

# Survival Blueprint

## Hooded Grebe, *Podiceps gallardoi*



Compiler: Kini Roesler

Contributors: Kini Roesler, Laura Fasola, María Emilia Giusti, Lucía Martín, Patrick Buchanan, Pedro Chiesa, Julio Lancelotti, Carlos Ferreyra, Kaitlin Murphy, Robert Willcox, Martina Malerba.

Suggested citation: Roesler, I., et al. A Survival Blueprint for the conservation and management of the Hooded grebe, *Podiceps gallardoi*, in Patagonia, Argentina. An output from the EDGE of Existence fellowship, Zoological Society of London, 2017.



## 1. STATUS REVIEW

### 1.1 Taxonomy:

Hooded Grebe (*Podiceps gallardo*) is basal species of the *Podiceps* genus, with no known closely related species. Isolation due to glacial activity and adaptation to remote lakes has resulted in its separation from the rest of the grebes. Grebes are a homogeneous group, but several behavioural differences have been detected in the Hooded Grebe, mostly due to adaptations to the remoteness and strong weather conditions. Among the most important differences, to the importance for its conservation, is that the Hooded Grebe regularly moult while breeding, i.e. not the typical moult migration as most of the other species of the same genus. Furthermore, it breeds in aggregated colonies in small and mid size lakes.

**1.2 Distribution and population status:** The global population is located in Austral Patagonia, mostly in Argentina, within Santa Cruz province. Breeding grounds are located in highland basaltic plateaus in the western part of that province, near the Andes. The population has experienced an 80% decrease since 1985 (Roesler et al. 2012a). Currently the population is stable with 400 breeding pairs (Roesler 2016). Wintering grounds are in the estuaries of three important rivers in the Atlantic Coast (Santa Cruz, Coyle and Gallegos). Some juveniles overwinter in the Cardiel Lake. A small Chilean population is known from a small set of lakes nearby and within Torres del Paine National Park, but no reproduction has been detected to date at these locations. Threats to the hooded grebe are mostly from invasive species, climate change and habitat modification (e.g. hydroelectric dams).

#### 1.2.1 Global distribution:

| Country   | Population estimate (plus references) | Distribution        | Population trend (plus references) | Notes  |
|-----------|---------------------------------------|---------------------|------------------------------------|--|
| Argentina | 800 (Roesler et al. 2012a)            | Santa Cruz province | Stable                             | Population censuses since 2009.  |
| Chile     | c. 20 (Roesler 2015)                  | Magallanes Region   | Unknown                            | No population monitoring. No records of breeding populations but highly likely to breed in remote lakes nearby in Torres del Paine NP. |



### 1.2.2 Local distribution:

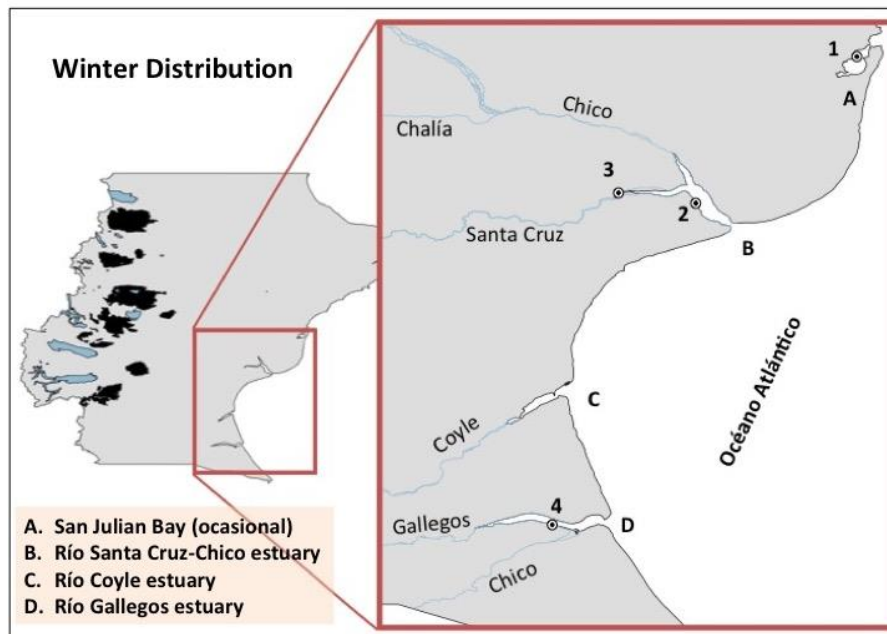
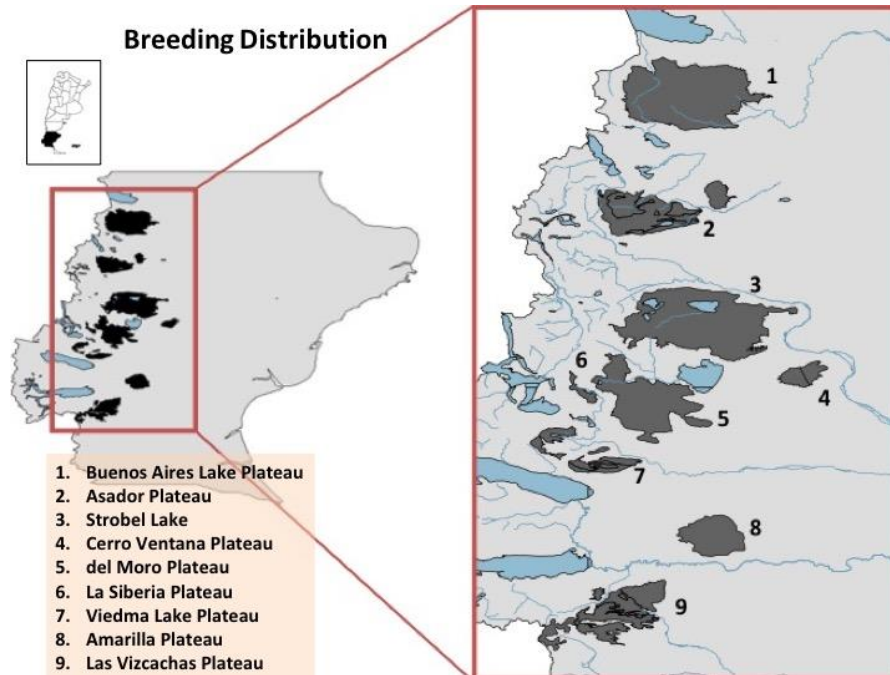
| Country   | Region / province   | Site  | Level of Protection   | Population size  | Reference(s)   | Notes  |
|-----------|---------------------|---|---|--|--|--|
| Argentina | Santa Cruz province | Six highland plateaus of western part of the province. Wintering at three main estuaries in the Atlantic Coast. Lowland lakes (juveniles) | One national park (Patagonia NP), protects 40% of the global breeding population. | 800 breeding individuals                               | Roesler, I., S. Imberti, H. Casañas, B. Mahler, and J. C. Rebores. 2012. Hooded Grebe <i>Podiceps gallardoi</i> population decreased by eighty per cent in the last twenty-five years. Bird Conservation International <b>22</b> :371–382. | Regular monitoring of the breeding populations may indicate that the population is slowly growing at a rate of 2-3% per year. This may be a result of long term conservation and management actions. |
| Chile     | Magallanes Region   | Scattered lakes south of Torres del Paine National Park   | Some lakes within Torres del Paine NP.  | c. 25 individuals. No breeding records in the country. | Roesler, I. 2015. The status of Hooded Grebe ( <i>Podiceps gallardoi</i> ) in Chile. Ornithologia Neotropical <b>26</b> :255–263.  | This populations may represent relict individuals of the type locality population of Las Vizcachas plateau.  |

### 1.3 Protection status:

The Hooded Grebe is considered Critically Endangered by the IUCN and also by the Argentinean Environmental Legislation. It is considered a Natural Monument of Santa Cruz Province. The Patagonia National Park (Santa Cruz province, Argentina) protects 40% of its population in the breeding grounds. In Chile Torres del Paine NP protects some lakes with regular presence of few individuals. Historically, Perito Moreno NP (Argentina) supported a



small breeding population (+- 15 pairs) but the last known record of the species in that area is more than 20 years old.



#### 1.4 Ecology, behaviour and habitat requirements:

It is a medium size grebe (approx. 500 grs; males 600 grs and females 450grs). Its biology and ecology are similar to the rest of the grebes, with some important differences, mostly at a behavioural scale. Its breeding colonies are compact (nests are 20 to 100 cm apart), with a high number of breeding pairs per colony. Parents raise a single chick (2% of the breeding pairs raise a second chick). Moulting during





migration is not part of its behaviour as in the other grebes, since the moult of Hooded Grebe occurs during the breeding period. Most of the fat is accumulated during the winter period in the estuaries, since in these locations they prey on small fishes

The Hooded Grebe inhabits approximately 25 highland lakes across five highland plateaus during the breeding period. Its habitat requirements are crystal clear lakes, with a 50% of coverage of water Milfoil and a maximum size of 50 hectares (for reproduction). It feeds on macro invertebrates (mostly snails and crustaceans) associated with the milfoil. In winter the grebes rely on the estuaries of big rivers.

## 1.5 Threat analysis:

Several threats have been proposed to explain the decline of Hooded Grebe populations, combined into three main categories: biotic, abiotic and incidental.

The first category includes: a) depredation of eggs and chicks by Kelp Gulls (*Larus dominicanus*), b) competition and depredation by rainbow trout (*Oncorhynchus mykiss*), c) depredation of eggs, chicks and adults by American mink (*Neovison vison*) and d) competition or interference with other waterfowl over nest sites.

The second category includes: a) soil erosion caused by overgrazing, which may result in colmatation and changes in physicochemical conditions of lakes, b) volcanic eruptions, which also may affect, at least temporarily, the availability of suitable breeding lakes, as a result of the influx of volcanic ash, c) an apparent increase in the average wind speed during the breeding season (Global Climate Change), which may cause an increase in damage to nests, and d) a drought cycle, which may reduce availability of lakes suitable for breeding (Global Climate Change).

The third category includes: a) bycatch in fisheries at the estuaries of the rivers Coyle, Gallegos and Santa Cruz, b) harmful effects of artificial lights in cities near the wintering grounds, which may confuse migrants and produce collisions (e.g. there are two records for Hooded Grebes at Río Gallegos city, and it has been reported as an important threat for some migratory grebes of North America), and c) habitat modification due to hydroelectric dams to be constructed in the Santa Cruz River (i.e. habitat modification of the Santa Cruz River estuary).

## 1.6 Stakeholder analysis:

| Country   | Stakeholder                                      | Stakeholder's interest in the species' conservation    | Current activities                         | Impact (positive, negative or both) | Intensity of impact (low, medium, high or critical) |
|-----------|--|--|--|-------------------------------------|---|
| Argentina | National Park Administration (NPA). They are the | Enforcement of National Parks and protection of native | Enhancement of the Patagonia National Park | Positive                            | High/critical                                       |



|           |   |  |  |          |        |
|-----------|---|--|--|----------|--------|
|           | national agency that control and run all national parks in Argentina.   | species.   | (from 50.000 ha to 250.000 ha.). Support on the invasive species control programmes (American Mink).   |          |        |
| Argentina | Consejo Agrario Provincial (CAP) (Provincial Agricultural Council). They are a provincial agency that is in charge of the reserves and wildlife in Santa Cruz province. | Improve the knowledge of the wildlife in Santa Cruz in order to protect it. Enforcement of the provincial natural reserves.  | Not many activities due to the lack of capacities (i.e. no field technicians nor personnel in important towns nor vehicles to access to Hooded Grebe areas). I have been supporting their activities and incentivising to improve their presence in the field. | Positive | Low    |
| Argentina | Sociedad Rural Argentina (SRA). A national organisation that congregates landowners all over the country, promoting new productive activities and techniques.           | The creation of Protected areas and the implementation of new laws and regulations could restrict their economic activities. The project has no real impact on their interest, although the Hooded Grebe has become a local symbol that community is proud of. | Improve activities to increase sustainable use of the land. Working on ecotourism opportunities. Coordination to control of invasive species (American Mink) and avoidance of stocking rainbow trout   | Both     | Medium |



|           |   |  |   |          |        |
|-----------|---|--|---|----------|--------|
|           |   | Presence of HG on their land could eventually reduce the productive opportunities in relation to aquaculture activities (freshwater fisheries) | on important Lakes.   |          |        |
| Argentina | Local NGOs (Ambiente Sur, Asociación Identidad, local Club Andinos (2), Club de Observadores de Aves – COA– (6)) and national NGOs (Aves Argentinas, Fundación Flora y Fauna Argentina and Banco de Bosques). | Conservation of the wildlife and protected area enforcement. Some NGOs work on the protection of natural and cultural heritage.                | The activities are based on increasing the capacities of the NGOs and the participant. Building local capacities and generation of local leaders. Furthermore interaction with national NGOs will promote activities and conservation at a larger scale (National and international). | Positive | High   |
| Argentina | Local governments (municipal and provincial)  | Political visibility and resources from ecotourism.  | Promotion of the interaction with other provincial and national agencies. The Hooded Grebe is becoming an important income for many localities due to the   | Positive | Medium |



|           |  |  |   |          |        |
|-----------|--|--|---|----------|--------|
|           |  |  | increase of the birdwatching tourism.   |          |        |
| Argentina | Independent landowners (not members of the SRA). | Similar to the ones of SRA: The creation of Protected areas and the implementation of new laws and regulations could restrict their economical activities. | Activities proposed have no real impact on their interest, although the Hooded Grebe has become a local symbol that the community is proud of. Presence of HG on their land could eventually reduce the productive opportunities in relation to aquaculture activities (freshwater fisheries) due to restriction on the uses of the waterbodies. A positive aspect is that the project could generate new resources for ecotourism. | Positive | Medium |





**1.7 Context and background information that will affect the success of any conservation action for this species:**

|  | Description   | Barriers to conservation  | Opportunities for conservation  |
|--|---|---|---|
| <b>Socio-cultural effects and cultural attitudes</b> | Patagonian societies are “close” societies and very conservative in their behaviours.   | Continuation with current activities and lack of dialogue to change cultural perception of opportunities (continuation of current activities and behaviours, such as fisheries, open sky city dumps, overgrazing) | The most important opportunity is that when you become a “member of their society” (after spending several years working in the area) your voice is heard by the local leaders. Changes in those close communities are only possible through the local leaders. |
| <b>Economic implications</b>                         | Changes in economical activities will take time since; the current economic activities are large-scale activities (Fisheries and cattle grazing). | The biggest threat is the long periods of time needed to change the economical activities.  | Bringing new options for income that are easier to achieve at low cost with high-income rate (e.g. eco-tourism) will provide a powerful tool to discuss changes in their economic activities.   |



|   |   |  |   |
|---|---|--|---|
| <p><b>Existing conservation measures</b></p>  | <p>Creation of National Parks and invasive species control programmes.</p>  | <p>The total area covered by nature reserves and the scale of the control programmes is not enough (it is less than 40% of HG distribution). Lack of conservation actions in the winter grounds. New mega dams proposed and almost certain to go ahead (despite campaigns) for part of the winter grounds.</p> | <p>The increasing interest on the conservation of the HG will favour the increase in the total area protected and will favour the extrapolation of the invasive species control programme to different areas.</p> |
| <p><b>Administrative/political set-up</b></p> | <p>Santa Cruz and National Governments have passed laws to protect the Hooded Grebe. The economic situation in Santa Cruz is poor, but the National Government has increased the funding to protect critically endangered species under the “Zero Extinction Programme”; the HG is one of the selected species.</p> | <p>The political differences between provincial and national government are probably reducing the chances to get enough funding to protect the complete distribution of the Hooded Grebe.</p>  | <p>The high profile of the Hooded Grebe in the public eye will provide support and pressure to the governments to favour its conservation.</p>  |
| <p><b>Local expertise and interest</b></p>    | <p>Local expertise has grown since 2015 with several local leaders now participating in different localities of the province. Local leaders are getting attention through participating in COAs (Birding Clubs) and by working with local NGOs.</p>   | <p>Lack of resources to support local leaders may reduce the support available and lead to the cancelation of current activities, undermining the current interest that inhabitants of the province have in the conservation of the Hooded Grebe</p>   | <p>Local leaders are mostly born and raised in their hometown. That characteristic makes them a fundamental tool to reach every level of the community, even higher levels within political administration.</p>   |



|                           |  |   |  |
|---------------------------|--|---|--|
| <b>Cultural attitudes</b> | Hooded Grebe has become a local symbol, changing the perception of the importance of wildlife. Cultural perception of ranching is important, and sheep are the most important animal for the region. | The conflict of interest and perception of those conflicts (between sheep production and grebe conservation) could become an important problem for the creation of nature reserves. | The importance of the HG in the Santa Cruz (and Argentinean) community will support conservation actions toward protection of the species. |
| <b>Appeal of species</b>  | The Hooded Grebe is the most well-known bird species in the area. The species has received special attention by local communities.   | N/A   | The species' popularity and high level of appeal will support conservation actions.  |
| <b>Resources</b>          | The resources for HG conservation are scarce, as most resources for conservation all over the country.   | Political crisis, and economic changes in the country could threaten current conservation actions.  | Popularity of HG and national government interest on the species could help to secure future funding.                                      |



## 2. ACTION PROGRAMME

|   |   |
|---|---|
| <b>Vision (30-50 years)</b>   |   |
| Recover Hooded Grebe populations numbers and occupancy area to similar levels known in the 1980's                               |   |
| <b>Goal(s) (5-10 years)</b>   |   |
| Recover important population by controlling major threats and by creation of new protected areas.                               |   |
| <b>Objectives</b>   | <b>Prioritisation</b><br><i>(low, medium, high or critical)</i> |
| Expansion and consolidation of invasive species control programmes  | Critical  |
| Understand biological characteristic fundamental for its conservation (e.g. migration patterns)                                 | Critical  |
| Creation of protected areas in breeding grounds (national and provincial)   | Critical  |
| Identification of threats in the winter grounds   | High  |
| Creation of protected areas in the winter grounds (national and provincial)   | Critical  |
| Reinforcement of the educational/divulgate programme at local, provincial, national and international level                     | High  |
| Consolidation of local network of local leaders and local participant for the protection of important areas (winter and summer) | High  |
| Promotion of sustainable activities (e.g. ecotourism)   | High  |
| Promotion of scientific research to different component of the ecosystem.   | Medium  |



| Activities   | Country / region | Priority<br>(low, medium, high or critical) | Associated costs (GBP) | Time scale | Responsible stakeholders                     | Indicators   | Risks  | Activity type                     |
|--|------------------|---|------------------------|------------|--|--|--|-----------------------------------|
| <b>Objective 1: Expansion and consolidation of invasive species control programmes</b> |                  |   |                        |            |  |  |  |                                   |
| Mink Control Programme   | Argentina        | Critical                                    | 70.000 Pounds/year     | 10 years   | National Park Administration, CAP, INTA, RSA | Eradication of mink population from important areas for the HG | <p>Opportunities: National programmes for controlling invasive species. Provincial law against American Mink.</p> <p>Threats: lack of resources for long-term conservation programmes.</p> | Species Management / Law & Policy |
| Lake restoration programme (Trout removal)   | Argentina        | High  | 40.000 Pounds/year     | 10 years   | CAP, Fresh water Provincial Administration   | Lake without presence of Trout.                                | <p>Opportunities: National programmes for controlling invasive species. Provincial law against American Mink.</p> <p>Threats: lack of resources for long-term conservation programmes.</p> | Land/ Water Management            |
| Kelp Gull population Control   | Argentina        | High  | 5.000 pounds/year      | 20 years   | CAP, NPA, INTA, Local Municipalities.        | Reduction of the number of inland colonies.                    | <p>Opportunities: National programmes for controlling invasive species. Provincial law against American Mink.</p> <p>Threats: lack of resources for long-term conservation programmes.</p> | Species Management                |





| Activities  | Country / region | Priority<br>(low, medium, high or critical) | Associated costs (GBP) | Time scale | Responsible stakeholders | Indicators  | Risks   | Activity type       |
|---|------------------|---|------------------------|------------|--------------------------|---|---|---------------------|
| <b>Objective 2: Understand biological characteristic fundamental for its conservation (e.g. migration patterns)</b> |                  |   |                        |            |                          |   |   |                     |
| Movement studies  | Argentina        | Critical                                    | 30.000 Pounds/year     | 5 years    | CONICET, NGOs (COAs)     | GIS with complete information of timing and distribution. Peer reviewed publications. | <p>Opportunities: increasing interest in migratory movements of grebes. Increasing in the number of observers and local leaders. Increasing in the number of eBird users.</p> <p>Threats: difficulties to secure long term funds for research activities in developing countries.</p> | Improving knowledge |
| Habitat characteristics studies (site selection and lake characteristics)   | Argentina        | High  | 15.000 Pounds/year     | 5 years    | CONICET                  | Peer reviewed publications.   | <p>Opportunities: increasing interest in the conservation of the Hooded Grebe. The Environmental Agency treats it as an important species.</p> <p>Threats: difficulties to secure long term funds for research activities in developing countries.</p>                                | Improving knowledge |
| Behavioural and biology studies   | Argentina        | High  | 18.000 Pounds/year     | 7 years    | CONICET                  | Peer reviewed publications.   | <p>Opportunities: increasing interest on the conservation of the Hooded Grebe. The Environmental Agency treated it as an important species.</p> <p>Threats: difficulties to secure long term funds for research activities in developing countries.</p>                               | Improving knowledge |



| Activities   | Country / region | Priority<br>(low, medium, high or critical) | Associated costs (GBP) | Time scale | Responsible stakeholders   | Indicators  | Risks   | Activity type       |
|--|------------------|---|------------------------|------------|--|---|---|---------------------|
| <b>Objective 3: Creation of protected areas in breeding grounds</b>                      |                  |   |                        |            |  |   |   |                     |
| Identification of important areas and promotion of information to governmental agencies. | Argentina        | Critical                                    | 8.000 pounds/year      | 5 years    | NPA, CAP, Secretary of Environment (Santa Cruz), local municipalities. | Amount of hectares protected  | <p>Opportunities: increasing interest in the conservation of the Hooded Grebe due to the potential impact of the hydroelectric dams (compensation activities). The Environmental Agency treats it as an important species.</p> <p>Threats: Difficulties of the government to buy private land. Local rejection of creation of nature reserve in productive lands.</p> | Law & Policy        |
| <b>Objective 4: Identification of threats in the winter grounds</b>                      |                  |   |                        |            |  |   |   |                     |
| Site selection studies in the winter grounds   | Argentina        | High  | 15.000 pounds/year     | 2 years    | CONICET. Universities. NGOs (COAs)                                     | GIS (complete information of utilization). Peer reviewed article published. | <p>Opportunities: increasing interest in the conservation of the Hooded Grebe. The Environmental Agency treats it as an important species.</p> <p>Threats: difficulties to secure long term funds for research activities in developing countries.</p>  | Improving knowledge |



| Activities   | Country / region | Priority<br>(low, medium, high or critical) | Associated costs (GBP) | Time scale | Responsible stakeholders   | Indicators   | Risks  | Activity type          |
|--|------------------|---|------------------------|------------|--|--|--|------------------------|
| Social studies   | Argentina        | High  | 1.000 pounds/year      | 2 years    | CONICET. Universities. NGOs (COAs)                                     | Threats detected. Peer reviewed article published. | <p>Opportunities: increasing interest in the conservation of the Hooded Grebe. The Environmental Agency treats it as an important species.</p> <p>Threats: difficulties to secure long term funds for research activities in developing countries.</p>   | Education & awareness  |
| <b>Objective 5: Creation of protected areas (national and provincial) in the wintering grounds</b>                             |                  |   |                        |            |  |  |  |                        |
| Identification of important areas and promotion of information to governmental agencies.                                       | Argentina        | Critical                                    | 8.000 pounds/year      | 5 years    | NPA, CAP, Secretary of Environment (Santa Cruz), local municipalities. | Amount of hectares protected                       | <p>Opportunities: increasing interest on the conservation of the Hooded Grebe due to the potential impact of the hydroelectric dams (compensation activities). The Environmental Agency treated it as an important species.</p> <p>Threats: Difficulties of the government to buy private land. Local rejection of creation of nature reserve in productive lands.</p> | Land/ water protection |
| <b>Objective 6: Reinforcement of the educational/outreach programme at local, provincial, national and international level</b> |                  |   |                        |            |  |  |  |                        |



| Activities   | Country / region | Priority<br>(low, medium, high or critical) | Associated costs (GBP) | Time scale | Responsible stakeholders   | Indicators   | Risks   | Activity type         |
|--|------------------|---|------------------------|------------|--|--|---|-----------------------|
| Educational programme  | Argentina        | High  | 4.000 Pounds/year      | 10 years   | Education Secretary of Santa Cruz. National Agency of Education. Local education institutions. | Number of teachers trained (capacitated) and number of school children approached. | Opportunities: common content in the educational programme within the province. Popular interest in conservation aspects.<br><br>Threats: hard to build teachers capacity over a large area | Education & awareness |
| Outreach programme   | Worldwide        | High  | 2000 pounds/year       | 10 years   | NGOs (local, National and international).  | Number publications and presence in global media per year.                         | Opportunities: global interest in worldwide conservation problems.<br><br>Threats: difficulties to reach international audience with a local problem.                                       | Education & awareness |
| <b>Objective 7: Consolidation of local network of local leaders and local participants for the protection of important areas (winter and summer)</b> |                  |   |                        |            |  |  |   |                       |
| Network reinforcement  | Argentina        | High  | 1000 pounds/year       | 5 years    | NGOs, local municipalities.  | Number of local leaders and participants in the network                            | Opportunities: local increase in the interest for the conservation of the Hooded Grebe.<br><br>Threats: lack of funding to guarantee a permanent presence in the area.                      | Education & awareness |
| <b>Objective 8: Promotion of sustainable activities (e.g. ecotourism)</b>  |                  |   |                        |            |  |  |   |                       |



| Activities   | Country / region    | Priority<br>(low, medium, high or critical) | Associated costs (GBP) | Time scale | Responsible stakeholders                                       | Indicators  | Risks   | Activity type                               |
|--|---------------------|---|------------------------|------------|--|---|---|---|
| Baseline information for potential tourism activities  | Argentina           | High  | 2500 pounds/year       | 3 years    | CONICET, NGOs (local and national)                             | A complete report of potentially important species and sites. | <p>Opportunities: local interest for new economic activities.</p> <p>Threat: difficulties to capacitate local people. Lack of political support. Available resources to support increase in tourism demand.</p>                       | Livelihood, economic & other incentives     |
| Promotion activities for develop tourism   | Argentina/worldwide | High  | N/A                    | 10 years   | NGOs (local and national), provincial and national government. | Number of visitors to the HG area                             | <p>Opportunities: growing ecotourism options in Patagonia. Worldwide interest increasing to ecotourism activities.</p> <p>Threats: lack of facilities to support the growth of the demand. Competition with more popular options.</p> | Livelihood, economic & other incentives     |
| <b>Objective 9: Promotion of scientific research on different components of the ecosystem.</b> |                     |   |                        |            |  |   |   |   |
| Bird community studies   | Argentina           | Medium                                      | 5000 pounds/year       | 5 years    | CONICET. Universities.   | Per reviewed articles published                               | <p>Opportunities: connection with the conservation of the Hooded Grebe. Infrastructure and logistic provided by the Hooded Grebe Project.</p> <p>Threats: lack of resources for scientific research.</p>                              | Education & awareness / Improving knowledge |





| Activities                   | Country / region | Priority<br><i>(low, medium, high or critical)</i> | Associated costs (GBP) | Time scale | Responsible stakeholders | Indicators                      | Risks  | Activity type                                 |
|------------------------------|------------------|--|------------------------|------------|--------------------------|---------------------------------|--|---|
| Landscape ecological studies | Argentina        | medium   | 6000 pounds/year       | 5 years    | CONICET. Universities.   | Per reviewed articles published | <p>Opportunities: connection with the conservation of the Hooded Grebe. Infrastructure and logistic provided by the Hooded Grebe Project.</p> <p>Threats: lack of resources for scientific research.</p> | Land / water management / Improving knowledge |



### 3. LITERATURE CITED

Roesler, I., S. Imberti, H. Casañas, B. Mahler, and J. C. Reboreda. 2012. Hooded Grebe *Podiceps gallardoi* population decreased by eighty per cent in the last twenty-five years. *Bird Conservation International* **22**:371–382

Roesler, I. 2015. The status of Hooded Grebe (*Podiceps gallardoi*) in Chile. *Ornitologia Neotropical* **26**:255–263

