

Last Chance for the California Condor?

Stephen Mills



The captive male at
Los Angeles Zoo

With a wild population of only thirteen known birds, the California condor is close to extinction. In 1980 only two pairs even attempted to breed. Breeding in captivity seems the only hope of saving the species, but the project approved by the Federal Government has roused considerable controversy. The author, who spent two years in California, presents the arguments on both sides, outlines the reasons why he believes the experiment should be tried and assesses its chances of success. On June 30, however, after this article was written, a two-month-old California condor chick died while being handled. In a postscript to the article Stephen Mills comments on the effects of this death on the programme.

The winter of 1980/81 may well mark a turning point in the fortunes of the California condor *Gymnogyps californianus*. The US Fish and Wildlife Service and the National Audubon Society have jointly put up \$500,000 to enable the Condor Recovery Team set up by the Service to begin a captive breeding programme. At the moment the condor is very close to extinction. The official estimate of the population is put, optimistically, at 25, but the Team's biologists, including Dr Noel Snyder, Dr John Ogden and John Borneman, are only sure of 13. Sandford Wilbur, the world expert on the condor who initiated the programme, has estimated that four chicks a year are required to sustain the population. In 1980 only two pairs even attempted to breed, and only four immatures are known.

The programme is planned in two stages. This winter as many condors as possible will be lured to baits and captured in cannon nets. Since sexes are similar, a laparoscopy, a small surgical incision to ascertain sex, will be performed on each bird, a method that is instant and permits prompt release, and therefore involves less trauma than keeping the bird for faecal analysis. Each condor will be fitted with a radio transmitter clipped to the leading edge of one wing, and a dummy to balance on the other wing. The transmitter weighs 60 grams (1½ per cent of total body weight); it is solar-powered and, unless its cells are obscured, has a much longer life than a battery-operated

transmitter. For at least a year the birds will then be followed by telemetry, partly to gain more precise information about total population and range, but particularly to establish which individuals, if any, are active breeders; it is essential to know this in order to ensure that the wild population is not disrupted. Telemetry will also be helpful in tracing sick or dead birds. Only six corpses have been found in the last 15 years and little is known about direct causes of mortality.

The only California condor currently in captivity is a 13-year-old male, Topa-Topa, who has spent almost all his life in the Los Angeles Zoo. For the last two years he has been avidly courting everything he sees, including trees, his keeper and even casual visitors. This behaviour is not unusual. An Andean condor which had never seen another condor before mating, and was similarly imprinted on humans, has now fathered several chicks at Patuxent, the government Wildlife Research Center in Maryland. Topa-Topa, therefore, is regarded as a potential founder of a future generation, and the aim is to capture a sub-adult female for him during the first year of trapping. In the programme's second stage, in the autumn of 1981, the Team, using knowledge gained from telemetry, will try to capture four more pairs of sub-adults to bring the captive population up to five pairs.

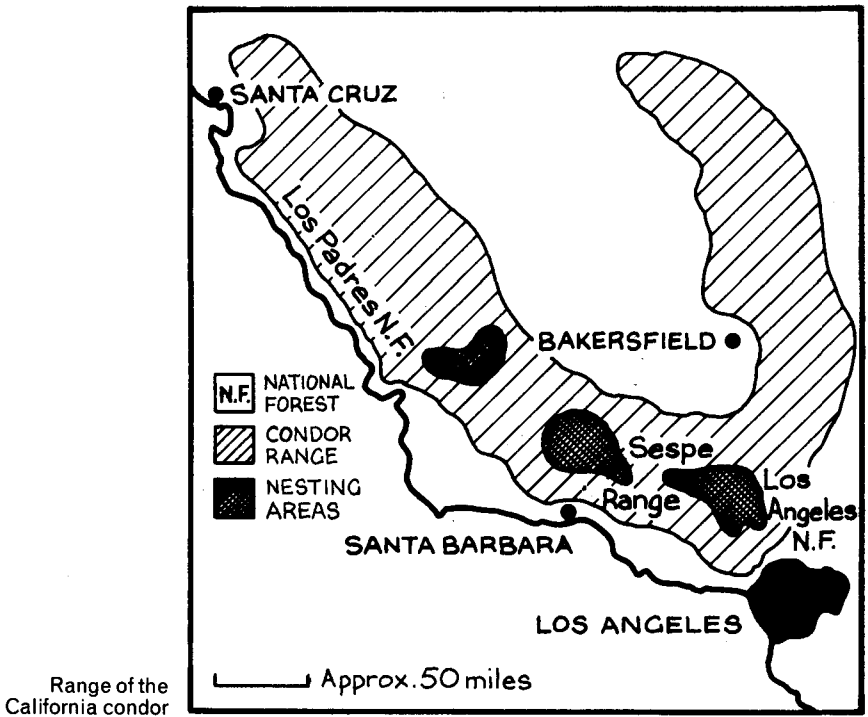
The search for an appropriate home for the condors generated some acrimonious intrigue and competition. The obvious choice might have been Patuxent, but there was opposition to taking the birds out of California. In the final choice San Diego Wildlife Park was preferred to the Predatory Bird Research Group at Santa Cruz and the Los Angeles Zoo, whose curator, Mike Cunningham, was the only person who had ever actually worked with captive California condors, probably because of San Diego's larger staff and cleaner air. In any case the birds should eventually be split up among other institutions to avoid the risk of disease or catastrophe destroying them all in one blow.

The captive breeding programme is a drastic solution involving serious interference with an endangered species. But the history of the condor's decline is so puzzling and the failure of every attempt to save the birds so complete that drastic measures have become necessary both in research and conservation.

Reasons for Decline

There are probably numerous reasons for the condor's decline. One answer might be natural genetic obsolescence. The largest of America's land birds, with its 10-foot wingspan, it is slow to adapt to a changed environment. It employs what geneticists call a K-strategy, a slow breeding cycle to minimise competition at the top of the food-chain. It takes about eight years to reach maturity and the most fertile pair only produce one chick every two years – the second year is needed to protect the juvenile from the attacks of other condors at feeding carcasses, where a pecking order is ferociously asserted. This is clearly not a pattern designed to pull a species back from the verge of extinction, but it is probably not the reason for its being there.

When it was common the condor was helplessly conspicuous. It suffered huge losses at the hands of collectors and trophy hunters, particularly between 1880 and 1910 when these activities were so popular. The California fish and game laws, enacted in 1905, reduced the level of predation, but the conditions for a subsequent recovery gradually ceased to exist. Observations during the



Range of the California condor

1930s and 40s by Carl Koford, who saw groups of 40 birds together, indicated a population of around 100 gradually declining in the 1950s. The pesticide era of the 60s took its toll. The egg-shell tests Sandy Wilbur did in 1971 later showed an average 32 per cent thinning as compared with eggs collected before 1943. By 1977, however, eggs were almost back to normal and although high levels of DDE are still found in migrating species like turkey vultures *Cathartes aura*, possibly infected in Mexico, this is not the case with condors. 1080, a strychnine poison still used widely on the condor range to control of ground squirrels, is thought to pose a threat, but although pesticides have undoubtedly affected breeding success they may not be a major cause of adult mortality.

Southern California has the fastest growing human population in the US, but enough of the recent historical range of the condor, the rugged mountains of the Los Angeles, Los Padres and Sespe National Forests stretching between Santa Barbara and Bakersfield, still exists to provide a favourable breeding ground. More serious than the loss of habitat is the scarcity of food. Since the demise of the buffalo and antelope herds, dead sheep and cattle have been the major ingredients in the condor's diet. But farming methods have changed. Automation has facilitated supervision of grazing animals and fewer are lost. They spend less time on the range and instead are fattened by thousands in huge holding pens close to the railways. Ten years ago the area south of the condor's prime breeding territory consisted of grazing land rolling all the way to the edge of Los Angeles. Now suburbia has covered it all.

Conservationists have tried to combat each of these threats in turn: hunting and the use of pesticides have been greatly reduced; a breeding refuge for condors in the Sespe range was established in 1947 and has been added to since;

other blocks of suitable habitat have been bought and preserved; a supplementary feeding scheme has been operated since 1971. But none of these solutions are a solid foundation for saving the species. For a decade conservationists have waited and hoped, not wanting to interfere radically with the bird's natural biology, but clearly these measures are not enough.

The scientific problem is fundamental. Despite 15 years of unimpeachable research by Sandy Wilbur and Fred Sibley before him, still very little is known about the condors: how many there are, how many breed, what sex and age ratios exist within the population, exactly where they go and why. A large network of observers scattered across Southern California reports every sighting, and each year over 100 ornithologists gather at traditional observation points for a two-day count. But the terrain is vast and rough, there are very few birds to look for, and the information is always hard to interpret. For one thing it is difficult to distinguish individuals. The usual way of separating birds is by eccentric flight patterns (missing feathers, etc.), but these can be shared by several birds at once, since moulting tends to occur in a given order. When a population has fallen so low the errors normally acceptable in a census method of this sort can no longer be afforded.

So the argument for the captive breeding programme has become increasingly convincing, especially when one considers the successes recently achieved in the breeding of other species of raptor. Noel Snyder admits that he himself was one of the sceptics who doubted that peregrines *Falco peregrinus* could ever be reared and hacked back into the wild, and yet this is now being done. The job should be much easier with condors since they are tamer and do not have to be taught to kill. Several New World vultures have already been bred. Captive turkey vultures and black vultures *Coragyps atratus* have been integrated with wild populations, and Andean condors *Vultur gryphus*, the closest living relative of the California condor, have bred readily in San Diego, New York and Patuxent. An Andean condor recovery programme, monitored by the California team, is now several steps ahead of its California counterpart. Last summer 15-20 birds were being released and others captured for radio tracking in the Sechura Peninsula in northern Peru.

Delay the Gravest Risk

The chances of success for the California programme look good, so it is surprising that it is becoming one of the biggest conservation controversies in the US. The objections come from such influential organisations as the Sierra Club, Friends of the Earth and the Fund for Animals, as well as a multitude of concerned individuals, who are putting pressure on the California Fish and Game Department (answerable to the State, not the Federal, Government) whose permission is required at each stage of the project. If they deflect the Department from supporting the programme the result could be disastrous. Delay is probably the gravest of all the risks involved.

Broadly speaking, objections are either sentimental or technical. The sentimental objections involve a general prejudice against zoos and a belief that the condor has a right to die out with dignity; that extinction in the wild is better than a slave's life behind bars. This view regards the condor as a symbol of the wild and indomitable spirit, but in fact condors are tame and rather sluggish birds. John Borneman tells gleefully of the day when a young hiker came into his office with snaps taken with his instamatic of a condor eating his

packed lunch; he promised to come back later with the close ups! Another common concern is that the removal of the wild population might reduce the motive for protecting the habitat and expose it to development. But it is not intended to remove the whole population, and the habitat has to be conserved if the birds are to be put back.

A technical objection is that zoo-breeding with so few individuals may encourage genetic disorders. This, however, could apply equally to the decimated wild population. Indeed, it may already be the hidden key to the problem of its decline. Another consideration is that it is not strictly necessary to catch so many birds just to attach radio transmitters and may involve undue risks; the main task is to capture immature birds, which are easily recognised, for breeding, and it may be best to leave the others alone. Sandy Wilbur shared this view, and so he has recently been transferred by the Government from working on condors to working on Bell's vireo *Vireo bellii*! He is highly respected in California and his presence on the team would have eased a lot of minds. Undoubtedly the Government made a tactical error here, especially as the argument is over a point of principle. In practice, they are very unlikely to catch as many condors as they want to anyway.

The desperate need for the breeding programme seems so obvious that the size of the opposition is surprising. Naturally the zoologists feel they have too many people to please, but in an ecologically conscious society any major project like this has to be publicly explored. Nevertheless, the publicity has taken the Government and its Recovery Team by surprise. Good political management, however, is a vital ingredient of most conservation programmes, and it is not good management to forget public opinion, or to show disunity in the ranks, at least until the major aims are secured. There should certainly be a place for an internationally renowned expert.

Two other important points emerge from the condor controversy. One is the growing need to lay to rest the Disneyland sentimentality that so often obscures arguments about the fate of wildlife. The other is the need for zoos, especially in the US, to earn public support for their role as breeding reservoirs for endangered species.

Meanwhile the Condor Recovery Team has to cope with the pressure of public scrutiny on every step they take. One only hopes that if they do make a mistake – and trapping birds always carries risks – they will not be forced to abandon what is almost certainly the condor's last chance of survival.

Postscript

On June 30, after this report was completed, one of the two nestlings hatched this year died while being handled, probably from heart failure. The State permits for trapping and handling condors were immediately revoked. The opposition has threatened litigation if the permits are restored, on the grounds that further handling of the birds would be against the spirit of the 1973 Endangered Species Act, which prohibits any action liable to be detrimental to the welfare of a classified species. Consequently the whole project has been postponed until spring 1981 and, unless some compromises are reached on both sides, it could be delayed indefinitely.

The death of this chick, apart from being very sad, was appallingly unlucky. Everybody recognised the risks involved, but a mortality at the very beginning

of the programme made the condor appear to be an especially delicate bird. In fact there is no other evidence for this, and no reason to believe that the California condor is any more likely to suffer from handling than other rarities such as Andean condors, nenes or whooping cranes. Many reintroduction projects have had early mortalities and gone on to be spectacular successes. It is still true that without captive breeding the species is extremely unlikely to survive. What is needed now, if the programme is to recover its credibility, is a thorough and sincere public relations campaign to make these two points.

Another question must also be sorted out. It is possible that the risks involved in chick and nest analysis were never justified by the small amount of new information they were likely to yield. In comparison with the need for captive breeding, the value of this field work was insignificant. The biologists will probably have to admit this and shift their emphasis towards the breeding part of the project if they are to regain the support of moderate conservationists. Whether they are prepared to do this is uncertain. In the team's report of the fatality, published in a July newsletter of the National Audubon Society (Vol.10, No.2), the defence of its policy was not very convincing and the consolation offered for the chick's death was ominously 'scientific': 'Despite the tragic loss of the chick, much information will be obtained through the autopsy, tissue samples collected, and artifacts from the nest site. It is hoped that in some small way the information we gain may contribute to a better understanding of the species'.

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