

CHAPTER 3: INVASIVE ALIEN SPECIES: LEGAL AND INSTITUTIONAL FRAMEWORK IN ARGENTINA

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INTRODUCTION

Despite some concern with and recognition of the threat of invasive species, Argentina's current legal and institutional framework to address this problem is nevertheless dispersed, un-systematized, and incomplete. Since signing the Convention on Biological Diversity (CBD),² Argentina has designed and articulated a National Strategy on Biodiversity (NSB), which was recently approved by an administrative

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2 31 I.L.M. 818 (1992).

regulation signed by the federal environmental authority.³ Regarding the implementation of the CBD to invasive species, Argentina is taking a few measures related to a few species of interest.⁴

According to the National Constitution, Argentine federal authorities regulate the introduction of exotic species into the country. But there are multiple regulations and authorities at the federal level, and jurisdiction varies depending on the class of species (wild or domestic), the category of species,⁵ and whether control efforts lean towards sanitary or environmental aspects. The current regulations tend to emphasize sanitary measures and pest control, rather than invasive species. There is no single, unified invasive species law.

This situation is further complicated by the fact that Argentina is a federal state, but its natural resources belong to its provinces. Thus, there is a built-in potential for conflict and confusion between the federal government and provincial authorities, which is only exacerbated by a lack of inter-jurisdictional coordination.⁶ A basic guideline clarifying this jurisdictional matter should be included in the implementation of current federal statutes on minimum standards for environmental protection and in the drafting process of future statutes on minimum standards for environmental protection.

Finally, there is no complete official inventory of living species in Argentina, and this makes it particularly difficult to identify and monitor invasive species. In this chapter, we examine Argentina's current legislative and institutional framework for addressing the threat of invasive species, and then conclude with some proposals to help systematize, streamline, and otherwise improve this framework.

3 Resolution Secretaría de Ambiente y Desarrollo Sustentable (SAyDS) 91/2003 (B.O. 02/24/03). With the signing of the CBD, the issue of invasive species has acquired singular institutional importance in Argentina. The National Strategy on Biodiversity was prepared by the Federal Government, in conjunction with the Argentine Committee, which included members of the IUCN. The project received financial support from the Global Facility for the Environment. The National Strategy aims to implement the CBD appropriately throughout the country. Thus, development of the strategy involved a number of different participants, including the public and private sectors as well as local communities. The design of the national strategy was carried out first at the regional level and then at the national level.

4 See Ministerio de Desarrollo Social y Medio Ambiente, Secretaría de Desarrollo Sustentable y Política Ambiental, Argentine Country Report to the Secretariat of the Convention of Biological Diversity: Segundo Informe Nacional a las partes (2001), available at: http://www.medioambiente.gov.ar/documentos/acuerdos/convenciones/cdb/2infnac_partes_CDB.pdf (last visited Feb. 28, 2003); Informe de Especies acuáticas (2001), available at: http://www.medioambiente.gov.ar/documentos/acuerdos/convenciones/cdb/TEMespexot_infnac_partes_CDB.pdf

5 Categories include fauna, aquatic organisms, genetically modified organisms, etc. See Appendix 1.

6 For example, if the Federal Government wants to combat an invasive species in provincial territory, it must request prior permission from the affected province to carry out the procedure.

ARGENTINA'S EXPERIENCE WITH INVASIVE SPECIES

South America was isolated from North America for millions of years. But species were still able to migrate back and forth, first across the islands that separated North America from South America, and then later across the Central American land bridge. A large number of mammals now found in South American habitats entered the continent this way.

Spanish and Portuguese colonization, which began in the 16th century, produced a growing influx of dispersed, invasive flora and fauna brought to the continent by man.⁷ The arrival of these new species, whether evident or hidden, exposed the ecological systems to new challenges. These systems as a whole were affected in diverse ways by the actions of these invasive species that had no history of harmonic development with the indigenous ecosystems. One example is the erosive devastation caused by ovine livestock to the Patagonian Plain.

In the late 19th and early 20th centuries, several invasions occurred because people with a “*developing*” bent intentionally introduced exotic species. Domingo F. Sarmiento,⁸ for example, supported the introduction of the sparrow, which competed with autochthonous species and eventually became a plague. There are, in fact, laws that address parasitic or harmful animal or vegetable invasions that date back to this period.⁹

Other, later invasions took place, like the beaver and the muskrat that were brought into the country for their fur. These species wreaked different types of havoc in Tierra del Fuego. The beaver built dams that led to the flooding of autochthonous forests. These forests, unlike North American forests, were unable to withstand this and died. Currently, the rate of invasion is assumed to be high because of increased and poorly regulated trade, which results in disordered transactions that ultimately vary the pathways of organisms. Although there is an ongoing project on inventorying native forests and there is an inventory of implanted forests, research tools and monitoring mechanisms such as an official inventory of species including fauna species, and accurate statistics need to be implemented to improve decision making with regard to invasive species in Argentina.¹⁰

7 With the settlers came their plagues. Bovine, ovine, and equine livestock; wheat; dogs; cats; hens; domestic geese; ducks; and doves, as well as other domestic or “useful” animals were accompanied by ticks, lice, fleas, the black rat, the Norwegian rat (and *rodent ectoparasites*, including the transmitters of the bubonic pest), and domestic cockroaches, as well as other coleopterans that arrived in the wood of furniture or other objects.

8 Domingo F. Sarmiento, President of Argentina, 1868-1874.

9 In 1888, laws referring to cattle imports and quarantine already existed. For example, Law 2,268 forbids importing cattle affected by contagious diseases or any reproducing animal with inherited organic malfunctions. It also establishes import requirements like a mandatory veterinary examination. Law 4,863, which was passed in 1905, establishes agricultural requirements that extend throughout the territory and attempt to guard against parasitic or harmful animal or vegetable invasions. This law takes effect whenever any organism becomes a pest, due to spreading, invasive or disastrous characteristics, or mere presence in a province or territory from which it may affect agricultural products.

10 In December 2002, the First National Native Forest Inventory was presented by the Federal Environmental Authority (it is an ongoing project). In addition, the Secretary of Agriculture, Livestock, Fishing, and Food (SAGPyA) implemented since 1997 an inventory of implanted forest and published a completed inventory at Forestacion, at http://www.sagpya.mecon.gov.ar/0-0/index/forestacion/index_forestacion.htm (last visited Feb. 28,

THE NATIONAL CONSTITUTION

The inhabitants of Argentina, according to the National Constitution, are entitled to a healthy environment and have the duty to preserve it.¹¹ The authorities should guarantee the exercise of this right, but this is neither as straightforward nor as easy as it may at first seem.

For example, the Constitution assigns responsibility for natural resources to the provinces. Consequently, provinces have police jurisdiction over environmental issues.¹² Nevertheless, the Constitution also allows for certain exceptions to this provision by making the National Congress competent to enact legislation that addresses international, inter-provincial and inter-jurisdictional commerce, as well as penal, civil, mining, and labor codes. The Congress is also competent to enact any legislation that relates to the harmonic growth of the nation.¹³

Furthermore, the Constitution requires the Nation to set forth minimum standards for environmental protection.¹⁴ The provinces can then complement these minimum standards with their own stricter regulations as they see fit. But the jurisdictional quagmire does not end here; the municipalities can also add their own layer of regulations to the management of local environmental issues.¹⁵ Clearly, inter-jurisdictional problems impact Argentina's means of addressing invasive species.¹⁶ Setting and enforcing minimum standards for environmental protection will encourage inter-jurisdictional coordination. At the end of 2002, the Congress enacted several statutes of minimum standards for environmental protection.¹⁷

Although presently there is no minimum standard law on biodiversity or invasive species, there is a new General Environmental Law, which included environmental principles, such as the precautionary one, and establishes a Federal Environmental System. This system includes the Environmental Federal Council (COFEMA), which groups the authorities of the nation, the provinces, and the City of Buenos Aires, and which is considered by the NSB as the appropriate framework to develop inter-jurisdictional coordination. In addition, Argentina has entered into international agreements like the CBD and the Convention on International Trade in Endangered Species (CITES)¹⁸ as well as incorporated principles of soft law like the Rio Declaration on Environment and Development¹⁹ into its internal legislation,²⁰ and recently approved its NSB.

2003).

In addition, there is a project developed by the Academia which started in 2002 called "Inter-American Invasives Information Network," developed by Universidad del Sur, Bahía Blanca, Province of Buenos Aires, and financed by the U.S. Geological Survey and the U.S State Department. See Inter-American Biodiversity Information Network, at <http://www.uns.edu.ar/inbiar/i3n.htm> (last visited Feb. 28, 2003).

¹¹ See Section 41 National Constitution.

¹² Argentina has a federal system, under which the provinces retain the power that has not been delegated to the nation. <BI>National Constitution<D> §§1, 5 and 121. In accordance with National Constitution §124, natural resources' domain belongs to the provinces.

¹³ See Section 75 National Constitution. In the same section, the National Constitution acknowledges the ethnic and cultural pre-existence of Argentine indigenous peoples. It attributes to the Congress the power to assure, concurrently with the provinces, indigenous participation in the administration of the natural resources and other interests that may affect them.

¹⁴ See <BI>National Constitution<D> §41.

¹⁵ The Municipalities are autonomous entities, and are therefore empowered to issue their own regulations with "range and content in the institutional, political, administrative, economic, and financial order" that the provincial

Before looking more closely at the National Strategy and the improvements that will follow its enforcement, we want to look briefly at Argentina's current legal and institutional framework for the management of invasive species.

THE LEGAL FRAMEWORK

Argentina has a plethora of regulations that tangentially engage the issue of invasive species, but the majority of this legislation is primarily concerned with issues of sanitation and pest control.²¹ The concept of alien invasive species was not adopted in Argentina until the signing of the CBD in 1994.²² Before the adoption of the CBD, Argentina had focused on the protection of production systems, principally based on agriculture and forestry. Thus, sanitation and pest control legislation has a longer history and is more developed than invasive species regulations.²³

government establishes. <BI>National Constitution<D> §123. According to National Constitution §129, the City of Buenos Aires is an autonomous administration. This autonomy is in transition, which implies the coexistence of national and local powers in the same city.

16 The cases of the European starling, the crested myna, the Wakame seaweed and the beaver that we consider below, provide several examples of the impact of jurisdictional complexity on the problems of managing invasive alien species.

17 See The General Environmental Law 25.675 (B.O. 11-21-2002).

18 27 U.S.T. 1987, T.I.A.S. No. 8249, 993 U.N.T.S. 243 (Mar. 1973). Besides the CBD and CITES, Argentina has entered into the following international conventions that are directly or indirectly related to sustainable use of biological diversity and invasive species: International Convention to prevent pollution caused by ships MARPOL 73/78; Convention on Wetlands of International Importance, Especially as Waterfowl Habitat, Ramsar, Iran (1971); United Nations Convention to Fight Against Desertification, Paris, France (1994); Convention on the Conservation of the Migratory Species of Wild Animals, Bonn, Germany (1979); Convention on the Protection of Natural and Cultural Patrimony, Paris, France (1972); United Nations Convention on the Law of the Sea, Montego Bay, Jamaica (1992); Decision N° 6/96 of the Mercosur CMC, that approves the World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures, Marrakesh, 1994; International Plant Protection Convention, Rome, Italy (1951); and the Antarctica International Documents: Antarctic Treaty, Protocol to the Antarctic Treaty on Environmental Protection, Convention on the Conservation of Antarctic Marine Living Resources, Canberra, Australia, Apr. 7, 1982, TIAS 10240; Convention on the Conservation of Antarctic Seal, London (1972).

19 Rio Declaration on Environment and Development, U.N. Conference on Environment and Development, U.N. Doc. A/CONF.151/5/Rev. 1, 31 I.L.M. 874 (1992).

20 Soft law and technical guidance: Rio Declaration on Environment and Development. Agenda 21. IMO Resolutions A.774/A. 686: Those resolutions have been introduced in the national legislation by the Bye- law (Ordenanza) N° 7/1998 of the Argentinean Coast Guard (Prefectura Naval Argentina- Dirección de Protección del Medio Ambiente.).

21 See Appendix 1.

22 Ratified by Law N° 24.375, 9/7/1994.

23 See Appendix 1: Sanitary control for animals and plants, Pests.

Traditional sanitation and pest control tools may indirectly address invasive species, but the results tend to be incomplete. For example, an organism may be forbidden entrance into the country for sanitation reasons, but if that organism is also an invasive species, the effect of the prohibition will be positive with regard to the environment; that is, the sanitary prohibition will unwittingly prevent an adverse effect on the environment. The problems occur in the instances when an organism is not a sanitation concern, but is, in fact, an invasive species, a threat to ecosystems, habitats, or other species. In these cases, sanitation and pest control measures are clearly not restrictive enough to prevent the introduction of invasive species into the country.

Currently, the topic of invasive species is directly considered only in regulations that deal with wild fauna, though it is indirectly addressed to some extent in regulations related to aquatic hatcheries. The national regime for wild fauna²⁴ establishes requirements for importing animals that are in line with CITES regulations.²⁵ There is a specific Environmental Impact Assessment Process required for the introduction of a new alien species.²⁶ The interested party has to present, along with an environmental impact assessment, proof of the alien species' conformity to the province where it will be located. The Secretariat of Environment and Sustainable Development, Department of Fauna, which is the national environmental authority, may consult the authorities of the neighboring provinces. Once the new exotic species is established in a particular province, transferring that species to another province requires a new Environmental impact assessment and proof of conformity to the new environment.

24 See Appendix 1, Wild Fauna.

25 The wild fauna protection and conservation law is regulated by Decree 666/97, which establishes the following requirements for the importation of live wild animals:

- a. A Certificate issued by the official administrative authority responsible for wild fauna in the country of export;
- b. A dispatch, corresponding to the Federal Administration of Customs without detriment to the sanitary authority requirements; and
- c. The import permit foreseen by CITES, if necessary.

Importation will always be denied in the following instances:

1. In the case of species that are included in Appendix I of CITES, unless they are considered in the exceptions of the Convention;
2. In the case of species, not included under the previous point, but protected in the entire region of their natural habitat, according to the Law. This section states that "it is equally forbidden to introduce external products and by-products, manufactured or not, of those species of the autochthonous wild fauna whose hunting, trade, possession and transformation are forbidden in the whole region of their natural habitat without previous permission of the national Enforcement Authority"; See Section 7 law 22.421.

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3. In the case of organisms that are live specimens of harmful or detrimental species;
 4. In the case of live animals, spoils, their products, by-products or derived products, that could somehow be harmful to commercial, agricultural activities, or that are prohibited by other competent national organizations;
 5. In the case of live specimens, semen, embryos, eggs, larvae, etc. of species that can alter the biological balance or affect economic activities according to that foreseen in section 5 of the Law.

This list does not exclude the denial of imports for other causes derived from the application of the CITES Convention. These regulations are complemented by Resolution SRNyDS N° 376/97, which regulates the introduction into the country of specimens of new exotic species.

26 An economic impact assessment for the introduction of a new exotic species requires the following:

- a. Objectives and justification of the project;
- b. Description of the work or project and the different alternatives to consider, which must include at least the following: site or location, nature of the project, abandonment of the project, no project; any feasibility plan must include a previous, compulsory experimental phase with a duration of at least one year;
- c. The influenced area and a description of the environment, which will contain the following information: geographic location, environmental details, topography and natural barriers, type of soil, water-bodies and drainage network, vegetation, fauna, jeopardised species, soil use (map), productive systems, and road networks, as well as rural, urban, industrial, and tourist areas. If this information is incomplete, the interested parties must generate it. For species imported as pets, the enforcement authority will ask for specific parts of this information to be determined on a case-by-case basis;
- d. A Potential Impacts assessment that includes the following aspects: loss or change in biodiversity, human zoonosis problems, economic and productive risks, genetic pollution, animal or plant sanitation risks, and pests. Impacts should be classified according to their characteristics: impact magnitude, duration or persistence, sign, reversibility;
- e. Impact prevention, mitigation and neutralisation measures that must, at least, foresee the following: safety measures, sanitation measures, and harm mitigation measures;
- f. An environmental vigilance plan designed to guarantee the fulfilment of corrective measures. The responsible import party also has to propose and finance a regular monitoring plan for the early detection of accidental environmental escapes;
- g. A contingency plan that takes into account possible faults in the impact prediction process.

Thus, the movement of wild fauna inside Argentina is regulated by sanitary controls on one hand, and by wild fauna transport regulations on the other.²⁷ Still, there are no tools to regulate the internal movement of wild fauna that pay specific attention to the issue of invasive species. There are also no specific regulations in place to detect or manage species that may already live in Argentina, yet may be potentially invasive.

The production of imported aquatic organisms²⁸ requires a permit, the application for which requires detailed references to the possible environmental impact of the species (whether autochthonous or exotic).²⁹ But the regulations regarding aquatic organisms state that producers of first entrance exotic species cannot transfer them or their descendants to other aquaculture hatcheries, either in the province where they are initially settled or in other provinces. Nor can they sell juvenile specimens as ornaments, without the authorization of the National Department of Fishing and Aquaculture.

These studies cannot exceed 50 pages and must be presented in terms that are easily understandable. Furthermore, during the five days following the presentation of the impact study, the Department of Wild Flora and Fauna will form an ad-hoc Assessing Committee to review and revise the study. This committee, made up of five prestigious members with expertise in the study of the particular species, must then present an environmental impact statement to the authority within a 30-day term.

27 See appendix 1.

28 See Appendix 1.

29 See Resolution N° 987/97 SALFF.

The Import application form for aquatic organisms requests the following information:

- a) The affiliation of the corresponding person or society, duly registered in the competent organism, that intends to carry out the introduction;
- b) Registration in national fiscal and social security organizations;
- c) A photocopy of the social contract, name, last name, number, type of document, and evidence of the legal representative;
- d) Common scientific name/s;
- e) References about source and origin of the import;
- f) Approximate date of the import; and
- g) Provincial authorization of introduction issued by a competent authority.

There is a lack of legislation pertaining to flora. Although forest legislation requires an Environmental impact assessment regarding the sustainability of a project that includes both native and alien species,³⁰ there is no flora legislation that addresses the introduction, control, or eradication of invasive species. There are specific regulations that address experimentation with and the release or marketing of genetically modified organisms (GMOs).³¹ Consequently, GMOs are subject to a risk study prior to experimentation and release.³²

THE INSTITUTIONAL FRAMEWORK

The aquatic hatchery registration, on the other hand, requests detailed references about the possible environmental impact that the species may cause.

30 In an Environmental Impact Assessment previous to forestation of native or exotic species, the interested party must present a report that includes the following information: the potential positive and negative environmental effects the project may cause, the mitigating measures of detrimental impacts, and a plan for a vigilance and environmental control during the performance and useful life of the project.

³¹ See Appendix 1, GMOs.

³² See Appendix 1, GMOs.

In addition to multiple and incomplete regulations, there are different federal authorities that are responsible for enforcement, depending on the class of species and its sanitary or environmental aspects.

The Secretariat of Environment and Sustainable Development of the Federal Government (SAy DS) is the enforcement authority for CBD, fauna, wild native forests, and flora. It includes the Office of Coordination of Biodiversity Conservation, and two key departments.³³ The Department of Fauna is the authority that regulates the introduction of wild fauna as new alien species and the requisite environmental impact assessment process. The Department of Forests is the authority responsible for wild native forests. Although there is an ongoing project to develop a national inventory of all native forests and protected areas, there is no specific legislation that empowers this department to address the potential threat of invasive species in native forests.³⁴ As was pointed out above, there is no specific legislation pertaining to alien invasive species of flora.

For forestation projects that involve the introduction of native and/or non-native species into non-native forests, the Secretariat of Environment and Sustainable Development must work with The Secretariat of Agriculture, Livestock, Fishing and Food of the Federal Government (SAGyPA) to develop criteria for an adequate Environmental Impact Assessment.³⁵ Besides this partial jurisdiction over non-native forests, the Secretariat of Agriculture, Livestock, Fishing, and Food also includes several individual departments that monitor and regulate different charges of the secretariat.

For example, The Department of Fishing and Aquaculture evaluates applications to introduce living aquatic organisms into land captive systems. This department can refuse any application if it determines that the introduction of said organism could cause alterations to the environment or affect other developing productions. Furthermore to register an aquatic hatchery, the department requires a detailed examination of the possible environmental impact of any introduction of species.³⁶

33 The Secretariat of Environment and Sustainable Development and Environmental Policy is a branch of the Ministry of Social Development of the Federal Government. See Decrees 1300/02, 2213/02 & 2742/02.

34 The legal framework classifies forests in five types: a) protecting, b) permanent, c) experimental, d) special woods, and e) forests for production. The experimental forest is most closely related to the topic of invasive species. According to section 8 of Decree 710/95, experimental forests are: a) those intended for forestry research on indigenous species, and b) artificial forests assigned to accommodation, acclimatization and naturalization of indigenous or exogenous species. To the present date, this section has not been regulated.

35 Law 25.080.

36 See Appendix 1. Resolution 987/97 regulates production of living organisms, whether autochthonous or exotic. This resolution defines an aquatic production facility as any setting within a limited geographical area where aquatic organisms for re-population of aquatic environments, sport fishing, or other projects, are cultivated or grown or maintained. Accordingly, this definition encompasses production carried out at aquatic systems, in cage systems, enclosures, torches, long-lines, rafts or other existing or later developed methodologies and that involve total or partial exploitation under human control.

The National Service of Health and Agri Food Quality (SENASA), another administrative body under the rubric of the Secretariat of Agriculture, Livestock, Fishing, and Food, regulates and controls quality and sanitary aspects of livestock, fishing, and agriculture, as well as the application of the Food Code.³⁷ Consequently, sanitary controls on imported plants and animals (including quarantine measures), as well as inter-jurisdictional controls, depend on the SENASA. This body acts in coordination with the provincial sanitary authorities.

The Federal Agricultural Biotechnology Advisory Committee (CONABIA) engages in experimentation with as well as regulation and release of animal and vegetable organisms that are the result of genetic engineering. Ultimately, the Secretariat authorizes the release of GMOs into the market, but it must first consult the CONABIA.³⁸

Finally, to round out this somewhat confusing list of federal institutions, the Secretariat of Tourism and Sports of the Federal Government includes the Administration of National Parks. This regulatory body controls all aspects of the National Parks throughout the country. In all protected areas, the introduction of alien species is forbidden. The authority is able to order the control or eradication of a species in a National Park, though an environmental impact report is necessary to authorize commercial hunting of exotic species.³⁹

ENFORCEMENT

Despite these varied authorities that each bear some specific responsibility for alien species, the Secretariat of Environment and Sustainable Development is, ultimately, the designated Enforcement Authority of the CBD. Therefore, it determines exactly which organisms fit the category of “invasive species.”

Consequently, the Office of Coordination of Biodiversity Conservation has established strategic priorities in relation to three specific cases. Because there are no official statistics to guide it, the authority selected these cases based on its sense of each as a threat to indigenous species. In the first case--that of the European starling (*Sturnus vulgaris*) and the crested myna (*Acridotheres cristatellus*), birds introduced into the City and Province of Buenos Aires--the agency has launched a joint campaign with the Province of Buenos Aires and two non-governmental organizations (Fundación Vida Silvestre and Ornitológica del Plata) to eradicate these species that it declared harmful and detrimental to productive activities by Resolution N° 974/98. Consequently, not only are national and provincial authorities authorized to carry out actions to eradicate these birds, but their inter-jurisdictional transit, export, or trade has also been prohibited.⁴⁰

³⁷ See Food Code Law N° 18.284/69.

³⁸ As pointed out in Appendix 1, diverse resolutions of the Secretaría de Agricultura, Ganadería, Pesca y Alimentación (SAGPyA) Secretariat of Agriculture, Livestock, Fishing and Food of the Federal Government refer to the risk study that should be carried out before the enforcement authority releases a GMO or microorganism into the market. According to the CONABIA, a negative precedent exists regarding a large-scale release of rapeseed (Colza o Canola). It is important to acknowledge that the authority had granted the release of rapeseed into the market for small-scale projects before.

³⁹ Resolution Administración de Parques Nacionales, Secretaría de Turismo y Deportes de la Nación 16/94. See Appendix 1.

⁴⁰ Resolution N° 974/98 SAyDS B.O 27/11/98.

Wakame seaweed (*Undaria pinnaticida*), the second case, was introduced in the Province of Chubut. While the authority has designated this organism an invasive species and carried out several studies of its harmful environmental impact, it has yet to undertake any concrete measures to combat the threat the seaweed poses.

The third case that of the beaver (*Castor canadensis*) introduced in Tierra del Fuego poses a much more complicated problem because it involves both Argentina and Chile. The agency is working to encourage the interested sectors of both countries to carry out a joint project. For the moment, Tierra del Fuego has a provincial law that forbids both the introduction of alien species without prior authorization and the degradation of fauna and flora resources. Thus, the provincial authority currently permits the hunting of beavers throughout the year, but the province has not undertaken any specific eradication measures.

With the Argentine legal and institutional invasive species framework dispersed and un-systematized, the community lacks any real knowledge of the relevant regulations. This often inhibits appropriate implementation of regulations, and many times it affects the legal security of the individual and the community as a whole.

Furthermore, this incomplete framework can lead to jurisdictional questions. The federal regulations analyzed above are applicable to international and inter-provincial situations, as well as to those that fall within federal jurisdiction as established by the National Constitution. These federal regulations are also applicable to situations that arise within a particular province, if that province has, in fact, ratified said regulations. But if in a particular province none of these suppositions are met, there could be regulations different from the national ones. This obviously creates a need for inter jurisdictional coordination that many times does not exist. To complicate matters further, there are also different regulations related to invasive species in urban areas. The application of all of these regulations, whether federal, provincial, or urban, needs to be coordinated in such a way to prevent an invasive from spreading to another part of the country.

The controls and precautions required by regulations, such as they are, demand human and economic resources that are not always available. Unfortunately, national and provincial budgets are often insufficient. This lack of economic support implies that the issue of invasive species is not a political priority in Argentina. In addition, the absence of public awareness--public understanding of invasive species issues, as stated above, is very weak--further inhibits the enforcement of laws. The government has failed to publicize the threat from invasive species, and commercial entities are, therefore, insensitive to the issue.

Yes, regulations have been enacted that attempt to address the harmful effects of alien species, but these regulations are clearly incomplete and un-systematized (existence of fauna regulations and lack of flora regulations are clear examples). Current problems caused by faulty administrative control of species coming from other countries, as well as the lack of a unified policy that applies to the whole country, cannot be ignored. However, a positive step towards a change regarding Biodiversity Conservation throughout the country is the recent approval of the National Strategy on Biodiversity by the federal authority.

THE NATIONAL STRATEGY ON BIODIVERSITY

The Argentine NSB identifies several key requirements related to the country's institutional, legal and management framework. Among the topics covered, the invasive alien species issue is specifically considered. The National Strategy establishes the following guidelines when implementing relevant action plans and policies⁴¹: The Precautionary Principle should serve as the basis for all future policy and regulation, because the import or introduction of exotic species creates a potential danger to human beings, the environment, or both. This would require a ban on the introduction of all exotic species, unless a competent authority authorizes importation. Authorization would be manifest and taxonomically restrictive, and penalties and fines would apply in cases of illegal introduction of species.

- § An Environmental impact assessment is a fundamental requirement, and must be undertaken previous to the introduction of exotic species from other countries or to the movement of species inside the country to areas that are different from their natural habitat. As an initial step, the enforcement authority could demand a determination of profitability expectations in an introductory application, thereby evaluating the interested party's ability to finance an environmental impact study of sufficient quality.
- § In cases of deliberate introduction of species for investigation, production, or other use, the assessment of the socio-economic aspects should also be included in the environmental impact study, especially since the failure of the undertaking may lead to the release of the species. To prevent this, the NSB establishes that the legislation should require to the interested party finance support to guarantee escape control and to cover damages to third parties in the event of a release and to cover costs of restitution. The implementation of a monitoring system to facilitate quick detection of new colonization and quick eradication is another measure under consideration.
- § A regional approach, considering trans-boundary phyto- and zoo-sanitary control, whether international or between provinces, must be increased, especially with regard to the quarantine methods used. This will help prevent the entrance of species transported accidentally by ships.
- § The country's legislation and institutional framework must be harmonized, and minimum standards for environmental protection on biodiversity must be enacted by the National Congress.
- § A database of the precedents of native and foreign species that highlights those proven to be harmful, must be established; it is essential to develop appropriate policy that specifies responsibilities and sanctions.
- § The threat of invasive species needs to be promoted to develop public awareness, and the production of autochthonous species encouraged.

Finally, the NSB quotes the 6th meeting of the Conference of the Parties to the CBD and Decision VI/23⁴² on "Alien Species that threaten ecosystems, habitats or species," and considers that its principles are complementary to the NSB and help its development and implementation.

CONCLUSION

⁴¹ See chapter VIII on Prevention and Control of Exotic and Invasive Species. Available in: http://www.medioambiente.gov.ar/mlegal/biodiversidad/res91_03.htm

⁴² See Annex I "Decisions adopted by the Conference of the Parties to the Convention on Biological Diversity at its Sixth Meeting". Hague, 7-19 April 2002 available in: <http://www.biodiv.org/doc/decisions/cop-06-dec-en.pdf>

In Argentina, we currently find clearly separate regulations and authorities responsible for alien species, depending on the nature of the species (wild or domestic) and whether control is focused on environmental or sanitary aspects. Although the existence of federal authorities such as the Secretariat of Environment and Sustainable Development, the Secretariat of Agriculture, Livestock, Fishing and Food and the Administration of National Parks seems to suggest that the problem of invasive species is under control, it is nevertheless important to realize that at present regulations and controls have yet to be elaborated in key areas such as the introduction of wild flora.

This situation becomes more complicated when one considers that Argentina is a federal state with three levels of government, but the federal, provincial and municipal activities, institutions, and regulations are not yet coordinated.

In addition, most of the regulations related to alien species stem from sanitary measures and pest control and eradication measures. The topic of invasive species is clearly considered only in wild fauna regulation, though it is somewhat indirectly addressed in regulations related to aquatic hatcheries. Still, this limited consideration is clearly insufficient to deal with the potential threat.

Furthermore, there are no tools to regulate the internal movement of wild fauna from province to province, in terms of invasive species. There are also no specific preventions in place to detect or manage species that may already live in Argentina, but may be potentially invasive. The regulation of the internal movement of invasive species is a pending topic that deserves special attention, considering the expansion of the country and the different ecosystems that exist within its geography.

Finally, a positive sign is the recent approval of the NSB, a substantive point related to different core issues that we mention in this chapter, such as the need for appropriate statistics, harmonization of the legislation, and improved trans-boundary control.

PROPOSALS

First, Argentina needs to create a national inventory of species, as this is fundamental to any and all decisions regarding the control or eradication of invasive species.

Second, the National Congress needs to pass minimum standards regulation for biodiversity. As already mentioned, the National Congress enacted at the end of 2002 the Federal Environmental Law, which creates the Federal Environmental System including the Federal Council of the Environment, which groups environmental authorities of the Nation, the provinces, and the City of Buenos Aires. Considering this basic framework, which would begin to close the jurisdictional and regulatory gaps between the different governmental authorities, we would recommend a minimum standard law related to Biological Diversity that directly addresses invasive species. Such legislation should include the following:

- § Basic policies on the introduction of invasive species in the country (intentional-unintentional, Flora-Fauna);
- § Basic policies on the movement of invasive species from one region of the country to another (Flora-Fauna); and
- § Basic policies on eradication and control of invasive species.

Obviously, this is not the only way to address the problem. Provinces may enact stricter specific regulations regarding this issue.

Third, Argentina needs to establish inter-jurisdictional coordinated systems to facilitate better communication among the different governmental levels and authorities responsible for alien species, which will in turn improve the implementation of programs and the handling of emergency cases.

Fourth, the environmental authority should enforce the National Strategy on Biodiversity, to insure full and adequate compliance with the provisions of the CBD.

Finally, the dispersion of regulations related to alien and invasive species needs to be systematized. This will foster a more exact knowledge of the regulations and a greater understanding of the information on the part of the community.

Appendix 1

Issue	Regulation	Enforcement Authority	Definitions	Introduction	Control and eradication
WILD FAUNA	Law 22.421, Law 22.344 (CITES), Regulatory Decree 666/97 and Regulatory Decree 522/97, Resolution ex-SRNyDS ¹ . 376/97	SAyDS (Secretariat of Environment and Sustainable Development)	Wild Fauna	Requirements in line with CITES regulations Environmental Impact Process on the introduction of a new alien species into the country	<ul style="list-style-type: none"> • The Enforcement Authority has to implement control and eradication plans. Hunting is considered as a measure with harmful species. • The party responsible for introducing alien species should implement a monitoring plan for early detection of escapes. In the case of existence of risk or eventual release, the immediate eradication of specimens should be achieved.

LIVING AQUATIC ORGANISMS	Resolution SAGPy A N° 987/97	SAGPyA (Secretariat of Agriculture, Livestock, Fishing and Food), Federal Department on Fishing and Aquaculture		Production of living aquatic organisms: Import application with detailed references on the possible impact that the introduction of the species can cause.	<ul style="list-style-type: none"> • Imported organisms cannot be transferred to another hatchery without authorization • First certificate is Temporary. Definitive Certificate is granted after the Enforcement Authority controlled the development of the activity. If the Definitive Certificate is not granted, the specimens of those species must be eradicated.
CULTIVATED FORESTS– FORESTATION	Law 25.080, Regulatory Decree 133/99	SAGPy A EIA: Co-ordination between S.A.G.P. y A and SDSyPA		Environmental Impact Study to asses forests’ projects of native and exotic species.	
NATIVE FORESTS AND FORESTS WITH NO COMMERCIAL PURPOSES	Law 13.273, Law 19.995, Regulatory Decree 710/95	SDSyPA		Not regulated	

PROTECTED AREAS	Law 22.351, Resolutions APN 16/94, 17/94 & 106/95	APN (Administration of National Parks)	Species Dominant species Threatened species Wild native or autochthonous species Wild exotic or introduced species Environmental Impact Assessment	Introduction of exotic species is forbidden	<ul style="list-style-type: none"> The Authority can permit hunting and fishing whenever there are biological, scientific or technical reasons. Both activities can be used for control and eradication.
SANITARY CONTROL for ANIMALS and PLANTS	Law 2.268, Law 4.084 Regulatory Decree 4.238/68 and Several Resolutions by SAGPy A y SENASA	SENASA (National Service of Health and Agri Food Quality)		Introduction of animals and plants requires sanitary control	<ul style="list-style-type: none"> Quarantine measures for control
PESTS	Law 11.843, Regulatory Decree 92.767/36 Law 4.863, Decree Law 6704/63 Regulatory Decree 8967/63 & 7466/65 Complementary SAGPyA resolutions	MS (Ministry of Health) SENASA	Pest can be defined considering different concepts of Law 6704/66	SENASA establishes specific regulations for each pest, hindering in certain cases the introduction of any species into the country. It determines quarantine protective areas.	<ul style="list-style-type: none"> SENASA establishes mechanisms for control and eradication of pests and grants permits to the companies authorized to carry out them.

<p>GENETICALLY MODIFIED ORGANISMS</p>	<p>Law 20.247 on seeds and phytogetic creations Law 13.636 on veterinarian products, supervision, creation and commercialization. Resolution SAGPyA N° 656/92, 837/93, 226/97,289/97 Disp. DNP y EAy F 4/99, 7/99, 8/99, 9/99</p>	<p>SAGPyA Advisory Entity: CONABIA (Federal Agricultural Biotechnology Advisory Committee)</p>	<p>Genetically Modified Organism</p>	<p>Risk Study before releasing into the market an GMO</p>	<ul style="list-style-type: none"> • After the authorization for experimentation and releasing, the interested party must afford authority's periodic inspections
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BIBLIOGRAPHY

1. Bertonatti, Claudio. *Invasiones biológicas en la Argentina: una amenaza para las especies autóctonas*. Resumen de la exposición presentada el 29/10/98 en el Ciclo de Charlas 1998 de la Fundación Vida Silvestre Argentina.
2. *Document on National Strategy of Biological Diversity*. 1998, Buenos Aires. Federal Government, UICN, INTA APN., G.E.F., PNUD-
3. Estrada Oyuela, Raúl A. y Zeballos de Sisto, María Cristina; *Digestos de Derecho Internacional, Evolución reciente del Derecho Ambiental Internacional*; A-Z editora S.A., Buenos Aires, 1993.
4. Glowka, Lyle; *Non-Indigenous Species Introductions: References in International Instruments, A chart distributed for comments at the Norway/United Nations Conference on Alien Species*. Trondheim, 1 July 1996. IUCN Environmental Law Centre.
5. Plater, Adams, Goldfard. *Environmental, Law and Policy, Nature, Law and Society*. Corporation, St. Paul, Minesotta, U.S.A. 1992.
6. Sabsay D. –Onaindia José . *La Constitución de los Porteños*. Editorial Errepar. Buenos Aires, 1997.
7. Sands, Philippe. *Principles of International Environmental Law. Volume I. Frameworks, Standards and implementation*. Manchester University Press, Manchester, 1995
8. *Documents of the Web site of Secretariat of Environment and Sustainable Development of the federal government*.
9. *Documents of the Web site of Secretariat of Agriculture, Livestock, Fishing and Food of the federal government*.