

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: YMCA, Project No. 99-V1874-30.  
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 construction of an open pile recreational pier, observation tower, and six mooring buoys at Silver-Downings Beach located in Northampton 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 January 10, 2000 request for formal consultation was received on January 13, 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

- 12-10-99      The Service participated in a site visit with the Corps and the applicant.
- 01-13-00      The Service received the Corps' request to initiate formal consultation.
- 02-04-00      The Service sent a letter to the Corps indicating that the request for formal consultation had been received and was complete.

## II. BIOLOGICAL OPINION

### DESCRIPTION OF PROPOSED ACTION

The proposed project is located along the Chesapeake Bay at Silver-Downings Beach in Northampton County, Virginia (see Figure 1). The applicant proposes to construct a 300-foot long, 6-foot wide open pile recreational pier with a 20-foot by 6-foot T-head. The structure will extend 130 feet channelward of the mean low water shoreline (MLW). A 6-foot by 6-foot observation tower will be constructed on the north side of the pier, just landward of MLW. Six mooring buoys will be constructed on the north side of the pier (See Figure 2). They will accommodate 19-foot long sailboats with a 16-foot long attachment rope and will have a 34-foot swing radius. Six boat-davits, three on each side of the pier, will be constructed on the pier for 16-foot power boats. The beach area (1200 linear feet) will be used primarily as access for waters sports, but may also be used by visitors for other activities such as sunbathing and swimming. The applicant estimates that up to 100 people per day may utilize the beach zone during the heavy use period of June through August (Dan Credle, pers. com.). The stated purpose of the project is boat mooring and recreational opportunities for the clients of the YMCA campground.

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 dune. The applicant owns 1200 feet of shoreline. The construction area on the beach will be immediately adjacent to the proposed pier and measure approximately 70 feet long by 40 feet wide or 2800 square feet.

### 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 project is located within the Silver-Downings Beach tiger beetle site. Buhlmann and Pague (1992) documented adult tiger beetles at the project site during 1989-1990. Roble (1994) documented adult and larval tiger beetles at this site. Knisley (1997) documented adults and larvae in 1994-1996. Knisley (1999) documented 547 adults, mostly found in the middle, unmodified shoreline section, which includes the project site. Knisley (1999) noted that adult numbers had declined from previous years at this site. In the 1999 survey, Knisley did not document larvae at Silver-Downings Beach. Larval numbers were low compared to adult numbers throughout the study area despite the fact that conditions seemed adequate for surveying. Significant erosion had occurred from recent storms which may have reduced larval activity. The cause

of low larval numbers remains unclear at this point.

Factors Affecting Species Habitat Within the Action Area - Beach erosion, from natural and anthropogenic modifications, affects the habitat at the project site. This area north of Downings Beach has an erosion rate of 5 feet per year according to Athearn (1974). Erosion is more active to the north. The previous owner operated a private campground at this site (Gerry Tracy pers. com.). Level of visitation and activities on beach previously are unknown.

### 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 from use/placement/stockpiling of equipment and materials on the beach and foot traffic within the 2800 square foot 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 material 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 pier pilings between MLW and the landward edge of the beach.

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). Increased human activity on the beach will result from the installation of the pier, observation tower, and mooring piles. The YMCA plans to utilize the beach primarily as an access point for sailing, sea kayaking, and powerboat sports (Dan Credle pers. com.). The activities will primarily occur during the June through August time period. The maximum number of people on the beach during a given day during this time period is estimated to be no more than 100 individuals (Dan Credle pers. com.). Most of the human activities will occur within an approximate 400 feet of shoreline from the southern property line to just north of the beach access to the cabins (denoted as Access B on Figure 2).

Foot traffic can cause compaction or disruption of larval burrows or direct injury to larvae. At a county park in Maryland, Knisley and Hill documented that sections of the beach with heavy human use experienced significantly lower larval numbers and lower percent survival (USFWS 1994). "Heavy

human use was defined as approximately 350 individuals per 800 m (2,624 ft.) section of beach per week during summer.” The distribution of adults seemed to be less affected, however, their normal feeding and reproductive activity were adversely affected by the human activity (USFWS 1994). Clark (1997) recommended setting a limit on visitation for public access sites containing the northeastern beach tiger beetle and protected by the Virginia Department of Conservation and Recreation. Fifty visitors per day was recommended for sites with abundant habitat and large populations, with smaller visitation limits at smaller sites.

The projected level of human use of the beach zone in the vicinity of the pier is likely to result in a significant impact to the northeastern beach tiger beetle within the 400 linear foot area around the pier. A long-term reduction in the number of adult and larval beetles in this area is anticipated.

### 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 of shoreline stabilization structures (e.g., riprap, bulkhead) landward of MHW may occur within the action area in the future and such activities may 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. Any surviving larvae would likely die during winter storms and erosion because their ability to migrate landward would be restricted. This type of shoreline hardening without groins, breakwaters, etc. is likely to result in erosion of the beach and subsequently, the destruction of tiger beetle habitat.

### 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 pier, 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 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 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. This incidental take statement anticipates the taking of northeastern beach tiger beetles, in the form of injury or death, from 2800 square feet along the pier alignment resulting from construction activities, stockpiling of materials and equipment, and temporary and permanent (within the footprint of the pier pilings) habitat loss. This incidental take statement also anticipates the taking of northeastern beach tiger beetles, in the form of harass and harm, from the 360 linear feet of shoreline on the southern end of the property adjacent to the pier (25,200 square feet) resulting from heavy foot traffic and human use. We anticipate a moderate reduction in the numbers of adults using the beach zone and a significant reduction (possibly as much as 50%) in larval numbers.

#### 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. 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. Materials will be transported to the beach only on an as-needed basis.
3. No ground disturbance or use of vehicles or heavy equipment on the beach outside of construction area. The construction area will be flagged by the applicant/contractor prior to conducting any work on the beach. The construction area will be accessed from land at the existing dune access.
4. 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 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

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 and human use of the beach within the action area.

One tiger beetle 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 1 and July 25. The total number of adults observed on the beach will be recorded. Larval inventories will be conducted between October 10 and 30 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 - 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.

An assessment of the level of human use of the beach zone must be conducted from May 20 through September 15 for each of the five years that the tiger beetle inventories are conducted. The approximate number of people using the beach each day will be recorded. This information will be provided as part of the report on the tiger beetle inventory.

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 significant number of individuals within an area measuring approximately 400 feet long by 70 feet wide (28,000 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 moderate reduction in the numbers of adults using the beach zone and a significant reduction (possibly as much as 50%) 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

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 place signs on their 800 linear feet of beach north of Access B (as denoted on Figure 2) discouraging visitors from disturbing the beach. Signs should provide information on certain activities that may harm the tiger beetles such as digging in the sand, covering the sand with towels, coolers, etc. or other activities that disturb the sand. Signs should also provide general information about the northeastern beach tiger beetle. The Service will assist you with the information to be provided on the signs and the location or placement. For additional information on conceptual designs for these signs, we recommend you contact Curtis Hutto, Department of Conservation and Recreation-Division of Natural Heritage at (804) 786-7951. Mr. Hutto can provide you with examples of tiger beetle signs that have been placed on Natural Area Preserves with public visitation in Virginia.

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-

Colonel Allan B. Carroll

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6694, extension 126.

Sincerely,

Karen L. Mayne  
Supervisor  
Virginia Field Office

Enclosures

LITERATURE CITED

Athearn, W.D. et. al. 1974. Shoreline situation report Northampton County. Special report No. 54. Virginia Institute for Marine Science.

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.

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, 1996 and 1997, Final Report. Natural Heritage Technical Report 97-19. Virginia department of Conservation and Recreation, Division of Natural Heritage, Richmond, Virginia. 9 pages plus 6 appendices.

Knisley, C.B. and J. Hill. 1999. A survey of the eastern shore of Virginia for the northeastern beach tiger beetle, *Cicindela dorsalis dorsalis*, 1999.

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. Richmond, VA.

Roble, S.M. 1994. Population surveys for the northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*) at twenty selected sites in Virginia. Natural Heritage Report 94-19. Department of Conservation and Recreation, Division of Natural Heritage. Richmond, VA. 40 pp.

U.S. Fish and Wildlife Service. 1994. Northeastern Beach Tiger Beetle (*Cicindela dorsalis dorsalis* Say) Recovery Plan. Hadley, Massachusetts. 60 pp.

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bcc: Program Supervisor-ES-South, Region 5  
Endangered Species Coordinator, Region 5  
Endangered Species Biologist, CBFO  
Law Enforcement, Yorktown  
(Attn: Dan Hurt)  
Law Enforcement, Richmond  
(Attn: Senior Resident Agent)  
DNH, Richmond  
(Attn: Tom Smith)  
VDACS, Richmond  
(Attn: John Tate)  
Barry Knisley, Randolph-Macon College, Department of Biology, Ashland, VA 23005  
New Jersey Field Office, Pleasantville, NJ  
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Long Island Field Office, Islip, NY