

Lontra provocax - (Thomas, 1908)

ANIMALIA - CHORDATA - MAMMALIA - CARNIVORA - MUSTELIDAE - *Lontra - provocax*

Common Names: Southern River Otter (English), Huillin (English), Huillín (Spanish; Castilian), Lobito Patagónica (Spanish; Castilian), Loutre du Chili (French), Nutria de Chile (Spanish; Castilian)

Synonyms: *Lutra provocax* Thomas, 1908

Taxonomic Note:

Lontra provocax had been considered a subspecies of *L. canadensis* (Davis 1978). It was placed in the genus *Lontra* by van Zyll de Jong (1987). Koepfli and Wayne (1998) and Bininda-Emonds *et al.* (1999) supported the separation of New World otters into genus *Lontra* from *Lutra*, except *Pteronura*.

Red List Status

EN - Endangered, A2cd+3cde (IUCN version 3.1)

Red List Assessment

Assessment Information

Date of Assessment: 29/12/2019

Reviewed: 10/03/2020

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Facilitators/Compilers: NA

Assessment Rationale

The distribution of the Southern River Otter has declined drastically due to combined pressures from the destruction of habitat, removal of vegetation, river and stream canalization, and extensive dredging (Medina 1996, Medina-Vogel *et al.* 2003). At present, poaching is a minor problem but still occurs particularly south of 43°S latitude where control of hunting is difficult to implement. Extirpation of the Southern River Otter began in local basins but has become widespread. The lack of re-establishment of the species is probably due to high mortality or reproductive failure following the dispersal of otters into unsuitable areas (Medina 1996). This is resulting in a population that is becoming increasingly fragmented and more susceptible to local extinctions through habitat destruction, human disturbance, predation by domestic dogs, and demographic or environmental stochastic events. Genetic studies have confirmed a lower genetic diversity in the northern freshwater subpopulations in comparison to those from the south confirming a past bottleneck probably due to anthropogenic factors (Centron *et al.* 2008, Vianna *et al.* 2011). The species has suffered a suspected past population decline of ≥50% over the last 30 years or three generations (based on Pacifici *et al.* 2013) in its range countries due to habitat loss and degradation, water pollution, overhunting for the pelt trade, and direct persecution due to retaliation (Chehébar 1990). Accelerating habitat destruction and degradation throughout the Southern River Otter's range is the greatest threat to the species, and is suspected (based on current trends) to lead to a future ≥50% reduction in population size over the next 30 years (three generations based on Pacifici *et al.* 2013) for those subpopulations using rivers and lakes (freshwater habitats), and for the subpopulations using the southern fjords and islands (marine habitats) the population decline may be due to the impacts of intensive fishery activities. Therefore, based on the suspected population decline in the past and future, the species is categorised as Endangered under criteria A2cd+3cde. **Reasons for Change**

Reason(s) for Change in Red List Category from the Previous Assessment: NA

Distribution

Geographic Range

The Southern River Otter occurs in Chile and Argentina in freshwater and marine environments. The freshwater distribution is located in the northern part of the otter's range and was historically wider in both countries. In Chile, river otters occurred from Cachapoal River (34°S) (Gay 1847, Reed 1877) up to the Peninsula de Taitao (46°S) with a continuous distribution in rivers and lakes (Medina 1996). The current distribution in Chile has been strongly restricted from north to south due to land use change and human colonization (Medina 1996), as a consequence, the otter populations are only found at present from the Imperial River (38°S) (Rodríguez-Jorquera and Sepúlveda 2011) to the south. In Argentina freshwater subpopulations were distributed historically

from the Neuquen Province (36°S) to the Lake Buenos Aires (46°S) and mostly associated with water courses from the Andean Range and the steppe (Valenzuela *et al.* 2012). The present freshwater distribution in Argentina is mostly restricted to the Limay watershed, mainly within the Nahuel Huapi National Park (Chehebar 1985, Cassini *et al.* 2010, Valenzuela *et al.* 2012).

Southern River Otter subpopulations that inhabit marine environments are distributed along the Pacific coast of Chile from 46°S to Tierra del Fuego in Chile (Cabrera 1957, Redford and Eisenberg 1992, Sielfeld 1992, Malmierca *et al.* 2006). In Argentina, marine subpopulations are present only in the Archipelago Fueguino in Los Estados Island and the Beagle Channel (Malmierca *et al.* 2006, Valenzuela *et al.* 2012, Valenzuela *et al.* 2013). Marine river otters in Argentina are probably a continuous subpopulation of the main otter subpopulation in Chile (Sielfeld 1992).

Area of Occupancy (AOO)

Estimated area of occupancy (AOO) - in km²: NA

Continuing decline in area of occupancy (AOO): NA

Extreme fluctuations in area of occupancy (AOO): NA

Extent of Occurrence (EOO)

Estimated extent of occurrence (EOO) - in km²: NA

Continuing decline in extent of occurrence (EOO): NA

Extreme fluctuations in extent of occurrence (EOO): NA

Locations Information

Number of Locations: NA

Continuing decline in number of locations: NA

Extreme fluctuations in the number of locations: NA

Very restricted AOO or number of locations (triggers VU D2)

Very restricted in area of occupancy (AOO) and/or # of locations: NA

Elevation / Depth / Depth Zones

Elevation Lower Limit (in metres above sea level): 0

Elevation Upper Limit (in metres above sea level): 300

Depth Lower Limit (in metres below sea level): 50

Depth Upper Limit (in metres below sea level): 0

Depth Zone: Shallow photic (0-50m)

Map Status

Map Status	How the map was created, including data sources/ methods used:	Please state reason for map not available:	Data Sensitive ?	Justification	Geographic range this applies to:	Date restriction imposed:
Done	-	-	-	-	-	-

Biogeographic Realms

Biogeographic Realm: Neotropical

Occurrence

Countries of Occurrence

Country	Presence	Origin	Formerly Bred	Seasonality
Argentina	Extant	Native	-	Resident

Chile	Extant	Native	-	Resident
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FAO Area Occurrence

FAO Marine Areas: NA

Population

Because most studies on this species have been made based on indirect signs of the species there are no estimates of the size of their subpopulations. The freshwater subpopulations have been studied more than those in marine environments. Monitoring of signs such as spraints or tracks has been implemented particularly for the population in Nahuel Huapi National Park in Argentina by the Administration of National Parks for over 30 years (Chehebar 1985, Chehebar *et al.* 1986, Chehébar and Porro 1998, Aued *et al.* 2003, Cassini *et al.* 2009, Pozzi and Chehebar 2013). A relatively stable otter distribution has been observed in this area with some marginal expansion outside the Nahuel Huapi Park in the Limay River (Carmanchahi *et al.* 2006). In this population recent volcanic activity during 2011 could have disrupted freshwater ecosystems, consequently affecting the otter population, but there are no studies on the subject, which are of utmost urgency.

Freshwater subpopulations have been described as fragmented and comprised of seven isolated subpopulations (Medina 1996) but subsequent surveys have identified presence in areas previously thought not to have otters (Rodríguez *et al.* 2008); it is not clear if this is the result of a recent recolonization or sampling bias in earlier studies, and more research is needed. A radio-telemetry study in the Queule River found densities of 0.25 otters/km of river (Sepúlveda *et al.* 2007).

Studies of the marine population in Chile indicate that the otter distribution in this environment would be continuous and abundances estimated are 0.57 otters/km of coast (Sielfeld 1992). Studies based on indirect signs in marine populations in Argentina, indicate two separate subpopulations, one in Isla de Los Estados (Provincial Reserve) and the other in Bahía Lapataia, Tierra del Fuego National Park, in the Beagle Channel (Valenzuela *et al.* 2012).

During 1910-1954 a total of 38,263 otter pelts (*Lontra felina* and *L. provocax*) were exported from Chile but after that period no exports exist due to the implementation of different laws and international agreements (Iriarte and Jaksic 1986).

Population Information

Current Population Trend: Decreasing

Number of mature individuals (=population size): NA

Extreme fluctuations? (in # of mature individuals): NA

Severely fragmented?	Justification
No	-

Continuing decline in mature individuals? NA

Continuing decline % in mature individuals within 1 generation or 3 years, whichever is longer (up to max. of 100 years in the future): NA

Continuing decline % in mature individuals within 2 generations or 5 years, whichever is longer (up to max. of 100 years in the future): NA

Continuing decline % in mature individuals within 3 generations or 10 years, whichever is longer (up to max. of 100 years in the future): NA

Extreme fluctuations in the number of subpopulations: NA

Continuing decline in number of subpopulations: NA

All individuals in one subpopulation: No

Number of mature individuals in largest subpopulation: NA

Number of Subpopulations: NA

Population Reduction - Past

Percent Change in past: NA

Past Population Reduction Basis: NA

Causes of past reduction reversible? No.

Causes of past reduction understood? Yes

Causes of past reduction ceased? No.

Population Reduction - Future

Percent Change in future	Reduction or Increase	Qualifier	Justification
50%	Reduction	Suspected	-

Basis?

c) a decline in area of occupancy, extent of occurrence and/or quality of habitat, d) actual or potential levels of exploitation, e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites)

Population Reduction - Ongoing

Both: Percent Change over any 10 year or 3 generation period, whichever is longer, and must include both past and future, future can't go beyond 100 years: NA

Both Population Reduction Basis: NA

Causes of both (past and future) reduction reversible? No.

Causes of both (past and future) reduction understood? Yes.

Causes of both (past and future) reduction ceased? No.

Quantitative Analysis

Probability of extinction in the wild within 3 generations or 10 years, whichever is longer, maximum 100 years: NA

Probability of extinction in the wild within 5 generations or 20 years, whichever is longer, maximum 100 years: NA

Probability of extinction in the wild within 100 years: NA

Habitats and Ecology

The Southern River Otter is distributed in the southern temperate forest of South America. This species presents a distribution associated with inland waters in the northern parts of its range, and marine habitat in the southern part of its range. In freshwater habitats otters are associated with the presence of macro-crustaceans from the genus *Aegla* spp. and *Sammastacus* spp. (Aued *et al.* 2003, Cassini *et al.* 2009, Sepúlveda *et al.* 2009), which are the otter's main prey (Medina 1997, Medina-Vogel and Gonzalez-Lagos 2008, Fasola *et al.* 2009, Rodríguez-Jorquera and Sepúlveda 2011, Franco *et al.* 2013). Other species of crustaceans, fish and amphibians are also in the otter's diet but are of marginal occurrence. The species uses rivers with abundant vegetation (Chehebar *et al.* 1986, Medina-Vogel *et al.* 2003) and inhabit diverse types of wetlands including Andean lakes, rivers of different sizes, ponds and estuaries. A study using telemetry described an average home range of 11.3 km, with solitary behaviour and a low spatial overlap between individuals of same sex suggesting intrasexual territoriality (Sepúlveda *et al.* 2007). In the marine range the species uses the marine rocky coast with abundant vegetation cover and low exposure to wind and waves (Sielfeld 1992, Sielfeld and Castilla 1999). In this environment the Southern River Otter is sympatric with the Marine Otter (*L. felina*), but the latter is segregated by its use of more wave-exposed coastal areas (Sielfeld 1992, Ebensperger and Botto-Mahan 1997). The diet in the marine environment is composed of coastal fish of the genera *Harpagifer*, *Patagonotothen*, *Eleginops*, *Cottoperca* and crustaceans of the genera *Munida*, *Taliepus*, *Canceridae*, *Galatheididae*, *Lithodidae*, *Lithodes*, *Paralomis* and *Campylonotus* (Sielfeld and Castilla 1999, Valenzuela *et al.* 2013). In general, for both marine and inland waters the Southern River Otter seems to be a specialized aquatic bottom forager preying on slow benthic fish and crustaceans.

IUCN Habitats Classification Scheme

Habitat	Season	Suitability	Major Importance?
5.1. Wetlands (inland) -> Wetlands (inland) - Permanent Rivers/Streams/Creeks (includes waterfalls)	Resident	Suitable	Yes

5.2. Wetlands (inland) -> Wetlands (inland) - Seasonal/Interrmittent/Irregular Rivers/Streams/Creeks	-	Marginal	-
5.3. Wetlands (inland) -> Wetlands (inland) - Shrub Dominated Wetlands	-	Unknown	-
5.4. Wetlands (inland) -> Wetlands (inland) - Bogs, Marshes, Swamps, Fens, Peatlands	Resident	Suitable	Yes
5.5. Wetlands (inland) -> Wetlands (inland) - Permanent Freshwater Lakes (over 8ha)	Resident	Suitable	Yes
5.6. Wetlands (inland) -> Wetlands (inland) - Seasonal/Interrmittent Freshwater Lakes (over 8ha)	-	Unknown	-
5.7. Wetlands (inland) -> Wetlands (inland) - Permanent Freshwater Marshes/Pools (under 8ha)	-	Marginal	-
5.8. Wetlands (inland) -> Wetlands (inland) - Seasonal/Interrmittent Freshwater Marshes/Pools (under 8ha)	-	Unknown	-
5.13. Wetlands (inland) -> Wetlands (inland) - Permanent Inland Deltas	-	Unknown	-
5.14. Wetlands (inland) -> Wetlands (inland) - Permanent Saline, Brackish or Alkaline Lakes	-	Unknown	-
5.15. Wetlands (inland) -> Wetlands (inland) - Seasonal/Interrmittent Saline, Brackish or Alkaline Lakes and Flats	-	Unknown	-
5.16. Wetlands (inland) -> Wetlands (inland) - Permanent Saline, Brackish or Alkaline Marshes/Pools	-	Unknown	-
5.17. Wetlands (inland) -> Wetlands (inland) - Seasonal/Interrmittent Saline, Brackish or Alkaline Marshes/Pools	-	Unknown	-
9.10. Marine Neritic -> Marine Neritic - Estuaries	Resident	Marginal	-
12.1. Marine Intertidal -> Marine Intertidal - Rocky Shoreline	Resident	Suitable	Yes
12.2. Marine Intertidal -> Marine Intertidal - Sandy Shoreline and/or Beaches, Sand Bars, Spits, etc	-	Marginal	-
12.5. Marine Intertidal -> Marine Intertidal - Salt Marshes (Emergent Grasses)	-	Unknown	-
13.1. Marine Coastal/Supratidal -> Marine Coastal/Supratidal - Sea Cliffs and Rocky Offshore Islands	Resident	Suitable	Yes
13.4. Marine Coastal/Supratidal -> Marine Coastal/Supratidal - Coastal Brackish/Saline Lagoons/Marine Lakes	-	Unknown	-
13.5. Marine Coastal/Supratidal -> Marine Coastal/Supratidal - Coastal Freshwater Lakes	-	Marginal	-
15.1. Artificial/Aquatic & Marine -> Artificial/Aquatic - Water Storage Areas (over 8ha)	-	Unknown	-
15.2. Artificial/Aquatic & Marine -> Artificial/Aquatic - Ponds (below 8ha)	-	Unknown	-
15.3. Artificial/Aquatic & Marine -> Artificial/Aquatic - Aquaculture Ponds	-	Unknown	-
15.6. Artificial/Aquatic & Marine -> Artificial/Aquatic - Wastewater Treatment Areas	-	Unknown	-
15.7. Artificial/Aquatic & Marine -> Artificial/Aquatic - Irrigated Land (includes irrigation channels)	-	Unknown	-

15.8. Artificial/Aquatic & Marine -> Artificial/Aquatic - Seasonally Flooded Agricultural Land

-

Marginal

-

Continuing Decline in Habitat

Continuing decline in area, extent and/or quality of habitat?

Qualifier

Justification

Yes

Inferred

-

Life History

Generation Length

Justification

Data Quality

10

Based on Pacifici et al 2013

good

Movement Patterns

Movement Patterns: Not a Migrant

Congregatory: NA

Systems

System: Terrestrial, Freshwater (=Inland waters), Marine

Use and Trade

General Use and Trade Information

Species not utilized: False

No use/trade information for this species: False

The animals are hunted for their pelts which are used to make clothing.

Subsistence: **Rational:** **Local Commercial:** **Further detail including information on economic value if available:**

Yes

-

-

-

National Commercial Value: Yes

International Commercial Value: No

End Use **Subsistence** **National** **International** **Other (please specify)**

10. Wearing apparel, accessories

true

true

-

-

Is there harvest from captive/cultivated sources of this species? No

Trend in level of total offtake from wild sources: Increasing

Trend in level of total offtake from domesticated sources: Not domesticated

Harvest Trend Comments: NA

Non- Consumptive Use

Non-consumptive use of the species? True

Explanation of non-consumptive use: Important for tourism. As apex predators, the species may serve as a bioindicator for healthy wetland ecosystems, and as a flagship species for wetland conservation.

Threats

The Southern River Otter habitat is very sensitive to anthropogenic impacts (Medina-Vogel *et al.* 2003, Sepúlveda *et al.* 2009, Valenzuela *et al.* 2013). In those subpopulations inhabiting freshwater environments, the high demand for water by human activities such as agriculture, human use, etc. is altering watercourses through canalization and drainage and loss of riparian vegetation. These activities are promoted to increase the amount of agricultural lands but are impacting those otter subpopulations distributed in lowlands, particularly in the Central Valley and the Coastal Range of Chile (Medina-Vogel *et al.* 2003, Sepúlveda *et al.* 2009). In the case of Andean lakes, where the species occurred historically, the high level of urbanization and tourism has been proposed as the main causes responsible for the local extinction of the species in those areas (Medina 1996). Other threats are poaching (Medina 1996, Espinosa 2012), predation by free-ranging domestic dogs (Espinosa 2012) and transmission of diseases such as Canine Distemper Virus (CDV) (Sepúlveda *et al.* 2014). Free-ranging dogs are an important threat to carnivores because of predation and disease transmission (Vanak and Gompper 2009), and are present in rural and protected areas where the Southern River Otter occurs (Sepúlveda *et al.* 2014). Implementing dog population control measures as well as vaccination programmes are an important measure to mitigate the impact of dogs on this species (Sepúlveda *et al.* 2014). In several parts of the otter's distribution range, hydroelectric dams are installed or are planned to be built in the near future but no research on the potential impact of these on the otters has been conducted so far. The presence of wild exotic salmon and the salmon farming industry are suggested as a potential threat to otter prey leading to potential competition between otters and salmon (Medina 1996, Aued *et al.* 2003, Cassini *et al.* 2009) but no studies have confirmed this as yet. In relation to the invasive American Mink (*Neovison vison*), although several studies have investigated competition between these mustelids and river otters (Medina 1997, Aued *et al.* 2003, Fasola *et al.* 2009, Valenzuela *et al.* 2013), there is no clear evidence of a negative effect of the mink on the otter. Indeed, current studies in the marine part of the range suggest a negative effect of otters over minks by habitat (Valenzuela *et al.* 2013) and temporal segregation (Medina-Vogel *et al.* 2013). The invasive mink is a potential vector of CDV to otters given their behavioural similarities and sharing of latrines (Sepúlveda *et al.* 2014).

Threats Classification Scheme

No past, ongoing, or future threats exist to this species. False

The threats to this species are unknown. False

Threat	Timing	Timing score	Scope	Severity	Impact Score	Impact category
1.1. Residential & commercial development -> Housing & urban areas	Ongoing	3	3	3	9	High
Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects					
1.2. Residential & commercial development -> Commercial & industrial areas	Ongoing	3	3	3	9	High
Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects					
1.3. Residential & commercial development -> Tourism & recreation areas	Ongoing	3	1	2	6	Medium
Stresses:	1. Ecosystem stresses -> 1.3. Indirect ecosystem effects 2. Species stresses -> 2.2. Species disturbance					
2.1.2. Agriculture & aquaculture -> Annual & perennial non-timber crops -> Small-holder farming	Ongoing	3	3	2	8	High
Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects					
2.1.3. Agriculture & aquaculture -> Annual & perennial non-timber crops -> Agro-industry farming	Ongoing	3	3	2	8	High
Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects					

2.2.2. Agriculture & aquaculture -> Wood & pulp plantations -> Agro-industry plantations	Ongoing	3	2	3	8	High
Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects					
2.3.2. Agriculture & aquaculture -> Livestock farming & ranching -> Small-holder grazing, ranching or farming	Ongoing	3	2	3	8	High
Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects					
2.3.3. Agriculture & aquaculture -> Livestock farming & ranching -> Agro-industry grazing, ranching or farming	Ongoing	3	2	2	7	Medium
Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects					
2.4.3. Agriculture & aquaculture -> Marine & freshwater aquaculture -> Scale Unknown/Unrecorded	Ongoing	3	2	2	7	Medium
Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects					
5.1.1. Biological resource use -> Hunting & trapping terrestrial animals -> Intentional use (species is the target)	Ongoing	3	2	3	8	High
Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species stresses -> 2.1. Species mortality					
5.3.4. Biological resource use -> Logging & wood harvesting -> Unintentional effects: large scale (species being assessed is not the target) [harvest]	Ongoing	3	2	2	7	Medium
Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species stresses -> 2.1. Species mortality					
5.4.4. Biological resource use -> Fishing & harvesting aquatic resources -> Unintentional effects: large scale (species being assessed is not the target) [harvest]	Ongoing	3	2	2	7	Medium
Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species stresses -> 2.1. Species mortality 2. Species stresses -> 2.3. Indirect species effects -> 2.3.2. Competition					
7.2.2. Natural system modification -> Abstraction of Surface Water (commercial use)	Ongoing	3	2	3	8	High
Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects					
7.2.3. Natural system modification -> Abstraction of Surface Water (agricultural use)	Ongoing	3	2	3	8	High
Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects					
7.2.11. Natural system modifications -> Dams & water management/use -> Dams (size unknown)	Ongoing	3	2	3	8	High

Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects					
7.3. Natural system modifications -> Other ecosystem modifications -> river canalization, dredging	Ongoing	3	2	3	8	High
Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects					
8.5.2. Invasive and other problematic species, genes & diseases -> Viral/prion-induced diseases -> Canine distemper virus	Ongoing	3	1	1	5	Low
Stresses:	2. Species stresses -> 2.1. Species mortality					
9.1.1. Pollution -> Domestic & urban waste water -> Sewage	Ongoing	3	3	3	9	High
Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects					
9.1.2. Pollution -> Domestic & urban waste water -> Run-off	Ongoing	3	3	3	9	High
Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects					
9.3.2. Pollution -> Agricultural & forestry effluents -> Soil erosion, sedimentation	Ongoing	3	3	3	9	High
Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects					
12.1. Other Threat -> Feral dogs	Ongoing	3	1	1	5	Low
Stresses:	1. Ecosystem stresses -> 1.3. Indirect ecosystem effects 2. Species stresses -> 2.1. Species mortality					

Conservation

The Southern River Otter is listed on CITES Appendix I and listed on the Conservation of Migratory Species of Wild Animals (CMS) Appendix I.

In Chile, the conservation status is listed by the Reglamento de Clasificación de Especies as Endangered in VI, VII, VIII, IX, XIV and X Districts and as Data Deficient in XI and XII Districts (Chile 2011). In Chile, the Subsecretaría de Pesca is the governmental agency responsible of their conservation and management. In those populations inside official protected areas the Corporación Nacional Forestal is responsible for their conservation. National Action plans in Chile are developed by the Ministerio del Medio Ambiente, but despite its conservation status, no Action Plan exists for this species at present, which is the most urgent conservation action priority. Hunting is prohibited since 1929 in Chile (Iriarte and Jaksic 1986) and the governmental agency responsible for hunting permits and enforcement is the Servicio Agrícola y Ganadero.

In Argentina, the conservation status is Endangered (EN A3cd) (Valenzuela et al. 2012). At national level, the governmental agency responsible of native wildlife conservation and management is the Secretaría de Ambiente y Desarrollo Sustentable de la Nación through the Dirección de Fauna Silvestre. The Administración de Parques Nacionales (National Parks Administration) is responsible for conservation of those populations inside the national protected areas, where the species is classified as Special Value Species (APN 1994.). The two populations in Argentina from freshwater and marine habitats are mostly inside national protected areas. Because of the several agencies involved in the management of the species a strong coordination with clear responsibilities and a work agenda is a major urgency in the short term. Actions recommended for both Chile and Argentina are:

- To develop a Conservation Bi-National Plan for the species;
- To develop specific National Conservation Plans for each country;
- To develop validated Monitoring Programmes in protected and unprotected lands; particularly in Chile where there is no such activity in any population; and

- To reinforce the importance of environmental impact assessment projects in relation to the species in order to adequately determine: a) presence of otter population in areas of projects, and b) in those projects requiring to implement adequate actions to incorporate: 1) measures of monitoring, 2) mitigation and 3) compensation activities.

There have not been any reintroduction attempts, which could be an appropriate conservation action considering the success of such plans in North American and European species. Although otters are one of the most appealing species in zoo/aquarium exhibitions providing good opportunities for education and awareness about conservation issues in aquatic environments, no known individuals of the Southern River Otter are currently in captivity and there are no historical records for any captive animals.

Conservation Actions in- Place

Action Recovery Plan	Note
No	-

Systematic monitoring scheme	Note
No	-

Conservation sites identified: NA

Occur in at least one PA	Note
Yes	-

Percentage of population protected by PAs (0-100): NA

Area based regional management plan: NA

Invasive species control or prevention: NA

Harvest management plan: NA

Successfully reintroduced or introduced benignly: NA

Subject to ex-situ conservation: NA

Subject to recent education and awareness programmes: NA

Included in international legislation	Note
Yes	CITES Appendix I CMS Appendix I

Subject to any international management/trade controls	Note
Yes	CITES Appendix I

Important Conservation Actions Needed

Conservation Actions	Note
1.1. Land/water protection -> Site/area protection	-
1.2. Land/water protection -> Resource & habitat protection	-
2.1. Land/water management -> Site/area management	-
3.2. Species management -> Species recovery	-
4.1. Education & awareness -> Formal education	-

4.2. Education & awareness -> Training	-
4.3. Education & awareness -> Awareness & communications	-
5.1.3. Law & policy -> Legislation -> Sub-national level	-
5.4.2. Law & policy -> Compliance and enforcement -> National level	-
5.4.3. Law & policy -> Compliance and enforcement -> Sub-national level	-

Research Needed

Research	Not e
1.1. Research -> Taxonomy	-
1.3. Research -> Life history and Ecology	-
2.1. Conservation planning -> Species action/Recovery plan	-
2.2. Conservation planning -> Area-based management plan	-
3.1. Monitoring -> Population trends	-

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