the project 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 level of take of this species can be anticipated by areal extent of the habitat affected. The applicant's 160 foot long shoreline contains appropriate habitat for the northeastern beach tiger beetle in an area approximately 20 feet wide (MLW to the toe of the bank), and Mr. Bodie's shoreline contains appropriate habitat in an area approximately 150 feet long by 15 feet wide. This incidental take statement anticipates temporary loss of habitat lasting from one to two years and harm, harassment, and possible death of adult and larval beetles to occur in the entire 5,450 square feet of the two properties due to foot traffic, light equipment activity, and the actual removal and placement of sand between properties. Within the 5,450 square feet of the action area, the Service anticipates the death of adult and larval northeastern beach tiger beetles to occur in the 1300 square foot footprint of the dredging. No indirect take is anticipated.

#### 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 Dredging 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 dredging, disposal, or placement of materials or equipment will occur on the beach between June 1 and September 15 of any year.
2. No ground disturbance or use of vehicles or heavy equipment will occur on the beach outside of the applicant's property boundaries.
3. No refueling of equipment or vehicles will occur on the beach.
5. No use of pesticides on the beach.

6. The applicant is required to notify the Service before initiation of dredging 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

7. 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 above.

Due to the variability in numbers of adults and larvae from year to year, it is difficult to quantify incidental take. However, the Service believes that a small number of individuals within two areas measuring approximately 160 feet long by 20 feet wide (3,200 square feet) and 150 feet long by 15 feet wide (2,250 square feet) will be incidentally taken as a result of the proposed action. 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. 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 Jolie Harrison of this office at (804) 693-6694, extension 208.

Sincerely,

Karen L. Mayne  
Supervisor  
Virginia Field Office

Enclosures

LITERATURE CITED

Knisley, C.B. 2001. A survey of the northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*) along the western shoreline of the Chesapeake Bay, 2001 Report to the 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. 60 pp.

bcc: Program Supervisor-ES-South, Region 5 (Jeff Underwood)  
Endangered Species Coordinator, Region 5 (Paul Nickerson)  
FWS, New Jersey Field Office (Annette Scherer)  
FWS, New England Field Office (Susi von Oettingen)  
FWS, Long Island Field Office (Steve Mars)  
FWS, Chesapeake Bay Field Office, Annapolis, MD (Mary Ratnaswamy)  
Law Enforcement, Richmond, VA (Rick Perry)  
VDCR, DNH, Richmond, VA ( Tom Smith)  
VDACS, Richmond, VA (Keith Tignor)  
Randolph-Macon College, Department of Biology, Ashland, VA 23005 (Barry Knisley)

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(JHarrison: 5-23-02)