OUR ENVIRONMENT

Condor Chick Death Under Investigation

The Fish and Wildlife Service has announced the results of an autopsy on the California condor chick that died during examination by a biologist on June 30, indicating the cause of death as "shock and acute heart failure." According to service officials, the heart failure resulted in excess fluid in the lungs, depriving the bird of adequate oxygen.

The San Diego Zoo's autopsy report said that moderate obesity—apparently common in wild baby chicks while they are still in the nest—could have contributed to the chick's death. Separate analyses were also conduced by the service's Patuxent Wildlife Research Center, indicating only trace amounts of environmental contaminants in the bird.

The service is conducting a review of the circumstances surrounding the condor's death, and will await these findings (along with the results of experiments with Andean condors and other vultures in South Africa and Peru) before reapplying for permits necessary to continue work as part of the California condor recovery program.

Florida Key Deer Recovery Plan

A recovery plan which has as its objective the stabilization of the Florida Key deer (*Odocoileus virginianus clavium*) population, as opposed to an effort to boost its numbers, has been approved by the Fish and Wildlife Service. Although the population has apparently stabilized at around 350-400 deer, high mortality from road kills and a limited range keep this species in jeopardy.

A distinct geographical race of the Virginia white-tailed deer (*Odocoileus vir-ginianus*), the key deer is the smallest race found in the United States. The average weight of an adult male is 80 pounds and an adult female weighs about 63 pounds. The average shoulder height ranges from 24 to 26 inches.

The center of the Key deer population is Big Pine Key, Florida, with an estimated 200-250 deer. Road kills by automobiles are the most serious threat to the deer on Big Pine Key, accounting for 76 percent of known mortalities of key deer from 1968 to 1973. (Other mortalities were caused by drowning, combat between males, capture for tagging, and unknown factors.) Key deer are strongly attracted to

Rare California condor chick that died while undergoing examination.



U.S. Fish and Wildlife Service

newly burned areas, and will feed extensively on new woody and herbaceous growth for up to 6-9 months. Availability of drinking water seems to influence the distribution of Key deer throughout their range. Periods of drought find the deer utilizing the larger keys, with water, in favor of the smaller keys without drinking water.

To preserve the Key deer, the plan not only emphasizes the importance of maintaining the population level and available habitat, but also the integrity of the subspecies. According to the plan, because the Key deer are the product of a unique system of selective forces (a restrictive, insular environment with no natural predators), management should involve the retention of those natural selection factors that influenced their evolution. Under no circumstances, according to the plan, should a captive zoo-bred herd be considered for restocking purposes.

What the plan does call for, among other things, is the acquisition of more land for the Key Deer National Wildlife Refuge, established in 1957. Key deer habitat is being developed rapidly, and their range is already extremely limited. The only way to ensure adequate protection of this habitat is to incorporate it into the National Wildlife Refuge System.

Efforts to protect the herd and the integrity of the subspecies would include prohibition of hunting, restricting dogs from refuge lands, reducing speed limits, posting deer warning signs, and fencing highways except at trail crossing points.

Other items covered in the plan are public awareness, monitoring the deer population, experimenting with habitat manipulation, and conducting studies on the natural history and population dynamics of the Key deer herd.

Algae as Fertilizer

Using algae in place of nitrogen fertilizer has the potential of helping the agriculture industry cut energy costs by almost 30 percent, according to researchers at Battelle's Pacific Northwest Laboratories. Researchers in Battelle's Food and Agriculture Section are testing several species of algae as substitutes for nitrogen fertilizer. Nitrogen is an essential nutrient for plant growth and production of plant proteins.

The production of nitrogen fertilizers accounts for 30 percent of the energy used by the agriculture industry, observes a Battelle research scientist, adding that as a solar energy product, algae's only major requirement for growth is sunlight, and that's free.



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