



Smithsonian
Institution

Smithsonian's National Zoological Park

Dholes—The Whistling Dog that No One Knows

Theme:

Tracking Elusive Whistling Dogs using Advanced Cellular Phone Technology

Addresses:

Goal of Smithsonian Institution's Strategic Plan for 2004-2008: "excellence in scientific research"

The Thailand Department of National Parks, Wildlife, and Plant Conservation expressed interest in dhole research citing a concern that large dhole packs could attack tourists and deplete deer populations

What is requested?

Dholes—Asiatic wild dogs—are threatened with extinction. However, conservation initiatives tend to focus on more charismatic carnivores such as tigers and ignore pressing issues for the protection and management of dholes. The Conservation GIS Lab of the Smithsonian's National Zoological Park (NZIP) seeks \$25,000, over a 1-year period, to conduct the first comprehensive conservation and ecology study of dholes, focusing on remaining populations in Thailand. The project is timely because it integrates well with NZIP's existing efforts in Thailand, such as our carnivore conservation project at Khao Yai National Park, the Eld's deer project in Thailand's Western Forest Complex, and ongoing work with Thai Zoos. The funds requested are vital for expanding our reach and initiating a multidisciplinary project addressing a species that deserves serious conservation attention. All fieldwork will be carried out with the assistance of a local ranger team. The requested funds will be used for wildlife tracking equipment, training workshops, as well as supplemental support for Thai field assistants and park rangers.

Why is it needed?

Hardly anyone knows about them, yet they may be the key to the conservation of natural communities in tropical forest and grasslands of Southeast Asia. As some species decline, others may assume increased ecological importance. Hence, with the disappearance of larger predators like tigers, the role of dholes in ecosystems may change. These small and secretive carnivores may naturally regulate other wildlife populations.

Dholes (*Cuon alpinus*) are one of the least studied and least understood canids globally. Even their unique whistling communication while hunting is poorly documented. As a result, scientists and wildlife managers know next to nothing about the size, condition, or even geographic distribution of remnant dhole populations. Most significantly, no one knows how many are remaining

in the wild, and we may be losing this species rapidly while no one is watching. However, we do know that dholes are at high risk of extinction due to ruthless persecution by local hunters, depletion of their prey animals (such as deer or rabbits), competition with other carnivores, and diseases transmitted by increasing populations of feral and domestic dogs.

The greatest threat to dholes results from the fact that local people regard them as "a pest of the jungles," that should be eradicated to help increase populations of their prey species. Because of the public's negative attitudes toward dholes and because they are perceived as less charismatic than other carnivores, such as tigers, dholes have received little attention from scientists. Systematic studies of dholes in Thailand are urgently needed to determine their ecology and potential importance for natural ecosystems. We are requesting funding for a pilot study to generate baseline ecological information and to determine the species' current status in Thailand. Our goals are to:

- 1) map the geographic distribution of dholes using countrywide interview surveys at wildlife sanctuaries;
- 2) initiate ecological studies of a dhole population in Kao Ang Rue Nai Wildlife Sanctuary (KARNWS).



Dhole (*Cuon alpinus*), also known as an Asiatic wild dog.

Whistling Dog Project At-a-Glance

What: \$25,000 over 1 year

Why: To provide critical data on the current status of dholes, as well as essential information on the importance of this species for maintaining Thailand's natural ecosystem to help in changing negative perceptions of dholes and to develop long-term conservation plans.

**Addresses
Smithsonian
Institution Science
Commission:**

Promote National Zoo as a leader in scientific excellence, international conservation actions and training programs

Advance National Zoo's role in overseas research and conservation programs

Craft an international message on the role of zoos in conservation of endangered species

Promote national and international collaborations

Focus on the challenges of preserving biodiversity and on adaptations of animals in human-dominated habitats

Attract external funding for research and training

Expand networks to address common problems in world conservation of endangered species

What will we do?

Our proposed project is divided into three studies.

Study 1. Determine Country-wide Distribution of Dholes in Thailand

We will train Thai teachers to conduct interview surveys of park rangers and villagers in protected areas to answer basic questions of where dholes are found throughout Thailand. By using experiential and value-based questions, we also want to find out why dholes are disliked and how we can transform negative attitudes.

Study 2. Determining Dhole Habitat Associations and Distribution at KARNWS

Study 2 will be concentrated at Kao Ang Rue Nai Wildlife Sanctuary (KARNWS), an area of 1,079 km². We will deploy infrared-motion detector cameras during each of the two seasons (rainy season, dry season) and spread throughout all habitat types. Using information on the "capture" location of each dhole photo, we can model where dholes are most likely to be found in the sanctuary.

Study 3. Home Range, Area Requirements, and Habitat Selection by Dhole Packs

Dholes are pack hunters and focal packs can be followed by radio-collaring only a few individuals per group. We plan to collar four dholes from two separate packs. One dhole in each pack will be collared using a Global System for Mobile (GSM)-collar; and one using a Very High Frequency (VHF) collar. GSM collars use cell phone technology and can allow tracking of individuals even when they cannot be detected using the more conventional VHF beacons. However, they are significantly more expensive and if cell-tower coverage is not good, they will yield little data. The cheaper VHF beacons will be used as a back-up and to check reliability and accuracy of GSM data. We will locate each collared animal at least three times per week. We will use the collars to locate packs and obtain basic behavioral data on pack size, pack structure, and pack behavior.

The Benefits

Dholes are at risk of extinction and we urgently need to study the species so we can initiate conservation efforts. Thus, research on dholes should be one of the highest conservation priorities in canid conservation globally. For conservation actions, it is important to understand the processes that dictate the movements of animals, especially if the behavior will bring them into increased contact with people. Results from this research will provide information on area and habitat needs for dholes that can be used in wildlife sanctuary management plans. By working with Thai wildlife managers and park rangers we will significantly increase technical capacity for wildlife monitoring, especially providing new insights into techniques such as GSM radio telemetry and camera trapping for canids. The proposed project will also significantly help in changing common perceptions of dholes, as being a "bad species," by demonstrating their importance in maintaining Thailand's natural ecosystems.

This project is another step in establishing NZP's and the Smithsonian's leadership in high quality science for the conservation of biodiversity and species. It will have significant links to ex-situ (i.e. Zoo) programs on captive dholes and provide essential information for educating the Thai, American, and global public about another fascinating species that is about to vanish. In that respect this project clearly supports the Smithsonian's central mission—the diffusion of knowledge. Already, NZP is utilizing research generated by current research projects for Asia Trail exhibits, a perfect example of how basic and applied wildlife science can link with education and outreach at SI. No doubt, information generated about dhole conservation and ecology will find its way into future exhibit materials for Asia Trail.

Thai student setting a camera trap.

