

Colonel Robert H. Reardon, Jr.  
U.S. Army Corps of Engineers  
Norfolk District  
803 Front Street  
Norfolk, Virginia 23510-1096

Attn: Gerald Tracy  
Regulatory Branch

Re: Roy W. Dixon, Permit Application No.  
97-1649-30, Northampton County,  
Virginia

Dear Colonel Reardon:

The U.S. Fish and Wildlife Service has reviewed the Department of the Army permit application 97-1649-30 for Roy W. Dixon for the construction of a bulkhead and groins in Northampton County, Virginia. Your March 10, 1998 request for formal consultation was received on March 13, 1998. This document represents the Service's biological opinion on the effects of that action 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.). A complete administrative record of this consultation is on file in this office.

### I. CONSULTATION HISTORY

The consultation history regarding this project is provided in Appendix A.

### II. BIOLOGICAL OPINION

#### DESCRIPTION OF PROPOSED ACTION

The project is located along the Chesapeake Bay in Northampton County, Virginia (Figures 1). The applicant proposes to construct a 1,213 foot long noncontiguous bulkhead with backfill landward of mean high water (MHW) and approximately 10 feet channelward of the base of the upland bank. This bulkhead will be tied into the existing noncontiguous bulkhead. The bulkhead is out of the Corps' jurisdiction. The applicant also proposes to construct 17, 40-foot long timber groins along the shoreline channelward of the proposed bulkhead (Figures 2 - 4). They will taper in height from MHW height (+3.5') to mean low water (MLW) height (0.0'). On average they will extend 30-feet channelward of the MHW shoreline and will be spaced 80 feet apart. If necessary, sand fill from the bank will be placed between the groins to groin height and will cover a maximum of 36,390 square feet of intertidal substrate. The stated purpose is shoreline protection, beach stabilization, and beach preservation.

## RANGEWIDE STATUS OF THE SPECIES

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

As defined in 50 CFR 402.02 "action" means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by federal agencies in the United States or upon the high seas. 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 direct and indirect effects of the actions and activities resulting from the federal action must be considered in conjunction with the effects of other past and present federal, state, or private activities, as well as the cumulative effects of reasonably certain future state or private activities within the action area. The Service has determined the action area for this project to be the applicant's property, which includes lots 7, 13, 14, 15, 17, 18, and 19 in the Butlers Bluff subdivision between MLW and the landward edge of the beach.

Description of the Action Area - The project is located along the Chesapeake Bay in the Butlers Bluff subdivision, in Northampton County, Virginia. This subdivision is located north of Kiptopeke State Park and west of the U.S. Route 13. Originally, permit number 93-0198-30 was issued for a bulkhead, backfill, groins, and beach nourishment for lots 5 to 7 and 11 to 20. Work was conducted only on lots 5, 6, 11, 12, 16, and 20. The Corps informally consulted with the Service on this previous project in 1992/1993. At that time, the Service did not have sufficient information to determine the potential presence of tiger beetles at this site and no further action was taken. This permit application is for the remaining work to be done on lots 7, 13, 14, 15, 17, 18, and 19. The eroding bluff is approximately 45-feet high at the site. There is no observable difference in beach width or sand patterns between the lots with groins and the lots without groins.

Status of the Species in the Action Area - The proposed project is located between the Picketts Harbor and Kiptopeke State Park tiger beetle populations. The Picketts Harbor population, located to the north of the project site, has supported a very large tiger beetle population since the mid-1980s. Knisley (1997) documented 72 larvae and 1,680 adults in 1994, 216 larvae and 1,266 adults in 1995, and 241 larvae and 2,019 adults in 1996. The Kiptopeke State Park population, located south of the project site, supports a much smaller population. Clark (1997) documented a mean larval density of 0.3 burrows per transect at the State Park in 1996 and 1997. The adult numbers increased from a total of 17 in 1996 to 91 in 1997.

A habitat survey was conducted at the project site on February 13, 1998 (Knisley 1998). Knisley concluded that without conducting larval surveys it would be difficult to determine the quality of the habitat at this site for the northeastern beach tiger beetle. However, Knisley indicated that this site may support small numbers of larvae, although they may not complete their development. Because portions

of the site are already bulkheaded and the shoreline is typically narrow, Knisley concluded that this site was marginal and not typical of good northeastern beach tiger beetle habitat. According to Knisley (1998), in 1996, Kenn Clark of the Virginia Department of Conservation and Recreation, Division of Natural Heritage documented 8 to 10 adult beetles in the area of lot 7, and 50 adults from lot 6 south to the State Park boundary; lots 13 and 14 had 2 to 3 adults.

### EFFECTS OF THE ACTION

Direct Effects - Direct impacts to the tiger beetle will result in the crushing of adult beetles and subsequent injury or death during construction by use/placement/stockpiling of equipment and materials on the beach and associated foot traffic. Construction will also result in a 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 material on the beach and heavy foot traffic. Existing habitat, for both larval and adult beetles, will be permanently lost within the location of the bulkhead/backfill and the footprint of the groins between MLW and the landward edge of the beach. The placement of sand between the groins from MLW to the bulkhead will result in temporary habitat loss for both larval and adult beetles. In addition, larval beetles may be directly affected through compression and inability to dig out of their burrows, depending on the amount of sand deposited.

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 bulkhead will prevent larvae from being able to migrate landward as they mature, resulting in an inability to survive winter storms and erosion. The construction of the bulkhead with backfill will eliminate the natural sloughing and erosion of sand from the banks, and subsequently eliminate the sand supply to the adjacent beach areas. The bulkhead will likely result in increased erosion of the beach, however the groins should minimize this impact. The proposed groins are designed to capture sand from longshore movement. Because the existing bulkhead and groins at this site do not appear to be negatively altering the beach width or sand distribution, this project is not likely to have an immediate effect on the beach profile.

Future maintenance of the shoreline stabilization structures may result in additional indirect effects. Maintenance 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 habitat loss.

Cumulative Effects - Cumulative effects include the effects of future state, 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.

A future activity that may affect the northeastern beach tiger beetle is the use of dredge material for beach nourishment. This activity will require a permit from the Corps and will be reviewed when a federal permit is applied for.

### CONCLUSION

After reviewing the current status of the northeastern beach tiger beetle throughout its range and in the action area, 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 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 4(d) and 9 of the ESA, 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. Incidental take is any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the federal agency or applicant. 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.

### AMOUNT OR EXTENT OF TAKE

The Service anticipates that incidental take of the northeastern beach tiger beetle will be difficult to quantify and detect because the exact population density of the beetle within the project area has not been determined and any beetles (adult or larvae) that are killed during project construction and associated activities 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 the areal extent of the potential habitat affected. This incidental take statement anticipates take of adult and larval northeastern beach tiger beetles between the landward edge of the beach and MLW on the applicant's property (approximately 48,520 square feet). Construction activities and stockpiling of materials and equipment will result in temporary and permanent habitat loss between the landward edge of the beach and MLW. Most of the temporary impacts are expected to occur within the 10-foot wide construction area along the groin alignments (6,800 square feet) and from beach nourishment (36,390 square feet). Permanent impacts will occur within the footprint of the

groins (1,360 square feet) and the footprint of the bulkhead/backfill (12,130 square feet).

### REASONABLE AND PRUDENT MEASURES

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 Section 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 require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit, 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. The Service considers the following reasonable and prudent measures to be 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

In order 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 the required reporting/monitoring requirements. Monitoring is not required for this project because only a small number of northeastern beach tiger beetles are likely to be affected, the anticipated take is minimal, and shoreline alteration at this site has already occurred. In addition, this area is not considered necessary for the recovery/survival and delisting of the species. These terms and conditions are nondiscretionary.

1. 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.
2. No beach nourishment at any time of year. However, if the results of future surveys indicate that larval tiger beetles do not occur at this site, beach nourishment can occur between September 16 and May 30.
3. Materials will be transported to the beach only on an as-needed basis.
4. No ground disturbance or use of vehicles or heavy equipment on the beach outside of the applicant's 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  
P.O. Box 99  
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.

#### 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 and other recovery activities, or to develop information to benefit the species.

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 23 projects adversely impacting 11 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 are 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 of the Chesapeake Bay and its tributaries 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 permitted projects. 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 a tiger beetle area not deemed necessary for recovery/survival and delisting, and the number of adults/larvae is unknown, mitigation of 1:1 is recommended. That is, 1,213 linear feet of shoreline with an appropriate upland buffer should be acquired and 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.

In order for the Service to be kept informed of actions that minimize or avoid adverse effects or benefit listed species or their habitats, the Service requests notification of the implementation of any of these conservation recommendations by the Corps.

#### V. REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the action outlined in the Corps' 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 and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the 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.

If this opinion does not contain national security or confidential business information, the Service will provide copies to the appropriate state natural resource agencies ten business days after the date of this opinion.

Colonel Robert H. Reardon, Jr.

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The Service appreciates this opportunity to work with the Corps in fulfilling our mutual responsibilities under the ESA. Please contact Kim Marbain of this office at (804) 693-6694, extension 126 if you require additional information.

Sincerely,

Karen L. Mayne  
Supervisor  
Virginia Field Office

Enclosures

LITERATURE CITED

- Clark, K.H. 1997. Monitoring of northeastern beach tiger beetles (*Cicindela dorsalis dorsalis* Say) on sites protected by the Virginia Department of Conservation and Recreation, Final Report. Natural Heritage Technical Report 97-19. Virginia Department of Conservation and Recreation, Division of Natural Heritage, Richmond, Virginia
- Knisley, C.B. 1998. Habitat evaluation for the northeastern beach tiger beetle at Butler Bluff, Eastern Shore, Virginia
- Knisley, C.B. 1997. Distribution and abundance of the northeastern beach tiger beetle, *Cicindela dorsalis dorsalis*, in relation to shoreline modifications, in Virginia. Report to the Virginia Department of Agriculture and Consumer Services, Richmond, VA.
- U.S. Fish and Wildlife Service. 1994. Northeastern beach tiger beetle (*Cicindela dorsalis dorsalis* Say) Recovery Plan. Hadley, MA.

## Appendix A - Consultation History

- 12-05-97 The Service received a request from the U.S. Army Corps of Engineers to review this individual permit application.
- 12-19-97 The Service sent a letter to the Corps recommending a survey be conducted for the northeastern beach tiger beetle.
- 02-17-98 The Service received the results of the tiger beetle habitat survey from C. Barry Knisley.
- 02-24-98 The Service participated in a site visit with the Corps.
- 03-13-98 The Service received the Corps' request to initiate formal consultation.
- 03-18-98 The Service sent the Corps a letter indicating that the Corps' request for formal consultation had been received and was complete.

bcc: AGARD-South, Region 5  
ARD-ES, Region 5  
Endangered Species Coordinator, Region 5  
Endangered Species Biologist, CBFO  
Endangered Species Biologist, NEFO  
Endangered Species Biologist, NJFO  
Law Enforcement, Yorktown  
(Attn: Dan Hurt)  
Law Enforcement, Richmond  
(Attn: Senior Resident Agent)

10 business days after the date of this letter, mail copies to:

DNH, Richmond  
(Attn: Tom Smith)  
VDACS, Richmond  
(Attn: John Tate)  
Northampton County  
(Attn: Sandra Benson)  
P.O. Box 66  
Heathsville, VA 22473