

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

Attn: Gerry Tracy
Regulatory Branch

Re: General Farms and Lands Company,
Permit Application No. 97-1949-30,
Northampton County, Virginia

Dear Colonel Reardon:

The U.S. Fish and Wildlife Service has reviewed the Department of the Army permit application, 97-1949-30, submitted by General Farms and Lands Company, to construct shoreline stabilization structures in Northampton County, Virginia. Your March 10, 1998 request for formal consultation on this permit application was received on March 13, 1998. This document represents the Service's biological opinion on the effect 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

- 01-07-98 The Service received a request from the U.S. Army Corps of Engineers to review the proposed project for impacts to federally listed species.
- 01-16-98 The Service sent the Corps a facsimile indicating that adult and larval northeastern beach tiger beetles had been documented at the proposed project site and requesting a site visit.
- 02-24-98 The Service visited the proposed project site with the Corps.
- 03-13-98 The Service received the Corps' requests to initiate formal consultation.
- 03-17-98 The Service sent the Corps a letter indicating that the Corps' request for formal consultation had been received and was complete.

II. BIOLOGICAL OPINION

DESCRIPTION OF PROPOSED ACTION

The proposed project site is located along the Chesapeake Bay in the Sugar Hill subdivision, lots 25 to 27, in Northampton County, Virginia (Figure 1). The applicant proposes to construct 431 linear feet of bulkhead with backfill and two return walls immediately landward of mean high water (MHW). The applicant also proposes to construct seven 40-foot long low profile timber groins, which will extend 40 feet channelward of MHW and 20 feet channelward of mean low water (MLW). The stated purpose is shoreline protection, beach stabilization, and beach preservation. The bulkhead does not require a Corps' permit since it is located landward of MHW.

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 that the action area for this project is the beach on lot 27 to 80 feet south of lot 25 from MLW to the toe of the eroding bank.

Description of the Action Area - Sugar Hill subdivision is located just south of Elliotts Creek and contains 29 waterfront lots. Lots 25 to 27 have medium-sized beaches (5 to 8 feet wide) located between a narrow beach to the north and a wider beach to the south. The upland bank at the project site is approximately 5 feet high and is eroding. Lot 28, north of the project area, has a narrow beach with a wetland swale behind it and gabion baskets have been placed along the shoreline (Corps' permit 96-0735-30, Bob and Donna Rich). Except for lot 28, the entire shoreline is undeveloped and does not have any shoreline stabilization structures.

Status of the Species in the Action Area - The proposed project site is located at the northern end of the Elliotts Creek tiger beetle site which has been determined by the Service to be necessary for the recovery/survival and delisting of the tiger beetle. In 1994, the beach was 2 m wide; 120 adult and 3 larval tiger beetles were documented (Knisley 1997). In 1996, the project site had a 3 m wide beach, 25 adult beetles, and 13 larval beetles (Knisley 1997). North of the project site, near the mouth of Elliotts Creek, the beach is wider and supports adults and larval tiger beetles. South of the project area, the beach is slightly wider and supports adult and larval tiger beetles.

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).

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 immediately landward of MHW will cut off the existing sand supply to the beach now occurring from erosion of the upland bank and will result in complete submersion of the beach at MHW. This will cause an increase in reflected wave energy off of the bulkhead and could cause accelerated erosion of the channelward beach. In addition, the proposed bulkhead location will result in permanent loss of habitat for larval beetles because the beach will only be exposed at MLW. If eggs are laid on the beach, which is not likely, the bulkhead will prevent larvae from surviving because they will be inundated at MHW and will not be able to migrate landward as they mature. Depending on the amount of erosion, adult beetles may utilize the beach exposed at MHW for foraging and basking, if it still exists.

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. However, because the groins will be at and channelward of MHW, only a minor amount of sand will be exposed at any time. Therefore, the groins are not likely to have a significant impact on tiger beetles utilizing lots 25 to 27. The southernmost groin will result in loss of sand affecting approximately 80 feet (two times the length of the groin) to the south. 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 and a subsequent population decline. The Service cannot project the extent to which subsequent shoreline stabilization will occur. However, if shoreline stabilization activities continue, the Elliotts Creek tiger beetle site could be eliminated as a potential "other population" in the Geographic Recovery Area for the tiger beetle on the Eastern Shore, impeding recovery of the species.

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.

Construction of shoreline stabilization structures (*e.g.*, riprap, bulkhead) landward of MHW may occur within the action area on lot 24 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 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 bulkhead 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 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

This incidental take statement anticipates the taking of northeastern beach tiger beetles between the landward edge of the beach and MLW on the applicant's property and 80 feet to the south, a total area of approximately 12,068 square feet. The area between the landward edge of the beach and MHW (3,448 square feet) will be permanently lost through construction of the bulkhead/ backfill. In addition, between MHW and MLW there will be a loss of habitat within 1,400 square feet along the groin alignments resulting from construction activities, stockpiling of materials and equipment, and temporary

and permanent (280 square feet within the footprint of the groins) habitat loss within a 10-foot wide construction area for each groin. In 1996, 25 adult and 13 larval beetles were documented at the proposed project site. The Service anticipates that all larval beetles and 90% of adult beetles will be taken as a result of construction activity and loss of habitat.

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 Shoreline Erosion Advisory Services should visit the site and provide recommendations on the design and location of the bulkhead and groins. This will ensure that the bulkhead is appropriately located and that the groin design and configuration is effective, minimizing adverse impacts to the beach profile, and subsequently to tiger beetles.
- 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. These terms and conditions are nondiscretionary.

1. Shoreline Erosion Advisory Services will visit the site before any Corps' permits associated with this project are issued. The SEAS recommendations on number, spacing, and length of groins will be implemented.
2. 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.
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 will occur on the beach outside of lots 25 to 27.
5. No refueling of equipment or vehicles will occur on the beach.
6. No use of pesticides on the beach.
7. Pursuant to 50 CFR 402.14(i)(3), in order to monitor the impacts of incidental take, the federal agency or any applicant must report the impact of the action on the species to the Service. To meet this requirement, tiger beetle inventories (adult and larval) must be conducted along with assessment of beach characteristics within the project impact area. One inventory must be conducted during the first fall after construction, with two inventories conducted per year for each of the four subsequent years. The inventories will assess use of the project site by adults and larvae. The inventories must be conducted by an individual or individuals proficient in the identification, research, and biology of northeastern beach tiger beetles (see attached list). Initial design of the monitoring plan must be approved by the Service and must include the parameters listed below. Adult tiger beetles will be inventoried on warm, sunny days between July 8 and August 8. Inventories will be conducted on lots 24 through 27. The total number of adults observed on the beach will be recorded. Larval inventories will be conducted between October 10 and 21 during low tide on cool and/or cloudy days. The number of larval burrows present within 2 m wide transects that extend from the edge of the water at the time of the survey to the back of the beach will be recorded. Transects will be separated by 50 to 100 m and the mean number of burrows per transect will be calculated. An attempt to identify instar stage of larva should be made. The inventories will be conducted in sufficient detail to assess the value of the beach habitat to the tiger beetle population and will include detailed descriptions of the beach width and profile at set intervals along the entire length of shoreline. For the first year, the permittee will submit to the Service a report documenting the surveyor and dates, methods, and results of the inventories and beach measurements, within 30 days following completion of the larval inventory. For each of the four subsequent years, the permittee will submit to the Service a report documenting the surveyor and dates, methods, and results of the inventories and beach measurements, within 30 days following completion of the second inventory. Capture and/or collection of beetles is not authorized under this requirement of the incidental take statement, except as permitted by appropriate federal and state regulatory agencies. Note that if at any time, the tiger beetle surveyor determines that no larval tiger beetle habitat exists on lots 25 through 27, the surveyor should provide a written statement to that affect to the Service for approval. Upon Service approval, the Corps will be notified in writing by the Service that further tiger beetle monitoring will not be necessary.
8. 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.

9. 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 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 22 projects adversely impacting 10 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 deemed necessary for recovery by the Service, but does not have a large adult beetle population, mitigation of 2:1 is recommended. That is, 862 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.

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,

Colonel Robert H. Reardon, Jr.

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Karen L. Mayne
Supervisor
Virginia Field Office

Attachments

LITERATURE CITED

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 Virginia Department of Agriculture and Consumer Affairs, Office of Plant Protection, Richmond, VA.

U.S. Fish and Wildlife Service. 1994. Northeastern beach tiger beetle (*Cicindela dorsalis dorsalis* Say) Recovery Plan. Hadley, MA.

NORTHEASTERN BEACH TIGER BEETLE
(*Cicindela dorsalis dorsalis*)
SURVEY CONTACTS

Dr. Barry Knisley
Department of Biology
Randolph-Macon College
Ashland, VA 23005
(804) 798-8372 ext. 254

Jim Hill
Rt. 1, Box 2746-A
Reedville, VA 22539
(804) 453-3315

Surveys for Adult Beetles

Steve Roble
Virginia Division of Natural Heritage
217 Governor Street, 3rd Floor
Richmond, VA 23219
(804) 786-7951

Dr. Joella C. Killian
Department of Biological Sciences
Mary Washington College
1301 College Avenue
Fredericksburg, VA 22401-5358
(540) 654-1418

Inclusion of names on this list does not constitute endorsement by the U.S Fish and Wildlife Service or any other U.S. Government agency.

March 31, 1998

(CSchulz:3/27/98)

(filename:opinions/genfarms/genfrmbo)

bcc: AGARD-South, Region 5
ARD-ES, Region 5
Endangered Species Coordinator, Region 5
CBFO Reading File
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 Wetlands Board

(Attn: Sandra Benson)