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# Hooded Grebe *Podiceps gallardoi*: extinct by its 50th birthday?

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Only discovered in the 1970s but apparently slipping away towards extinction is the Hooded Grebe *Podiceps gallardoi*. Fortunately, an energetic group of Argentine conservationists spotted the population decline and are galvanising others into helping them save the species.

**R**elatively few non-passerine species eluded the diligent bird collectors that roamed South America during the 18th and 19th centuries, and arguably none was as large and distinctively different as the Hooded Grebe *Podiceps gallardoi*. Finally discovered by Mauricio Rumboll in 1974 (in remarkable circumstances that will be described in a future *Neotropical Birding*), this handsome waterbird inhabits remote terrain in the southernmost part of the continent.

The small number of breeding birds discovered at Laguna Escarchados, Santa Cruz province, Argentina, was initially thought to be an evolutionary relic, but subsequently found to be the most accessible outpost of a larger population. This remarkable discovery—a beautiful and entirely new species for science apparently breeding solely on Patagonian plateaus—inspired the Fundación Vida Silvestre Argentina to send a succession of naturalists to survey the inhospitable interior during the 1980s.

Among their number was the late Andrés Johnson, an Argentine naturalist who probably undertook the brunt of the fieldwork, attempting to unravel the ecological and evolutionary secrets

that might account for the grebe's apparent scarcity and restricted range. Tragically, Andrés passed away in March 2009 when we needed him most; just as the conservation status of his beloved grebe has been uplisted from Near Threatened to Endangered<sup>2</sup> in the light of dramatic population declines evidenced from surveys on its known winter grounds<sup>6</sup> and a summer census in 2009 of its main breeding areas by a team from Asociación Ambiente Sur and Aves Argentinas, part-funded by the Neotropical Bird Club.

## Charting the decline

To all intents and purposes, the Hooded Grebe is endemic to Santa Cruz province, Argentina, as there are only a few records from Chile during the non-breeding season. It breeds on freshwater lakes carved out of basalt on high plateaus (700–1,500 m) east of the Andes, constructing nests from water mifol *Myriophyllum elatinoide*s (locally known as *vinagrilla*). Its core breeding grounds are the Buenos Aires, Strobel and Siberia plateaus. An examination of photographs from the 1980s combined with



The survey team looking for grebes at Laguna El Sello on the Buenos Aires plateau, January 2009 (Santiago Imberti)

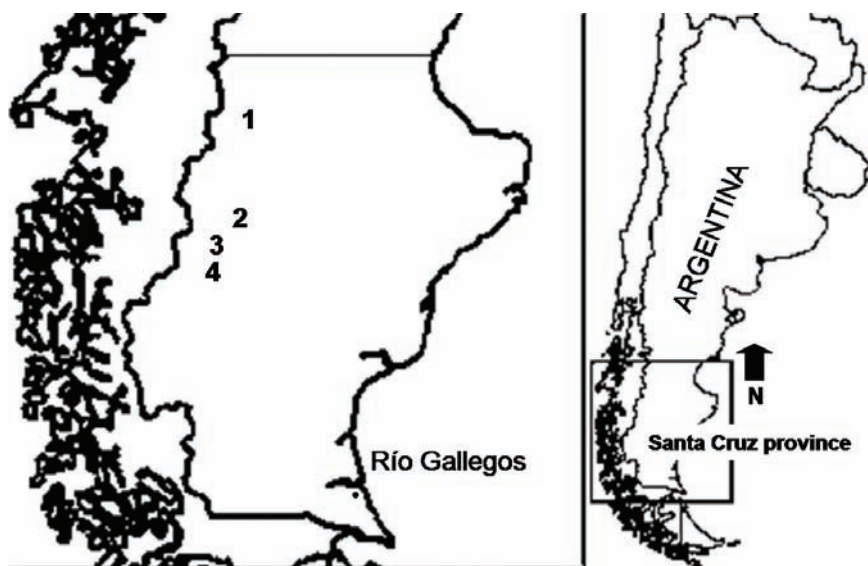


Figure 1. Map showing the breeding distribution of Hooded Grebe *Podiceps gallardoi* in Santa Cruz province, southern Argentina

Key: 1 Laguna El Sello, Toldería Grande & Chica, Buenos Aires plateau; 2 Laguna El Islote, Strobel Plateau; 3 Siberia Plateau; 4 Basáltica Plateau

Figure 2. Table comparing the results of Hooded Grebe *Podiceps gallardoi* surveys in the 1980s and in 2009

Site	Adults		Nests	
	1980s	2009	1980s	2009
Laguna El Sello	165 <sup>a</sup>	51	c.111	0
Laguna El Islote	825 <sup>a</sup>	0 <sup>e</sup>	c.126	0
Laguna Todería Grande	80	0 <sup>e</sup>	c.24	0
Laguna Todería Chica	68	0 <sup>e</sup>	c.20	0
Basáltica Plateaus <sup>b</sup>	161 <sup>c</sup>	24	c.100	0
Siberia Plateaus <sup>d</sup>	534	42	c.200	0
Totals	1,832	117	581	0

Key: <sup>a</sup> mean number of adults across all visits; <sup>b</sup> also known as Lago Viedma plateaus; <sup>c</sup> mean number of adults found at the main lagoons (Las Toscas, Encantada, Plácido y Fallido); <sup>d</sup> mean number of adults found at the four main lagoons; <sup>e</sup> Lagoons had water, but lacked grebes.

(Surveys in the 1980s were conducted by Fundación Vida Silvestre Argentina, those in 2009 by Asociación Ambiente Sur and Aves Argentinas.)

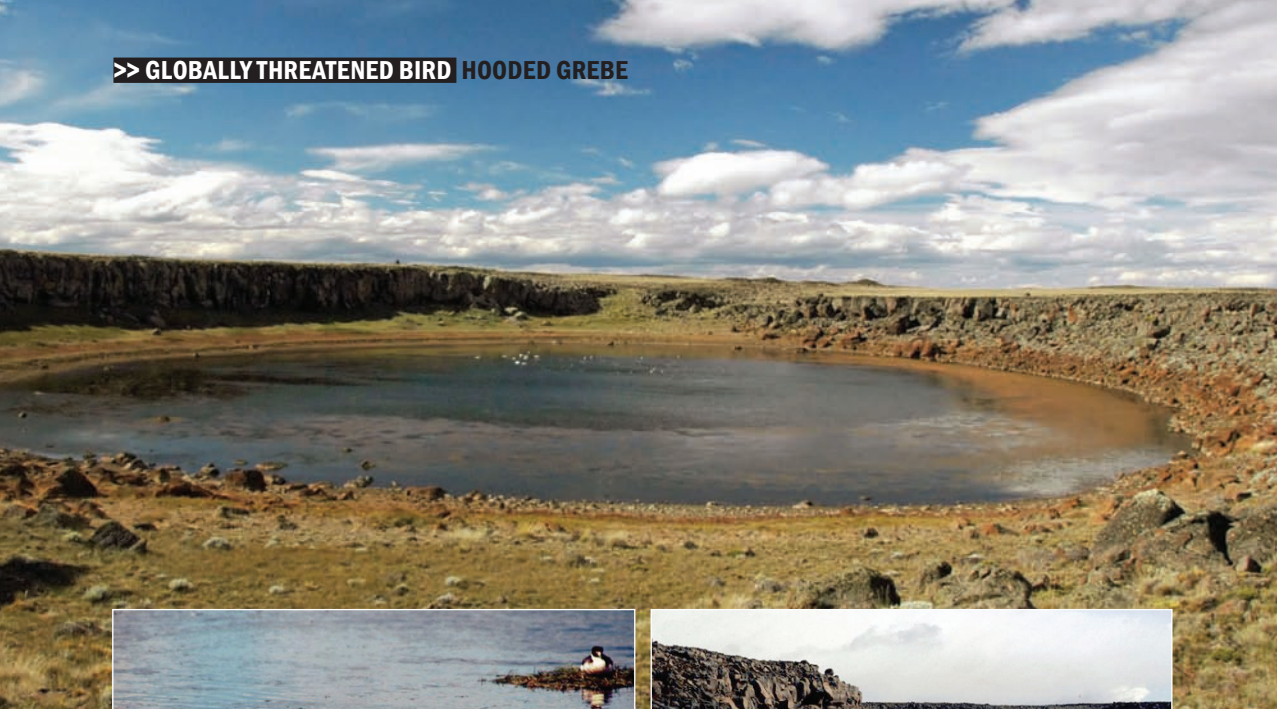
the experience of those that worked in the area in those years, suggests that the Hooded Grebe was formerly the commonest waterbird here. After several breeding-season surveys, the population was estimated at 3,000–5,000<sup>11</sup>.

The grebe's wintering grounds remained unknown for 20 years after the species's discovery, when part of the population was discovered on Santa Cruz coast in 1994<sup>8</sup>. During 1998–2005,

SI and others<sup>5–7</sup> surveyed potential wintering grounds further afield in Santa Cruz and the Chilean fjords. These surveys established that a portion of the Hooded Grebe population winters on the estuaries of the Atlantic coast. This prompted us to initiate regular winter censuses. After a few winters of fieldwork, however, the numbers seemed to indicate a possible decline<sup>6</sup>. For example, in 1994, 462 grebes were detected in the Coyle estuary alone<sup>8</sup>. We visited the area several times each winter for seven years subsequently but never found more than 250 birds. Even by factoring in the grebes we discovered at a new wintering site, the population seemed to have declined very rapidly by at least 40%<sup>6</sup>.

At the same time, we were observing an apparently significant decline on the breeding grounds. During 15 years of leading birding tours around Santa Cruz, we have visited several Hooded Grebe breeding lakes a number of times each summer. Over this period, we have noticed a dramatic reduction in grebe numbers, to the point where it is now hard to locate even odd individuals at lakes that formerly hosted up to 100 breeding pairs. Breeding events seem to have become much less common, and we have not observed a 'big' breeding season since 2003<sup>SL,10</sup>. Even for a species thought to be nomadic<sup>3</sup>, this magnitude of decline appears to be both real and worrying. It was of sufficient concern for the Argentine government (Dirección de Fauna





From top to bottom:

A typical grebe breeding lagoon on the Strobel plateau (Santiago Imberti))

Two images of Hooded Grebe *Podiceps gallardoi* breeding lakes in 1985, depicting colonies that were much larger than today: La Siberia (left; Hernán Casañas) and Lago Strobel (right; Andrea Pigazzi)

Pair of Hooded Grebe *Podiceps gallardoi* at Las Coloradas, Strobel plateau, January 2005 (Santiago Imberti)

This injured Hooded Grebe *Podiceps gallardoi*, found at Río Gallegos in April 2007, was captured and released safely (Santiago Imberti)





Hooded Grebe *Podiceps gallardoi* on the Strobel plateau, November 2008: (top) a pair displaying and (bottom) passing water miffoil (James C. Lowen; [www.pbase.com/james\\_lowen](http://www.pbase.com/james_lowen))

Silvestre, Secretaría de Ambiente y Desarrollo Sustentable), Aves Argentinas and a number of national experts to determine, at a national Red List meeting in May 2008<sup>1</sup>, that the Hooded Grebe was one of the most threatened birds in Argentina and probably in critical danger of extinction.

The word 'probably' concerned us, however, and we thought it likely that without firmer evidence of problematic breeding status, the international conservation community might not feel comfortable in endorsing the Argentine national assessment. This prompted us and fellow conservationists at Asociación Ambiente Sur and Aves Argentinas to conduct a focused survey of the Hooded Grebe's core breeding grounds.

## The summer 2009 expedition

In January and March 2009, we explored the four plateaus (Strobel, Buenos Aires, Siberia and

Viedma) identified during the 1980s as having the large majority of breeding grebes. In total we visited more than 50 lakes and lagoons; that included the six key waterbodies thought to host 40% of the total population in the 1980s<sup>8,9</sup>. Reaching the lakes by 4x4, horseback and/or foot, we counted individual Hooded Grebes and nesting events. We also searched for introduced fish surmised to be a potential threat (see *Explaining the decline*, p. 69), counted other bird species present and collated information on the status of these poorly known Important Bird Areas<sup>3</sup>.

At best, our findings were disheartening; at worst, they were downright worrying. Many lakes were dry and lacked waterfowl. Of the six key lakes from the 1980s, three were entirely devoid of grebes and the others had far fewer grebes than during that decade. In the 1980s, the total mean number of adults found on these lakes was 1,832; we found just 117 individuals.



The equivalent figures for nests were 581 and zero (see Fig. 2). These findings were sufficient evidence for BirdLife International, in its 2009 edition of the IUCN Red List, to uplist the Hooded Grebe by two whole categories of threat<sup>2</sup>.

## Explaining the decline

Causes of the apparent decline are far from clear. In July 2009, Asociación Ambiente Sur and Aves Argentinas ran a Hooded Grebe Conservation Workshop in Buenos Aires. Participants (key local and national stakeholders) identified and assessed many potential threats. The leading contenders, which probably operate in combination, were suspected to be land erosion and its consequences, possible competition with other waterfowl, predation by Kelp Gulls *Larus dominicanus*, the introduction of trout and dropping water levels.

Taking each of these in turn... Land erosion following overgrazing has changed the physiognomy of the land and possibly the mineral composition of the lakes. This change seems to have influenced the composition of the lakes' avifauna, some species (such as Black-necked Swan *Cygnus melancoryphus* and Chiloe Wigeon *Anas sibilatrix*) having significantly increased their numbers and potentially putting them in competition competing with the grebes. Gulls may have always preyed on grebes but their numbers seem to have increased in tandem with a human population increase (and associated poor waste disposal). The introduction of non-native fish (notably trout) to at least 40 lakes on the Strobel plateau<sup>10</sup> and the droughts of recent years are both unwelcome additions. The trout are thought to be both a direct competitor to the grebes and a predator of its young. A series of dry winters appears to have caused the dessication of many small lakes and reduced the water levels of larger lakes throughout the plateaus, reducing available breeding habitat or forcing the grebes to fly farther to find suitable lakes that will last the duration of the breeding season.

Other factors may also play a role. In 1991, the Hudson volcano erupted over the north of the grebe's range. The eruption added volcanic sediment to the lakes and killed surrounding vegetation (which, in turn, accelerated soil erosion). It has been suggested that Hooded Grebes may naturally skip breeding seasons<sup>4</sup>, perhaps as a strategy to survive during years with meagre food resources. But, if that were the case, we would still expect to find large numbers of non-breeding adults on the plateaus. Perhaps the strategy, if it exists, is so delicately balanced

that human modification of the environment has tipped it towards unsustainability?

## Preventing extinction?

While not conclusive, available data strongly suggest a dramatic decline in Hooded Grebe populations that justify its new threat status. The Asociación Ambiente Sur/Aves Argentinas workshop in July 2009 identified next steps for several workstrands, with the goal of stabilising grebe populations and halting their precipitous fall towards extinction.

We acknowledge a need for improved data. Coordinated surveys of the whole breeding range, with several teams working simultaneously, would be ideal—although the inaccessibility of the grebe's habitat will make it impossible to assess every candidate breeding lake. Outside the breeding season, it would be useful to conduct further work on migratory routes and mortality rate (the latter can be large for some species of grebe<sup>4</sup>). Another potential threat that would merit further study is winter starvation, a result of possible depletion of resources by introduced trout in some of the lakes where the grebes probably winter. Other factors that might be affecting wintering grounds are the pollution of estuaries (mainly the río Gallegos) and the increasing number of Kelp Gulls.

We are already working on raising awareness of the grebe's plight, and the workshop has focused our future actions in this area. So far, Asociación Ambiente Sur has educated the politicians, decision-makers and general public on the uniqueness of the grebe and its environment. We are catching the guardian's of the future young. Through our 'Aves Infantiles' ('birds for kids') initiative, we target children aged 4–17 years old. We introduce them to the natural wonders of Río Gallegos (Santa Cruz's main city), via puppet shows, audiovisual presentations, a visit to the municipal environmental centre and a trip to a local urban nature reserve.

During the July workshop, participants observed that laws protecting the grebe and its habitat must be enforced, and efforts be made to raise awareness among politicians and nature agencies of the grebe's critical situation. Remedial action is already underway. The workshop also enabled conservationists in Argentina and beyond to produce a framework with which to move forward. Our goal is to devise and implement the most appropriate strategy to prevent the extinction of the beautiful and unique Hooded Grebe before it turns 50.



Karen Clark of Asociación Ambiente Sur using puppets to teach children about the importance of birds and the environment around Río Gallegos (Santiago Imberti)

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