



Project Scoping

March 2007

ORAL RABIES VACCINATION PROGRAM

The U.S. Department of Interior (USDI), National Park Service (NPS), in cooperation with the U.S. Department of Agriculture (USDA), Animal Plant Health Inspection Service, Wildlife Services (APHIS-WS), the Texas Department of State Health Services (TDSHS) and other state agencies and rabies task forces, is proposing to implement an oral rabies vaccination (ORVAC) program at Palo Alto Battlefield National Historic Site (Palo Alto) near Brownsville, TX. The program's objective is to stop the northward spread of a specific canine (*Canis latrans*) rabies variant or "strain" of the rabies virus. Cooperative rabies management programs targeting various wildlife species and variants of the rabies virus are already being conducted on numerous land classes in Texas as well as in 25 states in the eastern U.S. If baiting programs were conducted around large tracts of land such as NPS park units, reservoirs of the virus would likely persist, potentially making the program less effective at stopping or eliminating the advance of the different variants of the rabies virus. By participating, the NPS would aid in enhancing the effectiveness of the national rabies management program.

To evaluate alternatives and determine environmental consequences, we will be preparing an environmental assessment for this project. We would like to hear your concerns regarding the implementation of the proposed program at Palo Alto. We welcome your input in understanding issues and developing alternatives for resolving canine rabies at this national park.

OVERVIEW OF THE PROCESS

Project milestones include:

- Public scoping period (closes April 16, 2007)
- Preparation of environmental assessment
- Public review of environmental assessment
- Analysis of public comment
- Preparation of decision document
- Announcement of decision on oral rabies vaccination program

What does the scoping period mean?

Scoping is done in the initial phase of a project to seek input from a variety of sources. The input is used to identify issues, areas requiring additional study, and topics that will be analyzed in the EA process. This is an opportunity for you to provide us with your suggestions, comments, and concerns regarding this rabies vaccination project at Palo Alto.

Is scoping my only opportunity to comment on the project? No, once the EA is developed, the document will be made available for public review for a 30-day period.

PROJECT BACKGROUND

Coyote Rabies Virus in South Texas

Rabies is an acute, fatal viral disease of mammals most often transmitted through the bite of a rabid animal. The disease can be effectively prevented in humans and many domestic animal species, but abundant and widely distributed reservoirs among wild mammals complicate rabies control. Within most of the U.S., these reservoirs occur in geographically discrete regions where the virus transmission is primarily between members of the same species. These species include, but are not limited to, raccoons, coyotes, skunks, and foxes. Species specific variants of the virus may be transmitted to other animal species; however, these encounters rarely result in sustained virus transmission within that animal species. Once established, virus transmission within a specific animal species can persist at epidemic levels for decades, perhaps even for centuries.

In 1988, a variant of rabies that had previously been confined to urban domestic dogs became established in coyotes along the U.S.-Mexico border in south Texas. This canine strain of rabies is readily transmitted from coyotes to domestic dogs and, subsequently, between domestic dogs. Rabies outbreaks involving domestic animals greatly increase the risk of human exposure which heightened

the seriousness of this particular epizootic from a public health standpoint. By 1994, this variant had advanced 158 miles (255 km) north of the U.S.-Mexico border. Two human deaths from this variant occurred during this time - one in 1991 and another in 1994. The south Texas canine rabies epizootic alone has resulted in over 3,000 people receiving postexposure rabies treatment. In 1994, the public health threat was created by this and other expanding epizootics prompted the Governor of Texas to declare rabies a public health emergency in the state.

In an attempt to decrease the public health threat, more than 12.34 million vaccine-laden baits have been distributed over 521,624 km² (201,400 mi²) in south Texas since 1995. Prior to the ORVAC program in 1994, 122 canine variant rabies cases were reported in Texas. Since implementation of the ORVAC program, canine rabies positive cases have declined annually. In 2001 and 2004, only one canine rabies case was reported each year, with zero cases reported between those two years and thereafter. Thus far, the south Texas ORVAC program has proved to be highly effective in the elimination of the canine rabies variant in that area.

Oral Rabies Vaccination zones in Texas are delineated based on the most current distribution of rabies cases and the expected direction of disease spread. Vaccination zones are determined in cooperation with the state rabies task force, TDSHS, and/or other agencies with jurisdiction over vaccine use and application in wildlife and domestic animal species. Baits are distributed over a variety of classes of land ownership, including private, public, tribal, and state and federal lands. As a variety of classes of land ownership are located within the proposed program boundaries, participation by the NPS helps ensure effective coverage and distribution of ORVAC baits and reduces the chance of foci that could serve as sources of rabies reinfection.

Oral Rabies Vaccine

The oral rabies vaccine that would be used in this program is the recombinant vaccinia-rabies glycoprotein (RABORAL V-RG® MERIAL, Inc., called "V-RG" throughout remainder of this document) vaccine currently USDA-licensed for use in raccoons and coyotes in the U.S. and Canada and USDA-approved for experimental use in gray fox in Texas. It has been used extensively and successfully in Europe to combat fox rabies and in the U.S. to combat raccoon, fox, and canine strains of the rabies virus. This vaccine is contained in baits which are distributed by aircraft (fixed-wing airplane or

helicopter) and by ground placement. When animals find and ingest the bait they receive a single dose of the vaccine. The vaccine has been found to be safe for use in a number of animal species, including coyotes. This vaccine was extensively laboratory-tested for safety in more than 50 animal species with no adverse effects regardless of route or dose. In addition, a domestic animal's annual rabies vaccination can be safely administered even if it recently ingested a dose of oral rabies vaccine.

There is no possibility of vaccine-induced rabies with V-RG because the vaccine only contains the non-infective surface protein of the rabies virus. The viral nuclear material (i.e., RNA) required for the rabies virus to replicate is not present in the vaccine. Over 66 million doses have been distributed in the U.S. since 1995 with only one case of vaccinia virus infection reported in humans (resulting in localized skin rashes) to date.

The ORVAC baits that would be used at Palo Alto are small blocks of fishmeal that are held together with a polymer binding agent and are considered to be "food grade" materials. The baits weigh approximately 1 ounce (26 grams) and measure 1 1/4 x 1 1/4 x 3/4 inches. The sachet¹ containing the liquid vaccine is contained in a hollow center in the middle of the bait. Sachets coated with a simple fishmeal attractant (called "coated sachets") could also be used and have been determined to be equally effective as the fishmeal block baits. When coyotes eat the ORVAC baits and puncture the sachet containing the vaccine, the vaccine is swallowed which bathes the lymphatic tissue in the throat area and initiates the immunization process. The sachet is composed of a thin plastic material that is not readily digested by the animal ingesting the bait and is subsequently passed through the animal's digestive tract.

Each individual bait block would have a warning label advising persons not to handle or disturb the bait along with a toll-free telephone number to call for further information (note: the coated sachet does not contain a warning label). Baits may contain a non-toxic tetracycline biomarker to aid in determining whether animals collected for monitoring purposes have eaten one or more ORVAC baits. However, no animals will be collected for monitoring purposes at Palo Alto as other lands have already been identified for monitoring target species.

¹ A thin plastic packet much like those in which condiments (e.g., catsup, mustard) are provided at fast food restaurants.

Goals of the ORVAC program

The primary goals of the program are to:

- To cooperate with APHIS-WS and the involved state agencies in stopping the northward advance of the canine variant of rabies in south Texas by approving the use of ORVAC to immunize portions of target species populations along the leading edges of the rabies fronts; and
- To cooperate with APHIS-WS and the involved state agencies in reducing the incidence of rabies cases involving wild and domestic animals and rabies exposures to humans in the areas where the ORVAC programs are conducted.

PURPOSE AND NEED

The proposed program would distribute ORVAC baits on all or a portion of Palo Alto. Participation by the NPS at Palo Alto is necessary to support and cooperate with the involved state agencies and APHIS-WS in their ongoing efforts of eliminating or stopping the northward spread of canine rabies from the U.S.-Mexico border. If baiting programs were conducted around Palo Alto, reservoirs of the virus would likely persist along the border, potentially making the program less effective at stopping the forward advance or eliminating the canine variant of the rabies virus.

If new rabies virus variants such as those transmitted by coyotes are not prevented from spreading into the U.S., the health threats and costs associated with rabies are expected to increase substantially as broader geographic areas are affected. Livestock and domestic animals in these areas would be at risk to exposure and more importantly, if the canine variant of the rabies virus infects a much broader geographic area, human health concerns would be expected to increase substantially as well.

PROPOSED ACTION

The proposed program would involve the distribution of ORVAC baits at Palo Alto near Brownsville, Texas to create zones of vaccinated target species that would then serve as barriers to cease the further advancement of the canine rabies virus variant. Vaccination zones would be determined in cooperation with the various state rabies task forces, state health departments, and/or other agencies with jurisdiction over vaccine use and application in wildlife and domestic animal species. The program would involve use of APHIS-WS federal funds to assist in the distribution ORVAC baits.

On an annual basis, one treatment of ORVAC baits would be distributed by aircraft (fixed-wing airplane or helicopter) and ground placement. The need to distribute baits at Palo Alto would be assessed annually and based on the most current distribution of rabies cases and the expected direction of disease spread. The annual treatment would continue on a recurring basis until the goals of the ORVAC program have been met. Baits would be distributed at an average density of 27 per km² (70 baits per mi²) during the month of January. Air drops typically would be conducted at about 500 feet above ground level. Aircraft would only fly momentarily over any one point on the ground during any given bait distribution flight. The aircraft do not circle over areas repeatedly, but fly in straight “transect” lines for purposes of bait distribution.

ALTERNATIVES

Two preliminary alternatives were developed by an internal scoping process. Those alternatives include:

- The proposed action (described above); and
- A no action alternative. The no action alternative would preclude any involvement by NPS in rabies prevention or control at Palo Alto. However, APHIS-WS, involved state agencies, and rabies task forces would continue the ORVAC program on other land classes.

Do you have any ideas to share about these alternatives? Are there any other alternatives you think we should consider?

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RESOURCE ISSUES/CONCERNS

Preliminary issues identified by an internal scoping process include:

- Effects on people that become exposed to the vaccine or the baits.
- Effects of the ORVAC V-RG vaccine on coyotes
- Effects on nontarget wildlife species, including threatened or endangered species
- Effects on pet dogs or other domestic animals that might consume the baits
- Potential for the recombined V-RG virus to “revert to virulence” and result in a virus that could cause disease in humans or animals
- Potential for the V-RG virus to recombine with other viruses in the wild to form new viruses that could cause disease in humans or animals
- Potential for aerially dropped baits to strike and injure people or domestic animals
- Effects on NPS wilderness areas
- Effects on visitor use/experience
- Effects on wildlife from aircraft overflights conducted in ORV programs
- Human health impacts resulting from the consumption of a vaccinated wild animal
- Potential for ORVAC bait distribution to affect organic farming
- Impacts on water resources
- Effects of nontarget species consumption of ORVAC baits on program effectiveness
- Impacts to Indian trust resources
- Impacts on lightscape
- Impacts on natural soundscape

Do you have other issues you wish to see addressed or information about the project you would like to provide?

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Please send your scoping comments to:

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Please submit your written comments by April 16, 2007 to receive full consideration in the environmental assessment.

If you wish to comment on the environmental assessment, you may mail comments to the name and address above or post comments online at <http://parkplanning.nps.gov/paal>.

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. Although you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.