fields of wheat and other crops overtook the pockets of deep, rich soil they need to dig their burrows. Food is another factor driving their decline. Sagebrush (*Artemesia tridentata*) is crucial to their survival, supplying their winter food supply; but sagebrush has traditionally been targeted for eradication by farmers and ranchers throughout the West. Also, the half-pound, four-inch-high [225 g, 100 mm] rabbits are eaten by a variety of predators, including eagles, hawks, coyotes, badgers and weasels.

Washington's pygmy rabbits have been isolated for thousands of years from the main population (itself classified as near-threatened), which stretches across parts of Idaho, California, Oregon, Utah and Wyoming. Scientists say the state's population is genetically distinct and may constitute a separate subspecies. It is unclear exactly how many of Washington's pygmy rabbits remain besides the 17 in captivity. Biologists found evidence of activity at 14 burrows at Sagebrush Flat, but a single rabbit often uses more than one burrow.

Officials hope to start reintroducing the rabbits into the wild in 2003. But before the release can succeed, more shrub-steppe habitat will have to be protected and restored. The ecosystem, which has been reduced to less than half its original expanse and degraded in many areas, is the focus of a major campaign by the Nature Conservancy of Washington, which last year bought 16,000 acres [6,500 ha] adjacent to Sagebrush Flat. The organization is working with private landowners and the government in as non-confrontational and cooperative a way as possible to restore and protect the shrub-steppe.

Abridged from *Seattle Post-Intelligencer* (27 December 2001)

Riverbanks Zoological Park, Columbia, South Carolina, U.S.A.

Attendance in 2001 was up to 900,000, in contrast to the previous year's low of 710,000. With the rest of our 20 million dollar expansion program due to be completed in March, culminating in the arrival of two koalas from Japan, we look forward to exceeding one million visitors in 2002, an incredible goal for a zoo in a city of only 600,000.

Births and hatchings during the period October to December 2001 were as follows: 1 Matschie's tree kangaroo, 2 Prévost's squirrel, 2 troupial (DNS), 1 golden weaver, 2 pink-necked fruit dove (DNS), 1 blue-faced honeycreeper, 1 crocodile skink, 10 Henkel's leaf-tailed gecko, 2 giant leaf-tailed gecko, 1 crocodile skink. The following were acquired: 0.3 African elephant, 2.0 meerkat, 2.0 Chinese magpie, 0.1 hooded pitta, 0.1 Bali mynah, 0.1 boat-billed heron, 1.1 king parrot, 1 green-naped lorikeet, 3 Buru red lory, 1 Moluccan red lory, 2 Rosenberg's lorikeet, 4 dusky lory, 1.0 shama thrush, 1.0 quince monitor.

Alan H. Shoemaker, Collection Manager

St Louis Zoo, Missouri, U.S.A.

The date is nearing for the introduction of animals in the final phase of the zoo's River's Edge exhibit. Our quarantine facility has become a mini-ark, holding a varied assortment of new arrivals (wart hogs, Chacoan peccaries, giant anteaters and carmine bee-eaters, to name a few). Still other animals continue to arrive for breeding and conservation purposes. For nearly all of the zoo's new residents, a minimum 30-day quarantine is a basic component of our preventive medicine program against the introduction of an infectious disease.

Perhaps a case study is the best way to explain the value and preventive nature of this program. While the great apes at St Louis have never had tuberculosis, they, like their human cousins, are susceptible to it. There are only two ways that they could get it: from close contact with either other great apes that are infected or infected humans. In the latter instance, all of the zoo's keepers who have contact with the apes are tested annually for TB. For the former, all new apes entering the zoo must have three negative tests before they are released from quarantine. (In great apes, the standard site for TB testing is not the forearm, but the eyelid. This allows a reading of the test at 72 hours by looking for swelling, and the animal does not have to be anesthetized to have its arm examined.)

In 1995, St Louis Zoo took the lead in writing the quarantine standards that were adopted by AZA, our accrediting body. Under the standards, quarantined animals undergo a series of tests that include a minimum of three rounds of fecal analysis for parasites (and treatment as necessary), a complete physical examination and routine blood count and broad-spectrum serum chemistries (that show any indication that something might be amiss). Other tests are specific to each species. Many venomous snakes' blood is drawn and tested for paramyxovirus, a virus in the measles family that causes respiratory and neurological disease in many snake species. Parrots and doves are tested for chlamydiosis, 'parrot fever'. When an animal, such as an elephant, that is too large for our facility is considered for the collection, the AZA's guidelines prescribe a pre-shipment testing protocol designed to diagnose any infectious diseases before the animal is transferred.

Although nearly all of our arrivals come from other zoos, most of them in North America, animals are sometimes imported from overseas. In the case of primates from outside the U.S.A., the U.S. Center for Disease Control (CDC) enforces strict standards. St Louis is one of only seven U.S. zoos approved by the CDC to quarantine newly-imported primates. The last animals quarantined under these standards were tamarins imported from the New World Primate Center in Brazil. Hoofstock, such as antelope, from countries in which foot-and-mouth disease is present, also undergo a special U.S. government-supervised quarantine in New Jersey to prevent the spread of that disease. Once released to U.S. zoos, they are subject to special monitoring for an additional two years, and then can only be traded to other AZA-accredited institutions.

Abridged from R. Eric Miller in *Zudus* Vol. 15, No. 4 (July/August 2001)

San Diego Center for Reproduction of Endangered Species (CRES), California, U.S.A.

For 30 years, San Diego Wild Animal Park has been extremely successful in breeding the southern white rhinoceros. In the early 1970s, 22 rhinos were brought here from South Africa, and since then, 89 births have occurred. However, such positive results can lead to a false sense of security for the captive population, because as the offspring (F1 generation) of these wild-born rhinos became mature, it came as a surprise that the captive-born females were not reproducing. The low to zero reproductive rates in the F1 generation were not confined to the San Diego herd. In fact, in the U.S. captive population of white rhinos, only 7% of the F1 generation have reproduced. This is a serious situation, because the original wild-born population imported in the 1970s is now reaching the end of its reproductive life.

Concern about the ageing rhino population led the Endocrinology Division of CRES, together with the Behavioral Biology Division, to begin a study involving several zoos that would evaluate the reproductive patterns of both normally and subnormally reproducing rhino females. Non-invasive collection of feces samples permitted daily collection of information without disturbing the rhinos, and provided details on the reproductive status of each female. From the fecal progestin data we could determine if a female was ovulating, pregnant, or non-