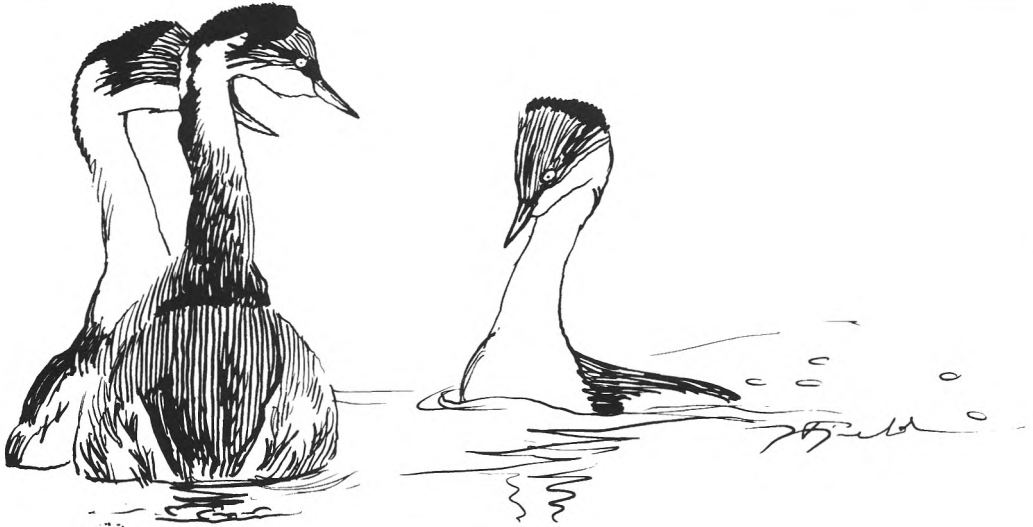


The extinction of the Junín Flightless Grebe?

Thomas Valqui



Junín Flightless Grebe *Podiceps taczanowskii* (Jon Fjeldså)

Resumen

Lake Junín is a unique but fragile ecosystem in the high Andes of central Peru. Designated a national reserve for c.20 years, it is an important centre of endemism which has been persistently contaminated by mining companies operating in the vicinity for c.30 years. This chronic pollution problem (combined with reduced water levels) has had many important consequences for the local human population attempting to subsist on lake products. *Podiceps taczanowskii* is endemic to this lake, and due to the same problems is now threatened with imminent extinction. Its population has dropped from 250 individuals in 1981, to just 50 birds in 1993, this decline being symptomatic of the general state of the ecosystem. An improving political situation and rising water levels have hopefully provided the opportunity for action to be taken to save the grebe and the lake.

The Junín Flightless Grebe *Podiceps taczanowskii* still just survives on Lake Junín (known locally as Chinchaycocha) at 4,000 m in the high Andes of central Peru. Considered by many biologists as the most exquisite ecosystem in the high Andes, this lake serves as a stopover and wintering place for thousands of migratory birds, as well as a breeding ground for large numbers of waterfowl. As an important centre of endemism, and playing host to

significant numbers of economically important species of birds, Lake Junín and its surroundings were designated a 53,000 ha National Reserve in 1974. However, despite being officially protected and part of a project to supply water to the capital Lima, Lake Junín's water has been polluted by mining companies operating in the lake basin for more than 30 years.



Lake Junín, November 1992 (Thomas Valqui)

Extracting important mineral resources such as zinc, silver and copper, these mining companies discharge their untreated waste products directly into Lake Junín, which initially seemed to be an unsaturable sink. Thirty years of persistent contamination has completely polluted 30% of the 15,000 ha lake, which in the polluted parts, consists of thick red water. The majority of the fauna has been displaced to the unpolluted area, although even here local fishermen, hunters and toad-catchers are now having difficulties in obtaining a large enough catch to ensure their subsistence.

One of the most alarming consequences, however, is that we are losing what took thousands of years and particular climatological and geographical circumstances to create, the now threatened Junín Flightless Grebe *Podiceps taczanowskii*. In the 1980s, the intensive studies of Danish ornithologist Dr Jon Fjeldså documented the threat of extinction to this unique species, whose population in 1981 had reached an all time low of only 250 individuals. Actions to help the species were however impossible due to a political situation that

did not allow the presence of any strangers in the area: in 1989 and 1990, the Peruvian Government reported Junín department to be the place with the highest number of deaths caused by the subversive movement. Even though the lake and its surroundings were not in the centre of this area, many local people (mainly officials) either abandoned the area or were killed.

In 1992 and 1993, when the political situation in Junín had improved, but the status of *P. taczanowskii* was increasingly uncertain, a group of Peruvian ornithologists from ECCO (at the suggestion of BirdLife International), visited the lake and conducted two evaluation studies. The first results were frightening. During a three day visit early in 1992, three grebes were found dead on the lake shore where other dead birds were also a common sight. The local hunter, F. Tueros, had disturbing information about the overall deterioration of the lake's fauna. The area was suffering the first year of what was to be a devastating drought, but unfortunately a full census of the grebe could not be undertaken on this visit.

Returning to the area in late 1992, the main goal was to estimate the population of *P. taczanowskii* which had probably reached its lowest point. The drought had continued, and together with careless water-level management of the lake (by the hydroelectric company), the detrimental effects of toxins that had accumulated over the past 30 years, were significantly multiplied. Locals



Junín Flightless Grebe *Podiceps taczanowskii*
Lake Junín, November 1992 (Thomas Valqui)

reported that in September 1992, when the water level had reached its lowest point for 40 years (dropping by 3 m), hundreds of dead herons, ducks, gallinules and grebes were found on the lake shore, victims of the toxic chemicals that mining companies had been discharging. The exact mechanism of toxification is still not known, but it is suspected that indirect bio-accumulation occurs as a result of the birds' consumption of contaminated food, whilst direct toxicological effects could be exerted by absorption of toxins through the birds' skin. The exceptionally low water levels allowed the mining waste products to flow directly into the lake and accumulate in increasing concentrations. As a result of this, the southernmost end of the lake that had initially been relatively unpolluted, accumulated contaminated sediments, covering the lake's aquatic vegetation.

The census carried out in late 1992 showed just c.50 birds remaining, representing an alarming decrease in numbers of birds compared with censuses made in 1968 and 1981. *Podiceps taczanowskii* is the most seriously affected of the birds, as it lacks the possibility of local migrations

as a result of its flightlessness. The low water-level, in addition to concentrating the pollutants, presents a direct problem to the nesting grebes, with the area around the islands where the small nesting colonies are situated drying out and allowing predation by rats, foxes and dogs. In addition to these problems, *P. taczanowskii* seems to be at a natural disadvantage during the breeding season, when it has to compete with the White-tufted Grebe *Rollandia rolland* for food.

However, a number of positive signs show that there is still hope for the grebe and Lake Junín: (1) there are still at least 50 *P. taczanowskii*; (2) with the necessary precautions, it is possible to work in this area, even though it still suffers the consequences of the subversive movement; and (3) with the rains in 1993 the worst period of drought is over, allowing more time during which to decide on actions that should be taken. With this encouragement, a plan for the recovery of *P. taczanowskii* is being developed in which both emergency measures and long-term solutions are proposed. A lake is being searched for in the high Andes which offers ideal conditions for the translocation of some individuals. However, as the very survival of this endemic species is at stake, it is of great importance to try to improve the environmental situation of the lake itself, which in healthy conditions, hosts innumerable species of unique plants and animals.

Although Peru is a country where the mineral and energy resources are critically important, and where the extinction of a species would not cause major concern, the solutions to avoid further contamination of the lake are not necessarily extravagant or obstructive to development. A system of dams can prevent the mining waste products flowing directly into the lake, but will also allow for reasonable water extraction management, whereas the treatment of toxic waste in filter basins would significantly reduce overall pollution in the area - simple solutions for the survival of an exquisite ecosystem.

THOMAS VALQUI

ECCO (*Asociación de Ecología y Conservación*),
Casilla Postal 0359, Lima 18, Peru.