

**United States Department of the Interior**  
**U.S. Fish and Wildlife Service**  
**2321 West Royal Palm Road, Suite 103**  
**Phoenix, Arizona 85021-4951**  
**Telephone: (602) 242-0210 FAX: (602) 242-2513**

In Reply Refer To:  
AESO/SE  
22410-2006-F-0471

December 5, 2006

Ms. Cindy Lester  
Chief, Arizona Section, Regulatory Branch  
U.S. Army Corps of Engineers  
Arizona-Nevada Field Office  
3636 North Central Avenue, Suite 900  
Phoenix, Arizona 85012-1936

RE: 2006-00392-MB

Dear Ms. Lester:

Thank you for your request for formal consultation with the U.S. Fish and Wildlife Service (FWS) pursuant to section 7 of the Endangered Species Act of 1973 (ESA) as amended (16 U.S.C. et. seq.). Your request was dated March 24, 2006, and received by us on March 22, 2006. At issue are impacts that may result to the endangered Pima pineapple cactus (*Coryphantha scheeri* var. *robustispina*, PPC) from the proposed issuance of a Section 404 permit under the Clean Water Act (CWA) to construct a residential subdivision, Bajada Ranch, involving the discharge of fill material in the unnamed washes south of Andrada Road and east of Rinconado Road (NE ¼ of Section 3, T17S, R16E) located in Tucson, Pima County, Arizona. You have determined that the project may adversely affect PPC.

This biological opinion (BO) is based on information provided in the March 2006, biological evaluation (BE) (prepared by Cottonwood Environmental Consulting, LLC), e-mails, and other sources of information. Literature cited in this BO is not a complete bibliography of all literature available on the species of concern, the effects from residential development, the project area, or other subjects considered in this opinion. A complete administrative record of this consultation is on file at the Arizona Ecological Services Office.

### **CONSULTATION HISTORY**

March 24, 2006: We received your request for formal consultation.

May 26-July 20, 2006: We received supplemental information to the biological evaluation previously submitted.

August 24, 2006: We met with you and the applicant to discuss the project.

September 21, 2006: We transmitted the draft BO to you.

November 8, 2006: We received your comments on the draft BO.

November 30, 2006: We discussed your comments with you and the applicant's consultant.

## **BIOLOGICAL OPINION**

### **DESCRIPTION OF THE PROPOSED ACTION**

The applicant proposes to construct a residential development, known as Bajada Ranch, on a 40.30-acre property located in the foothills of the Santa Rita Mountains approximately 23 miles southeast of downtown Tucson, Pima County, Arizona. The proposed development will include 22 residential lots resulting in a low-density development with an overall density of one residence per 1.83 acres; lots will be at least one acre. Twenty point one six acres (50.02 percent) of the site will be set aside as Natural Open Space (NOS) as part of the Native Plant Preservation Plan (NPPP) for the project, and will be centered on the large xeroriparian area running through the northern portion of the project limits. This NOS will preserve-in-place a majority of the more dense vegetation along the washes. Additional NOS also will include areas located between the individual lots and around the perimeter of the project. Grading will not exceed 20,000 ft<sup>2</sup> per residence, and the development blocks will not be mass-graded. Total disturbance for the 22 home sites will not exceed 10.10 acres (25.06 percent) of the project site, and roadways within the project area will encompass 2.46 acres (6.10 percent); therefore, the total amount of direct disturbance will not exceed 12.56 acres (31.16 percent). The construction is anticipated to begin in June 2007, and will last approximately five years.

### **Proposed Conservation Measures**

The applicant and Corps of Engineers (COE) propose the following conservation measures to minimize the effects to PPC and its habitat.

- The project proponent is setting aside 27.74 acres of NOS. Of these, 20.16 acres of the property are set aside to adhere to Pima County's Native Plant Ordinance, with another 7.58 acres within the development envelope but outside of the 20,000 ft<sup>2</sup> grading area.
- The project proponent will purchase five acre-credits in an approved conservation bank.

### **STATUS OF THE SPECIES**

Our February 3, 2006, BO for the Ocotillo Preserve Residential Subdivision (02-21-02-F-0210 and 02-21-04-F-0160) included a detailed Status of the Species for the PPC. This biological opinion is available on our website at <http://www.fws.gov/southwest/es/arizona/>, under Document Library; Section 7 Biological Opinions. Herein we incorporate that status discussion by reference.

## ENVIRONMENTAL BASELINE

The environmental baseline includes past and present impacts of all Federal, State, or private actions in the action area, the anticipated impacts of all proposed Federal actions in the action area that have undergone formal or early section 7 consultation, and the impact of State and private actions which are contemporaneous with the consultation process. The environmental baseline defines the current status of the species and its habitat in the action area to provide a platform from which to assess the effects of the action now under consultation.

The action area under consultation includes the footprint of the project as well as other areas affected by the proposed action. For this project we define the action area as the footprint of the entire development (40.30 acres) and a 0.25-mile area surrounding the project boundaries, the latter of which encompasses the area most likely to incur indirect effects (e.g., recreational impacts) from the housing development. The action area is surrounded by medium- to low-density residential developments to the west, north, and east, and undeveloped lands to the south. The project area currently appears to be grazed, but otherwise is relatively undisturbed.

The property ranges in elevation from 3,456 to 3,496 feet above mean sea level. A large, braided, ephemeral wash runs in a general east to west direction along the northern and eastern boundaries of the project area. Several smaller ephemeral washes dissect the southern portion of the project area, draining from the southeast to the northwest into the large, braided wash, which eventually drains into the Santa Cruz River. The project is located in the Santa Rita Mountain foothills on alluvial bajadas, where the topography is predominantly gently sloping. The vegetation community is characteristic of the Arizona upland subdivision of the Sonoran desertscrub biotic community, Paloverde-mixed cacti.

Of the 40.30 acres of the project site, approximately 5 acres are comprised of sandy wash bottoms or a greater than 10 percent slope, and do not comprise suitable PPC habitat. An additional 14 acres are comprised of sandy wash bottoms and riparian vegetation within the floodplain, which, while PPC may be able to exist in these areas, do not provide the most suitable habitat for this species on the property. Therefore, a total of approximately 21 acres of suitable PPC habitat exist on this property.

A total of five PPC were detected on the 40.30-acre site during a survey completed in November 2005. Three plants were located within two future residential lots, and two were located in the NPPP set-aside area. The site was revisited in September 2006 to confirm the locations of the five PPC within the project limits; one of the two PPC located within the NPPP set-aside area had disappeared, and one PPC on lot 11 could not be located. Therefore, the density of PPC on this property ranges from 0.07/acre to 0.12/acre (3 PPC/40.30 acres to 5 PPC/40.30 acres), and falls within our calculated low to medium density (0.1-0.3 PPC/acre), indicating low-to medium-quality PPC habitat. Our density calculations were determined using all the projects that have undergone section 7 consultations, along with more recent survey information. Additional information, maps, and other details are provided in the March 2006 BE and supplemental information, and are incorporated herein by reference. We do not know how much suitable habitat is within the 0.25-mile buffer surrounding the project site, nor how many individual cacti might be present. However, based on aerial imagery, it appears that suitable habitat exists within this buffer.

## EFFECTS OF THE ACTION

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, which will be added to the environmental baseline. 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. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur.

The proposed action will result in the direct loss of approximately 12.56 acres, of which 12.41 comprises PPC habitat (10.10 acres within the building envelope plus 2.46 acres of roadways minus 0.15 acres of roadways within sandy wash bottoms or with slopes > 10 percent). The new roads will further fragment the remaining habitat. The applicant has agreed to protect 27.74 acres as NOS; however, we believe that the PPC and remaining habitat will likely be adversely affected by residents' use of their property (e.g. creating trails, landscaping, bike riding, and pets), especially as all NOS is located on private property and not within a common area. Even with oversight from an organization or group (such as an HOA), the PPC and habitat could be destroyed inadvertently.

Twenty point one six acres of the NOS are set aside to adhere to Pima County's Native Plant Preservation Ordinance and are within individual lots instead of a common area. These 20.16 acres follow the large wash on the northern portion of the property. This NOS contains approximately 7.16 acres of suitable PPC habitat and 13 acres of wash bottoms and xero-riparian vegetation within the flood plain, which, while PPC may be able to exist in this area, does not provide the most suitable habitat for this species on the property. Therefore, the majority of the designated NOS does not protect habitat that is suitable for PPC. We do not consider this an effective conservation measure for PPC.

Additionally, PPC in the action area will likely also suffer from indirect impacts. New residential developments often result in the introduction of non-native plants into an area, creating more opportunity for degradation of the remaining natural habitat. Off-road vehicle activity and increased recreational use surrounding the development can affect habitat outside the development. These indirect effects will contribute to the overall deterioration of the remaining PPC in this area. While some conservation may be achieved by means of designated NOS, there is no evidence to support this type of measure as producing long-term protection for PPC and its habitat.

The applicant proposes to offset the effects to PPC and its habitat by purchasing conservation bank credits in a Service-approved conservation bank for PPC. The applicant has agreed to compensate for the loss of habitat by purchasing five acre-credits.

In summary, this project will result in the loss and/or alteration of all suitable PPC habitat (approximately 21 acres), and, most likely, the subsequent loss of remaining PPC on the site. This represents less than one percent of the known PPC population and extant suitable habitat. The applicant proposes to purchase five acre-credits from an approved PPC conservation bank to off-set this loss. All of the proposed conservation measures may provide some conservation for

PPC, but do not promote the conservation of the species over the long-term. They are mainly focused on the replacement of PPC and not the conservation of PPC habitat.

### **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 project area is bordered on all sides by privately owned lands. Medium-to low-density developments currently exist to the west, north and east, but it is still relatively undeveloped to the south. Undeveloped land often provides open space for the residents of developments in the area. The use of open lands for recreation, off-road vehicle use, and illegal dumping of trash can ultimately lead to habitat degradation and the possible loss of PPC. If adjacent lands are developed, further fragmentation of the larger PPC population in the general area will result. Development in this geographic region is on the rise and is likely to continue to increase. Lands not presently developed in the area are quickly becoming urbanized.

### **CONCLUSION**

After reviewing the current status of PPC, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is our biological opinion that the proposed action is not likely to jeopardize the continued existence of PPC. No critical habitat has been designated; therefore, none will be affected. While we remain concerned about the status of the PPC as described in this BO, we make this determination because:

- The applicant will purchase five acre-credits in a Service-approved conservation bank and will set aside 27.74 acres of NOS. While we do not feel this is an adequate conservation measure, the loss of the remaining PPC and the 21 acres of suitable habitat comprise less than one percent of the known population and extant suitable habitat.

### **INCIDENTAL TAKE STATEMENT**

Sections 7(b)(4) and 7(o)(2) of the ESA do not apply to listed plant species. However, protection of listed plants is provided to the extent that the ESA requires a Federal permit for removal or reduction to possession of endangered plants from areas under Federal jurisdiction, or for any act that would remove, cut, dig up, or damage or destroy any such species on any other area in knowing violation of any regulation of any State or in the course of any violation of a State criminal trespass law. Neither incidental take nor recovery permits are needed from us for implementation of the proposed action.

### **CONSERVATION RECOMMENDATIONS**

Section 7(a)(1) of the ESA directs Federal agencies to use 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

minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

- We recommend the applicant acquire an additional 16 acres of PPC habitat from an approved PPC conservation bank to offset the effects of this project.
- We recommend that the PPC conservation bank credits are secured through a Notarized Credit Agreement before construction begins.

In order that we are kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, we request notification of the implementation of any conservation recommendations.

### **REINITIATION NOTICE**

This concludes formal consultation on the Bajada Ranch development. 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 (not applicable to this consultation); (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 agency 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.

We appreciate your efforts to identify and minimize effects from this project. Please contact Marit Alanen at (520) 670-6150 (x234) or Jim Rorabaugh at (602) 242-0210 (x238) if you have further questions. Please refer to consultation number 22410-2006-F-0471 in future correspondence regarding this project.

Sincerely,

/s/ Steven L. Spangle  
Field Supervisor

cc: U.S. Army Corps of Engineers, Tucson, AZ (Attn: Marjorie Blaine)