

## **Feral Pig Management Program -- Pinnacles National Monument**

### **Finding of No Significant Impact**

#### **Purpose & Need**

The National Park Service proposes to eradicate non-native feral pigs from the majority of land at Pinnacles National Monument (Pinnacles) to protect native species and habitats. This non-native species is relatively new to Pinnacles (first observed in the park in the late 1960s), and is a hardy, adaptable, and highly destructive force to the native ecosystem. Population estimates within the park are cyclic, and range between 100 animals in drought cycle years and 900 in wet years. In the right conditions, feral pigs can have litters of 10-14 piglets twice yearly. A single pig can root up to 15 acres of ground per night, and collectively the pigs have caused extensive damage throughout the park. Pigs destroy native vegetation, have a dramatic impact on the native oak populations, affect the reproduction of native shrubs and trees, create fertile ground for invasion of exotic plant species, compete directly with native wildlife, cause extensive erosion, and destroy the habitat of sensitive amphibian and reptile species (including a federally-listed species). Pigs routinely root along sensitive riparian areas, roads and trails, through picnic areas, and under building foundations, causing substantial damage each year. Eradicating this destructive non-native species is consistent with NPS law and policy for conserving, protecting, and restoring native species, ecosystems, and processes.

#### **Selected Action**

The National Park Service will implement Alternative B (as detailed in the Environmental Assessment) with no modifications. This project will use capture traps inside the fenced area to remove an estimated 80-90% of the pigs. The remaining 10-20%, known as untrappable pigs, will be removed by dog-assisted hunting. Trapping is the most cost effective method for the initial population reduction, and hunting with dogs the best follow-up method. Trapped pigs will be euthanised, and the carcasses will be left on site.

Pigs euthanised during this project will have samples collected for scientific purposes. The following will be measured on the pigs: rump fat, age (teeth), weight, length, reproductive condition, and gender. This will provide scientific data on feral pigs for future reference.

In addition to collecting information on the pigs, there will also be a concurrent vegetation study that evaluates the effects of the pig removal program on the vegetation both inside and outside the fenced area. The study will use long term plots both inside and outside the fence in similar vegetation types and measures rooting disturbance, plant species relative abundance and diversity, and tree seedling survival/tree regeneration potential in three key habitats. Using a variety of standard and newly developed methods, the study will monitor the rate and extent of recovery of different types of vascular plant communities at Pinnacles as feral pigs are reduced in number to eventual eradication 3± years after the program is initiated. Although a portion of the study was initiated in spring 2003, vegetation biomass sampling and placement of rebar was analyzed in the Environmental Assessment and will proceed in fall 2003. The quantitative data from the study will aid in documenting the recovery of native flora and fauna of Pinnacles and provide critically important scientific support of the parks' major ecological restoration efforts. The study will also be applicable and important for the long-term conservation of California's nationally significant oak woodland ecosystems.

The potential affect of the selected action on the concurrent reintroduction of California condors was assessed. The condors may scavenge the pig carcasses, but they are also provided food on a regular basis, and will not be dependent on pig carcasses.

### ***Time Frame***

The initial eradication is expected to take approximately three years. It is expected that the fence will maintain a pig-free area the majority of the time. However, it is acknowledged that breaches in the fence will occur, particularly related to flooding. Due to the longevity of the fence project, the NPS field crew has a good working knowledge of vulnerable fence locations and walks the fence line in these areas regularly and after natural events to assure its structural integrity. The entire fence line will be checked quarterly. It is anticipated that occasional breaks in the fence would allow to pigs re-enter the monument. This management plan would allow for the continued eradication of immigrating pigs, using trapping or hunting as described above. Future eradication efforts are expected to be small in scale, since the effort would be undertaken immediately after the breach was discovered.

### **Other Alternatives Considered**

Three additional alternatives were identified and analyzed in the environmental assessment. Implementing any of these alternatives would permit continued destruction and degradation of park resources since none involve eradication of the feral pigs within the fenced area of the park.

**Alternative A** - No Action would be taken to control or eradicate pigs from monument lands. Pig populations would continue to rise and fall, following food availability. Pigs would continue to affect native vegetation by direct consumption as well as destruction of plants by rooting. Additionally, pigs would continue to compete with native wildlife for food resources as well as eat native wildlife. The integrity of the monument ecosystem would be affected by continued soil disturbance and accelerated erosion related to pig rooting. Infrastructure for visitor services (trails, roads, picnic areas) would continue to be damaged by pigs in search of food.

**Alternative C** - Control via Sterilization would use the same capture methods and hunting methods as Alternative B. Instead of using bullets to immediately euthanise the pigs, each pig would be singled out in the pen, injected with a chemical sterilant, and permanently ear notched or tail cut to indicate it has been treated then released. Every pig within the fenced area would have to be caught and treated for this alternative to be successful. Effective sterilants would have to be developed as they do not presently exist.

**Alternative D** - Control via Population Reduction would only use the capture methods used in Alternative B. All captured pigs would be euthanised and their carcasses distributed throughout the local environment. Untrappable pigs would be left at large. There would need to be an annual capture/kill program to maintain low levels of pigs in the monument.

### **ALTERNATIVES CONSIDERED AND DISMISSED**

In public scoping, a variety of issues were raised for consideration. These issues, described below, were investigated but dismissed from further consideration for reasons described below.

#### ***Public Hunting***

It was suggested that a public hunt be used for initial or continued control. Public hunting within units of the National Park System is prohibited unless specifically provided for by law. The enabling legislation that created Pinnacles National Monument does not provide for public hunting within its legal boundary, therefore, Pinnacles has no legal authority to permit public hunting for the removal of feral pigs.

### ***Relocation***

Relocation of pigs from Pinnacles to another location was proposed. While Pinnacles has the authority to manage species within its boundary, it has no jurisdiction beyond it. In consultation with the California Department of Fish and Game (CDFG), the relocation authorizing agency, it was determined that a request for relocation would be denied. Relocations in the past have led to inadvertent spreading of disease. Without the approval of CDFG to move animals out of Pinnacles, such action would be illegal.

### ***Herding***

Herding the pigs out of the park when only a single gap remained in the fence then closing the gap was considered. Prior to moving pigs off monument lands, the park would need permission from the CDFG. In consultation with CDFG, they indicated that it is not their policy to permit the movement of animals across jurisdictional boundaries. Consultation with pig specialists indicated that it would be extremely difficult, if not impossible, to herd pigs through the chaparral habitat that dominates Pinnacles' landscape.

### ***Use of Poison***

There are a number of toxicants which can be effective as part of an eradication program. However, each of the potential poisons could harm non-target species. It would be very difficult to protect non-targets from incidental poisoning. For these reasons, and because hunting can achieve the park goal without the secondary impact, poison was dismissed as a tool in the eradication of feral pigs from Pinnacles.

### ***Use of Snares***

Snares are an effective and inexpensive method of trapping pigs; however the use of snares at Pinnacles could capture non-target animals such as the mountain lions, bobcats, grey fox, raccoons, snakes, skunks, rabbits, opossums or badgers. Therefore, snares will not be used.

### ***Surgical Sterilization***

At present, surgical sterilization is the only known effective method for sterilizing pigs. Both males and females would have to be treated to reduce their biological urge to reproduce. This would entail capturing every pig within the fenced area, castrating the males in the field and transporting the females offsite for surgery, then returning them to the park to live out their lives. This method poses extreme logistical challenges, has unanswered biological questions and poses an unacceptable risk to staff and animals from transportation in rugged terrain.

### ***Other***

It was suggested that the pig carcasses be used for food instead of leaving them in the wild. In order for meat to be distributed, it must be inspected by an approved Food and Drug Administration meat inspector. Meat inspectors can only inspect and approve domestically raised stock and not wild game. It would therefore be illegal for Pinnacles to provide meat for human consumption from this project. The idea of using the pigs for dog food was also raised. This alternative was dismissed from further consideration due to logistical and financial difficulties of getting carcasses out of the backcountry and to a processing plant.

### **Environmentally Preferred Alternative**

Alternative B is the environmentally preferred alternative. It is the most effective, most viable, and least intrusive management option available given present technology. This alternative would protect a significant portion of Pinnacles' land and resources from continued pig damage in the shortest time frame of all the alternatives. Alternative C relies on a method that has not

yet been fully developed and would require additional research and time to implement. This method would allow resource degradation from feral pigs for decades. Alternative D allows a continued level of resource degradation. Alternative B allows only short duration, negligible or minor impacts, while alternatives A, C, and D all have long-term major or moderate impacts. Alternative B also provides for the cessation of pig damage to monument resources, which is a long-term beneficial impact.

### **Basis for the Decision**

Pinnacles National Monument will implement Alternative B. While the other alternatives considered each provided some level of individual protection for natural resources, each permitted pigs to remain within the fenced area which would create long-term minor to moderate negative impacts due to continued damage to cultural resources and destruction of natural resources. The impacts associated with implementing Alternative B are negligible or minor in intensity, and have a short duration. The cessation of pig damage to monument resources within 3 years will have a long-term beneficial affect on the ecosystem and wilderness values at Pinnacles. Development and implementation of this feral pig management plan is the final element culminating 18 years of scientific research, resource management strategy and hard labor constructing 32 miles of pig fence in difficult, rough terrain.

In evaluating reasonable options for pig removal, using the wilderness minimum requirement analysis, traps and helicopters were determined to be the minimum tool for all of the action alternatives. Although there may be some very short term, minor affects to the Pinnacles wilderness experience, these are outweighed by the substantial long-term wilderness resource benefits to the removal program. The dogs used are specially trained to stay on pigs. Based on control efforts of feral pigs on other public parklands (e.g. Channel Islands National Park, Hawaii Volcanoes National Park, California State Parks), an effective pig management program should employ more than one method of control. There are no activities proposed in the selected action which will adversely affect: pubic health or safety, wetlands, floodplains, ecologically sensitive areas, important scientific resources, important cultural resources, important historic resources, threatened or endangered species, or threatened or endangered species habitat. In addition there is nothing proposed in the selected action that would: be highly controversial, have highly uncertain impacts or unknown risks, violate any environmental laws, or that would pave the way for other actions or be smaller part of a larger action.

### **Mitigations**

Capture Traps – traps will be located to avoid cultural resources, sensitive plant locations and sensitive habitats. Location of the catch traps will be off-trail and out of trail viewsheds as much as possible. Traps will be locked open when hunting activity ceases for weekends, holidays and spring break. All capture traps will be removed after trappable pigs are caught. While active trapping is occurring, it is likely that 2-3 individuals will be camping near the capture traps to minimize the time the pigs spend trapped, to facilitate prompt euthanisation of trapped pigs, as well as hunter safety. Traps will be signed so if inadvertently encountered by a visitor, the traps' purpose will be clear.

Hunting – Hunters will use silencers on their guns. Hunting and use of dogs would only be during the week – weekends, holidays and spring break will not have hunting to minimize visitor exposure. The dogs will have demonstrated their ability to stay on scent prior to being brought into the park to minimize the likelihood of other wildlife being chased. The dogs will have shock collars to keep them focused on the pigs. Hunter and dog use patterns would be varied during the

hunting phase so pigs do not develop sensitivity to the patterns. Duration would be 1-3 days per area, 2 weeks at a time with a break between hunting sessions. Visitor education will help explain the presence of dogs.

Wilderness – Helicopters are the selected mitigation to deploy traps due to terrain and to minimize vegetation impacts. Visitors may notice occasional (1-3 days/year dispersed) sound of helicopters in the wilderness when traps are located or moved.

California condor-to minimize disturbance of this species, no traps will be placed in the vicinity of the release facility. Since the carcasses will be dispersed to the environment and condors are carrion feeders, the use of specialized non-lead bullets will be required. As an additional mitigation measure, as much as feasible, the slugs/shrapnel will be removed from the pigs prior to carcass dispersal.

<b>Resource</b>	<b>Potential Impacts</b>	<b>Mitigation</b>	<b>Responsible Party</b>
Vegetation	≈.05 acre disturbed by trap locations Hunting Activity	Sensitive vegetation will be avoided. Limited duration (1-3 days) for 2 weeks at a time. Vegetation study to quantify before and after impacts of pigs	NPS-Pinnacles Mgmt. NPS-Pinnacles Mgmt NPS-Pinnacles Mgmt
Fauna and Special Status Species	Presence of dogs  Sporadic use of hunter/dogs	Only used after all trappable pigs caught. Dogs will wear shock collars to keep them on pig scent. Short duration associated w/ breaks in fence.	NPS-Pinnacles Mgmt Contract hunter  NPS-Pinnacles Mgmt
Geologic Resources: Soils & Streams	Sensitive locations disturbed	Sensitive locations will be avoided. Holes from stakes will be filled	NPS-Pinnacles Mgmt Contract trapper
Wilderness	Human presence for 3 years  Capture traps  Use of dogs Sporadic use of hunter/dogs	Visitor education about pig management. Traps flown in to minimize disruption to habitat Short duration. Associated w/breaks in fence	NPS-Pinnacles Mgmt NPS-Pinnacles Mgmt NPS-Pinnacles Mgmt NPS-Pinnacles Mgmt
Cultural Resources	Disruption of sites	Sensitive locations will be avoided	NPS-Pinnacles Mgmt
Visitor Recreation & Experience	Presence & sounds of hunters/dogs in park.  Noise from dogs & helicopters.  Sporadic use of hunter/dogs	Work stopped on weekends, holidays, and spring break. Hunters will use silencers to muffle gun shots. Placement of traps and hunt conducted during week to minimize. Short duration. Associated w/breaks in fence	NPS-Pinnacles Mgmt Contract hunter  NPS-Pinnacles Mgmt NPS-Pinnacles Mgmt
Water Quality	Degradation	Traps will not be placed in streams.	NPS-Pinnacles Mgmt
Cumulative Effects	No Impact	N/A	N/A

### **Public Review and Consultation**

Consultation with resource specialists in 1985 initiated construction of a pig-proof fence around what was then most of the monument lands (park boundary was significantly expanded in 2000). Nine public scoping meetings were held in the communities surrounding the park in October, 2001. They were Coalinga, Los Banos, Bear Valley Hall (near Pinnacles), Gilroy, Hollister, Campbell, King City, Soledad, and Salinas. The public strongly supported the proposed action, raising the same issues that were addressed in the Environmental Assessment, including public hunting, relocation, and the use of dogs. As noted above, wildlife specialists and park managers at Hawaii Volcanoes and Channel Islands NPs and California SPs were consulted during the preparation of the Environmental Assessment.

The Environmental Assessment (EA) for feral pig management was made available for public review July 15, 2003, comment period closed August 22, 2003, allowing for a 39 day review period. The EA was placed on the Pinnacles web site, notice of availability was mailed to 147 individuals, federal, state and local agencies, copies of the document were placed in 4 public libraries and both visitor centers, public meeting notice was placed in 2 newspapers of local circulation, 3 public meetings were held (July 30, July 31, and August 7, 2003), which drew 4 people, all of whom supported the project. Four comments were received (3 written, 1 telephone), three supportive, one supporting the hunting but objected to the use of dogs. No new issues or concerns were raised.

Consultations with the California Fish and Game Department (CDFG) and the United States Fish and Wildlife Service (USFWS) were included in this document preparation. CDFG is supportive of the project and advocates a public hunt (August 26, 2003). Pinnacles' enabling legislation does not allow hunting. Even if a means to permit a hunt could be created, the logistics of conducting a safe, effective public hunt in Pinnacles' rough terrain from dusk to dawn (feral pigs feeding time) is extremely difficult. USFWS is supportive of the project, paying particular attention to the effects to California condors, an endangered species being reintroduced to Pinnacles as part of USFWS Condor Recovery Program. The FWS concurred with the proposed project on September 17, 2003.

### **Impairment**

No project is allowed to "impair" National Park resources or values, according to the NPS Organic Act of 1916, and NPS Directors Order #55. The National Park Service may choose to take an action resulting in some impact, ranging from measurable to significant, but "impairment" is strictly prohibited. Alternative B, the selected alternative, contains elements with the potential to have short-term minor impacts that are limited in context. However, implementing any portion of this project will not impair National Park resources and values.

### **Decision**

Based on the environmental impact analysis, the capacity of the mitigation measures to reduce or eliminate impacts, and with due consideration of public input, the NPS has determined that the selected action is not a major federal action that would significantly affect quality of the human

environment. There are no connected actions having potential or significant effects which are foreseen. There are no adverse cumulative effects or indirect effects foreseen. Therefore, an environmental impact statement will not be prepared, and the proposed action may be implemented subject to the provisions of the mitigation plans described herein.

Recommended:

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Cicely A. Muldoon, Superintendent  
Pinnacles National Monument

Date

Approved:

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Jonathan B. Jarvis, Regional Director  
Pacific West Region

Date