Action Plan for North America

Sustainable Trade in Parrots

Commission for Environmental Cooperation

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Action Plan for North America

Sustainable Trade in **Parrots**

Orange-chinned parakeet (*Brotogeris jugularis*)

Nelson de Witt

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List of Abbreviations and Acronyms

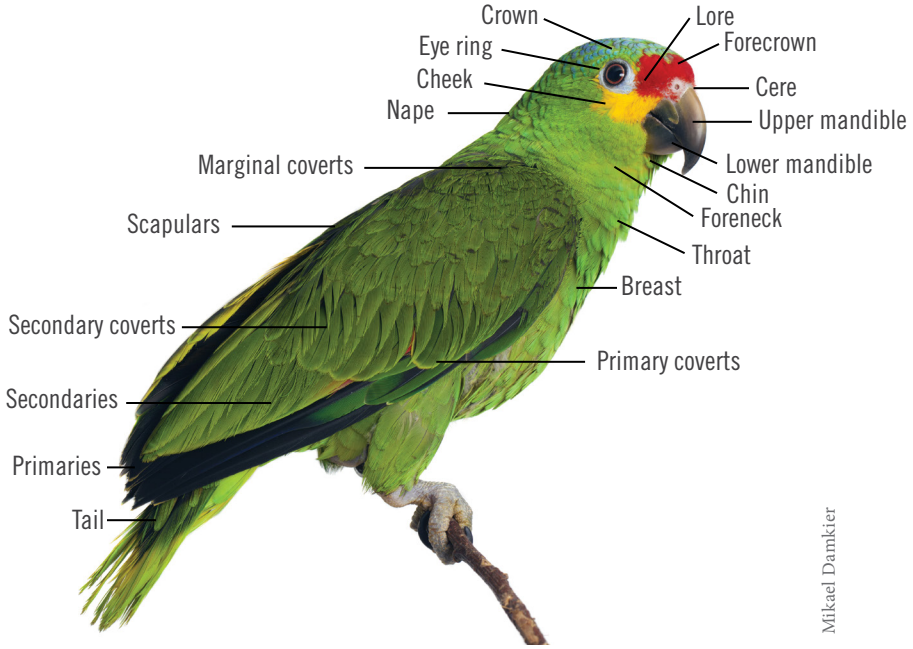
CBSA	Canada Border Services Agency
CEC	Commission for Environmental Cooperation
CFIA	Canadian Food Inspection Agency
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
Conabio	*Comisión Nacional para el Conocimiento y Uso de la Biodiversidad* (National Commission for the Knowledge and Use of Biodiversity)
Conanp	*Comisión Nacional de Áreas Naturales Protegidas* (National Commission of Natural Protected Areas; Mexico)
DGVS	*Direccion General de Vida Silvestre* (General Directorate for Wildlife; Mexico)
DNA	deoxyribonucleic acid
ECCC	Environment and Climate Change Canada (formerly Environment Canada)
ESA	Endangered Species Act (United States)
EU	European Union
IUCN	International Union for Conservation of Nature
LGVS	Ley General de Vida Silvestre (General Law of Wildlife; Mexico)
NAWEG	North American Wildlife Enforcement Working Group
NDF	non-detriment finding
NOM-059	Official Mexican Standard NOM059-SEMARNAT-2010 (Mexico)
PEP	*Program de Especies Prioritarias* (Priority Species Program—Mexico)
Profepa	*Procuraduría Federal de Protección al Ambiente* (Office of the Federal Attorney for Environmental Protection; Mexico)
Semarnat	*Secretaría de Medio Ambiente y Recursos Naturales* (Secretariat of Environment and Natural Resources, Mexico)
SUMA	*Sistema Nacional de Unidades de Manejo para la Conservación de la Vida Silvestre* (National System of Management Units for the Conservation of Wildlife; Mexico)
UMA	*Unidades de Manejo y Aprovechamiento Sustentable de Vida Silvestre* (Units for Management and Sustainable Exploitation of Wildlife; Mexico)
UNEP-WCMC	United Nations Environment Programme World Conservation Monitoring Centre
US	United States of America
USDA-APHIS	United States Department of Agriculture, Animal and Plant Health Inspection Service
USFWS	United States Fish and Wildlife Service
WAPPRIITA	Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act (Canada)
WAPTR	Wild Animal and Plant Trade Regulations (Canada)
WBCA	Wild Bird Conservation Act (of 1992) (United States)
WED	Wildlife Enforcement Directorate (of ECCC)

Glossary of Terms

The following definitions were adapted from Merriam-Webster (2016), Oxford English Dictionary (2016), Peterson (1961), and USFWS (2015a), with assistance from Jordan and Reuter (in litt.).

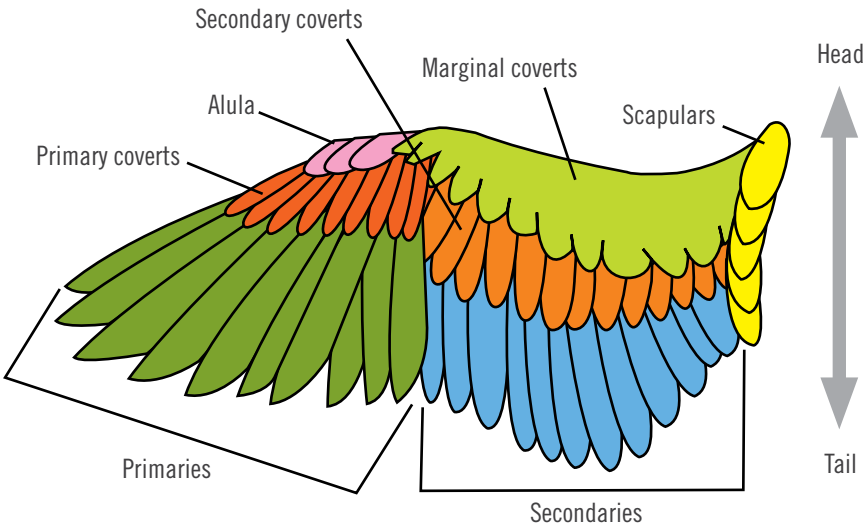
Alula	The group of feathers growing on the first digit (thumb) of a bird's wing.
Axilla	The "armpit" of a bird.
Axillaries	The feathers in the axilla that fill the space between the flight feathers and body of a bird.
Barring	Bands of pigment on a bird's feathers.
Breast	The front of a bird's body between the neck and abdomen; the chest.
Cere	Featherless patch of skin where the beak attaches to the head.
Cheeks	The sides of a bird's face, between the eye and the jaw.
Coverts	Any of the feathers covering the bases of a bird's main flight or tail feathers.
Crown	The topmost part of a bird's head.
Ear coverts	A patch of small feathers, often of a distinctive color, covering a bird's ear.
Eye ring	A distinct ring around a bird's eye that may be colored feathers that contrast with adjacent plumage, or a circular patch of bare skin.
Forecrown	The front of a bird's head, above the eyes.
Forehead	See forecrown.
Foreneck	The front of a bird's neck; the throat.
Frontal band	The feathers immediately above a bird's cere.
Hindcrown	The back of a bird's head, above the nape and behind the crown.
Lore	The space between a bird's eye and the upper mandible.
Lower mandible	The lower half of a bird's bill.
Nape	The back of a bird's head.
Plumage	The feathers of a bird.
Primaries	The longest and narrowest of a bird's flight feathers; the outer flight feathers.
Primary coverts	The covert feathers that cover the bases of a bird's primary flight or tail feathers.
Rump	The sacral or dorsal part of the posterior end of a bird.
Secondaries	The shorter and broader flight feathers of a bird; the inner flight feathers.
Secondary coverts	The covert feathers that cover the bases of a bird's secondary flight feathers.
Undertail coverts	The covert feathers that cover the base of a bird's tail feathers, under the tail.
Underwing-coverts	The covert feathers located on the underside of a bird's wing.
Upper mandible	The upper half of a bird's bill.
Uppertail coverts	The covert feathers that cover the base of a bird's tail feathers, above the tail.
Upper wing-coverts	The covert feathers located on the upper side of a bird's wing.

Figure 1. **Basic anatomy of a parrot**



Note: Side view of a live adult specimen of *Amazona autumnalis*.

Figure 2. **Arrangement of feathers on a parrot's wing**



Note: Generalized illustration of different feathers on the upper side of a parrots wing (courtesy of Ernie Cooper, 2016). The colors used are meant to distinguish the different feather groups and do not represent any particular species of bird.

Abstract

This document is one of a set of five action plans that were prepared as part of a project by the Commission for Environmental Cooperation (CEC) to promote legal, sustainable and traceable trade in selected North American species that are listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The five action plans were produced under the guidance of the CITES Authorities of Canada, Mexico and the United States.

Eleven parrot species, from seven genera, were originally selected for this project. However, a taxonomic review found that two of the selected species had been renamed and were now considered to be the same species. The ten species thus remaining were designated "priority parrot species" and are the subject of this action plan. Information was compiled for the species as a group, including the impact of trade on conservation and livelihoods; making CITES non-detriment findings (NDFs); and species-identification challenges for CITES enforcement. The ten species were also assessed as to their distribution, conservation status, trade and commercial value. A total of 19 recommended actions are proposed, to: improve cooperation among North American stakeholders; review government policies on captive breeding and trade; promote in-situ conservation; reduce the threat of introduced species; and build enforcement capacity. These actions were developed based on the information compiled for this document and from consultation with stakeholders. Consultation included a stakeholder workshop held on 25–26 October 2016 in Mexico City.

Executive Summary

This action plan presents 19 recommended actions for promoting sustainable trade in the priority parrot species and provides an overview of their distribution, conservation status, trade, and information relevant to their management. These actions focus on improving cooperation among North American stakeholders; developing and implementing policies that promote captive-breeding and sustainable trade; increasing in-situ conservation efforts for wild populations; reducing the threat of invasive species in Mexico; and building enforcement capacity. The information found in this action plan was compiled via literature review, data analysis and consultation with experts and stakeholders from Canada, Mexico and the United States. A stakeholder workshop was held in Mexico City on 25–26 October 2016.

This action plan is one of a set of five action plans that were prepared as part of a project by the Commission for Environmental Cooperation (CEC) to promote legal, sustainable and traceable trade in selected North American species that are listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The five action plans were produced under the guidance of the CITES Authorities of Canada, Mexico and the United States.

Priority Species

Ten priority parrot species were selected for this project. These species are native to Mexico, with one species (*Psittacara holochlorus*) possibly ranging into southern Texas in the United States. None of these species naturally occurs in Canada. The North American trade in parrots almost exclusively involves live birds as pets.

One of the priority parrot species (*Forpus cyanopygius*) has been assessed by the International Union for Conservation of Nature (IUCN) as Near Threatened. The other nine species have been assessed as Least Concern. In Mexico, five of the priority parrot species (*Amazona xantholora*, *Bolborhynchus lineola*, *Brotogeris jugularis*, *Pionus senilis*, and *Psittacara holochlorus*) are considered Threatened; three (*Amazona albifrons*, *Eupsittula canicularis* and *Forpus cyanopygius*) are Subject to Special Protection; and one species (*Pyrilia haematotis*) and one subspecies (*F.c. insularis*) are considered Endangered.

Management and Conservation Overview

In Canada, the importation of parrots must meet the requirements of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in addition to the restrictions imposed under the Health of Animals Act. Canada allows commercial imports of live parrots from few countries; commercial imports are not permitted from Mexico but are allowed from the United States. Pet parrots may be imported into Canada if they are travelling with their owners, and if the import requirements set by the Health of Animals Act are met.

In the United States, the importation of parrots is restricted by the Endangered Species Act (ESA), which implements CITES, and the Wild Bird Conservation Act (WBCA). The WBCA has significantly reduced the number of wild parrots (and other birds) imported into the United States. Most imported birds are now either captive-bred or exempted species. The importation of parrots into the United States is also regulated by the United States Department of Agriculture's Animal and Plant Health Inspection Service (USDA-APHIS).

In Mexico, Article 60 Bis 2 of the General Law of Wildlife (*Ley General de Vida Silvestre*—LGVS) specifically prohibits the take, import, export or sale of native species of parrots in the family *Psittacidae*. Exceptions can only be made by certified academic institutions, for conservation or scientific research purposes.

Despite the prohibition on collecting, breeding or trading native parrots, illegal take and trade apparently continues in Mexico. Surveys have found that parrots were absent from regions along the Pacific coast of Mexico that contained suitable forest, suggesting that the absence was due to capture of birds for trade rather than habitat loss. Breeders suggest that if individuals could legally breed Mexican parrots and sell the offspring, it would reduce the illegal collection of wild specimens.

Trade Overview

The Mexican domestic market demand for pet birds is currently met with exotic species. Because of birds escaping or being released from captivity, invasive non-native parrot species such as *Myiopsitta monachus* have become established in Mexico and are likely to cause ecological problems by competing with native species.

One US parrot breeder opined that the the United States Fish and Wildlife Service (USFWS) permit system presents a significant challenge to US breeders and exporters. Some breeders feel that international sales are lost to breeders in countries that can acquire permits more quickly. One breeder from Canada suggested that the import restrictions imposed under the Health of Animals Act were too onerous. The breeder recommended a review of the current policy, to find ways to simplify the importation process while maintaining strict control of disease transmission.

Recommended Actions

The following table provides a summary of the actions recommended for promoting the conservation of priority parrot species in Mexico, and their legal, sustainable trade throughout North America. Completion of the recommended actions is subject to available funding.

No.	Goals	Actions
1	Ensure that progress on the recommendations in this action plan is reported and measurable.	**Measuring progress**: The governments of Canada, Mexico and the United States should develop and implement a process for tracking and reporting on efforts to fulfill the recommendations of this action plan, such as a dedicated website or other method.
2	Support collaborative North American efforts directed at promoting sustainable, traceable trade and conservation of priority CITES Appendix II species.	(a) **Trinational collaboration**: The governments of Canada, Mexico and the United States should support and monitor collaborative efforts to promote sustainable, traceable trade and conservation of native species deemed to be of priority concern, including CITES Appendix II parrots. (b) **Funding strategy**: The governments of Canada, Mexico and the United States (to the extent possible, and in consideration of domestic priorities) should develop a long-term strategy for funding this action plan, emphasizing realization of the high-priority actions.
3	Review and amend existing Mexican policy on the possession, breeding and trade of parrots.	(a) **LGVS review**: The Government of Mexico should hire a contractor to: review the impact of Article 60 bis 2 of the LGVS, and the associated regulations on parrot conservation and livelihoods; evaluate possible restrictions on the import of potentially invasive exotic parrot species; and provide recommendations for regulations pertaining to captive breeding operations. (b) **LGVS amendment**: The Government of Mexico should consider amending Article 60 bis 2 of the LGVS, so as to remove the prohibition on breeding, and domestic and international trade of native parrot species. (c) **Captive-breeding policy**: If the legal restriction on breeding native parrot species is amended, and captive breeding of native parrots is permitted, the government of Mexico, in collaboration with academia, nongovernmental organizations, and private breeders, should develop and implement regulations and procedures to prevent wild-caught birds from being laundered through breeding facilities.
4	Support the conservation of native Mexican parrots through collaborative and cooperative projects by academia, government, private breeders and nongovernmental organizations.	**Annual Mexican workshop**: The Government of Mexico, in collaboration with the CEC, private breeders, academia and nongovernmental organizations, should host an annual workshop that brings together experts to: share information about Mexican parrot conservation; establish research and management goals; establish and revise a priority species list; and develop or revise policy for securing parrot conservation.
5	Promote the in-situ conservation of wild parrot populations in Mexico	(a) **Eradication program**: The Government of Mexico, in collaboration with private breeders, academia and nongovernmental organizations, should review and evaluate the risks and benefits of an eradication program for introduced parrot species, or develop alternative strategies for managing the impact of invasive parrot species. (b) **Community-based conservation**: The Government of Mexico, in collaboration with academia and nongovernmental organizations, should evaluate the potential for community-based efforts to conserve native parrot species and create livelihoods through development of ecotourism lodges in regions with rich parrot diversity, and should promote other complementary non-extractive activities such as hiking, sport fishing, bird-watching and wildlife-viewing. (c) **Public awareness program**: The Government of Mexico, in collaboration with academia, nongovernmental organizations and private breeders, should develop and institute a comprehensive public education program to reduce the illegal collection of native parrot species.

No.	Goals	Actions
6	Reduce the threat of introduced invasive parrot species in Mexico.	(a) **Regulating parrot imports**: The Government of Mexico should consider enacting regulations to restrict the import of potentially invasive non-native parrot species. (b) **Captive breeding and release**: The Government of Mexico, in collaboration with academia, nongovernmental organizations and private breeders, should review the status of and threats to native Mexican parrots; the management of trade and enforcement; and the availability of critical habitat; in order to assess the risks and benefits of a captive breeding and release program to increase wild populations. (c) **Captive release policy**: If captive breeding and release of native parrot species is determined to be a viable conservation strategy, the Government of Mexico, in collaboration with academia, nongovernmental organizations and private breeders, should develop policy and procedures to ensure genetic compatibility, disease-free status, and survival prospects of captive-bred parrots released to the wild.
7	Review existing Canadian regulations and policy for importing parrots.	(a) **Canadian regulatory review**: The Government of Canada should review of the Health of Animals Act in order to better understand import of parrots within the context of all imports from the USA and Mexico and to determine if there are options to facilitate the commercial import of parrots from Mexico.
8	Provide enforcement officers with the information and resources necessary to identify parrot species and enforce the laws that regulate parrot trade.	(a) **Parrot trade workshop**: The governments of Canada, Mexico and the United States, via the CEC, should hold a trinational workshop on the trade in parrots, bringing together experts and enforcement staff from Canada, Mexico and the United States to: provide handling and identification training, build links between different North American enforcement authorities, and stimulate collaborative enforcement actions to combat trafficking. (b) **Digital identification guide**: The governments of Canada and the United States, via the CEC, should support translation of the Mexican digital identification guide for commonly traded CITES species, into English and French. (c) **Increased enforcement effort**: The government of Mexico should increase funding and prioritize enforcement activities to protect wild parrot populations and prevent illegal collection and trade of native parrot species.
9	Review existing US policy for importing and exporting parrots.	(a) **US CITES permit process**: The USFWS should review the policy and procedures for processing CITES permit applications for exporting captive-bred parrots, with the goal of streamlining the process and reducing the waiting time for obtaining permits. (b) **Foreign captive-breeding facilities rules**: The US government should finalize and publish the rules for foreign breeders to qualify as captive-breeding facilities as defined by the WBCA.

Brown-hooded parrot (*Pyrilia haematotis*)

Tim Zurowski

Background

In 2015, the governments of Canada, Mexico and the United States initiated a collaborative project through the Commission for Environmental Cooperation (CEC) to strengthen the conservation and sustainable trade of 56 North American taxa that are included in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The project, aligned with the CEC strategic priority on sustainable consumption and production, aims to provide guidance in the form of five action plans for reducing illegal and/or unsustainable harvest and trade; improving biological knowledge to allow science-based management decisions; and promoting traceability, species conservation, and livelihoods of stakeholders, throughout trade.

CITES came into force in 1975 and calls on the cooperation of the signatory countries to ensure that international trade does not threaten vulnerable specimens of wild animals and plants with extinction, and that trade is regulated and maintained at sustainable levels. To implement CITES, each Party to the Convention must designate one or more Management Authorities in charge of administering the permitting system, and one or more Scientific Authorities to advise them on the effects of trade on the conservation of species. Appendix II of CITES includes more than 34,000 species for which international trade is regulated to avoid over-exploitation and ensure their survival.

Process for Developing this Action Plan

The initial step in developing this action plan was a review of North American species listed in Appendix II of CITES by the CEC project's Steering Committee, comprising CITES Authorities of Canada, Mexico and the United States. In total, 55 species and one genus were selected as "priority species" for the project. These species were selected because they are all native to North America and traded by more than one of the three North America countries. Furthermore, the Steering Committee determined that regional information exchange and collaboration would facilitate species conservation, CITES implementation, and trade legality, traceability and sustainability. These 56 taxa were organized into five groups: parrots, sharks, tarantulas, timber species (specific cacti and tropical hardwoods), and turtles and tortoises.

Alexander Schimmeck

Orange-chinned parakeet (*Brotogeris jugularis*)

Then, a comprehensive review of the 56 taxa was developed to compile information on each species' conservation status, trade dynamics and commercial value. In addition, sustainable-use practices were documented, as was the impact of the species' trade on conservation, and the information needed for completing CITES non-detriment findings (NDFs).[1] Species-identification challenges for CITES enforcement were reviewed and opportunities for promoting sustainable trade and conservation were discussed.

On 25–26 October 2016, a stakeholder consultation was held in Mexico City to gather information and recommendations for actions to promote sustainable trade and

1. Articles III and IV of the Convention text state that export permits for species listed in Appendices I and II may only be issued after the Scientific Authority of the exporting country has concluded that the export will not be detrimental to the survival of the species. Such a result from the evaluation process is known as a "non-detriment finding." Resolution Conference 10.3 outlines the role of the Scientific Authority, and Resolution Conference 16.7 provides recommendations for the process of making non-detriment findings (CITES 1973, 1997a, 2013).

conservation of the priority parrot species. This document draws on the information from the comprehensive review, the stakeholder consultation, and consultations with CITES Authorities of Canada, Mexico and the United States.

This action plan includes information on ten priority parrot species. The information was compiled for the species as a group, including the impact of trade on conservation and livelihoods; making NDFs; and identification challenges for CITES enforcement. Information on the distribution, conservation status, trade and commercial pricing of the ten species was also collected. A total of 19 recommended actions are proposed to: improve cooperation among North American stakeholders; review government policies on captive-breeding and trade; promote in-situ conservation; reduce the threat of introduced species; and build enforcement capacity. These actions were developed based on the information compiled for this document and from consultation with stakeholders.

Overview of the Priority Parrot Species

Parrots (Family *Psittacidae*) comprise nearly 400 species of birds distributed across every continent except Antarctica (IUCN 2016; World Parrot Trust 2016i). Parrots are renowned for their attractive colors and ability to imitate human speech, which has made them popular in many cultures across the world. The ancient Greeks and Romans were known to keep parrots in captivity, and it was a widespread practice among the Indigenous peoples of Mexico to rear parrots in captivity to obtain their feathers for ceremonial purposes (Snyder et al. 2000). Parrots continue to be popular in the bird trade.

Parrots are one of the most endangered groups of birds in the world (Snyder et al. 2000). Approximately 28% of parrots (111 of 398) are listed in the International Union for Conservation of Nature (IUCN) Red List Index as Threatened (Olah et al. 2016). Within Mexico there are 22 species of parrots, of which 5 are endemic (Avibase 2016a).

Eleven priority parrot species from seven genera were originally selected for this project, including three species of *Aratinga*. However, *Aratinga strenua* is now considered synonymous with *Psittacara holochlorus* (BirdLife International 2014b), leaving the project with 10 parrot species. *Psittacara holochlorus* is the new name for the species *Aratinga holochlora*. Therefore, information gathered about *A. holochlora* and/or *A. strenua* has been recorded in this report as being for *P. holochlorus*. As well, *Pionopsitta haematotis* and *Aratinga canicularis* are now considered synonyms of *Pyrilia haematotis* and *Eupsittula canicularis*, respectively. The names *Pyrilia haematotis* and *Eupsittula canicularis* are, therefore, used in this report.

Detailed species accounts, including information on appearance, distribution, conservation status, and trade, are provided in the *Priority Parrot Species* section.

Ondrej Prosicky

Red-lored Amazon (*Amazona autumnalis*)

North American Government Authorities and Legislation

This section provides a short overview of the national laws and regulations that are specifically referenced in this document; along with a review of the government agencies or departments that are charged with their implementation.

Canada

Environment and Climate Change Canada (ECCC) is the lead federal department for implementing CITES in Canada—including issuing permits, making non-detriment (and other) findings, and enforcement.

Border enforcement of CITES is the responsibility of the Wildlife Enforcement Directorate (WED) of ECCC, under the authority of the Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act (WAPPRIITA) and the Wild Animal and Plant Trade Regulations (WAPTR). WED works in collaboration with the Canada Border Services Agency (CBSA).

The purpose of WAPPRIITA is to protect species of animals and plants by implementing CITES and regulating the species' international and interprovincial trade, responsibilities which include the following (Canada 1992):

- Prohibition of the import and export of CITES specimens except with a permit or where permitted by the regulations.
- Prohibition of the importation of an animal or plant that was taken in contravention of any foreign law.
- Prohibition of the possession of specimens which have been imported in contravention of the legislation.

WAPTR provides specific definitions, interpretations and exceptions that are necessary for implementing WAPPRIITA (Environment Canada 2003). The species of animals and plants that are listed in the Appendices of CITES are compiled in Schedule 1 of WAPTR (Canada 1996). Schedule 1 must be amended after any change to the CITES Appendices in order for the provisions of WAPPRIITA to apply to the change.

The importation of parrots is also regulated under the Health of Animals Act and the Health of Animals Regulations, which are implemented by the Canadian Food Inspection Agency (CFIA) (Canada 1990). The purpose of the Health of Animals Act is to control diseases and toxic substances that may affect animals and/or be transmitted from animals to humans. The Health of Animals Act prohibits the importation of animals (or anything else) into Canada, as necessary, to prevent diseases or toxic substances from being introduced into, or spread within the country (Canada 1990; CFIA 2011). The Health of Animals Regulations implement the Health of Animals Act (Canada 2015; CFIA 2011).

Mexico

The Secretariat of Environment and Natural Resources (*Secretaría de Medio Ambiente y Recursos Naturales*—Semarnat) is responsible for protecting, restoring, and conserving the ecosystems, natural resources and assets of Mexico; it is also responsible for promoting sustainable development. Semarnat is ultimately responsible for conserving native species and for implementing CITES (Reuter, in litt.; Semarnat 2017).

Semarnat meets its mandate through the activities of a number of sub-entities within the Secretariat, including the following (Reuter, in litt.):

- The General Directorate for Wildlife (*Direccion General de Vida Silvestre*—DGVS).
- The National Commission for the Knowledge and Use of Biodiversity (*Comisión Nacional para el Conocimiento y Uso de la Biodiversidad*—Conabio).
- The Office of the Federal Attorney for Environmental Protection (*Procuraduría Federal de Protección al Ambiente*—Profepa).
- The National Commission of Natural Protected Areas (*Comisión Nacional de Áreas Naturales Protegidas*—Conanp).

DGVS is responsible for the management of wildlife in the country and the implementation of the General Law of Wildlife (*Ley General de Vida Silvestre*—LGVS). In addition, DGVS acts as the CITES Management Authority in Mexico and is responsible for issuing permits, keeping records and liaising with the CITES Secretariat. DGVS also manages the National System of Management Units for the Conservation of Wildlife (*Sistema Nacional de Unidades de Manejo para la Conservación de la Vida Silvestre*—SUMA), which includes the approval of plans for the Units for Management and Sustainable Exploitation of Wildlife (*Unidades de Manejo y Aprovechamiento Sustentable de Vida Silvestre*—UMA). The purposes of UMA are the restoration, protection, maintenance, recovery, reproduction, repopulation, reintroduction, and rehabilitation of wildlife; its sustainable use, recreational use and exhibition; and environmental education of the public (DOF 2000). Furthermore, DGVS can authorize the release of wildlife back into the wild, when appropriate (Camarena Osorno, and Reuter, in litt.).

Conabio is responsible for promoting, coordinating, supporting and implementing activities to improve the knowledge of biological diversity, its conservation and its sustainable use. Conabio serves as the CITES Scientific Authority in Mexico and is responsible for non-detriment findings (NDFs) (Camarena Osorno, and Reuter, in litt.).

Profepa is a decentralized administrative body of Semarnat that has technical and operational autonomy. Profepa was created to respond to and control environmental deterioration. One of its primary tasks is to enforce compliance with environmental regulations. Profepa is responsible for enforcing CITES in Mexico, under the authority of the LGVS (Camarena Osorno, and Reuter, in litt.).

Conanp is responsible for conserving species considered at risk under its Priority Species Program (*Program de Especies Prioritarias*—PEP) (Reuter, in litt.), and for managing 176 federally protected natural areas—including national parks, biosphere reserves, nature sanctuaries and natural monuments (Semarnat 2012).

The LGVS regulates the sustainable use, conservation and management of native wild animals and plants. It regulates the protection of species or populations that are at risk, including both terrestrial and aquatic species (DOF 2000; Linder and Kaplan 1952; Mexico 2016). The LGVS establishes the national policy for wildlife protection and sustainable use, via the SUMA program and the Official Mexican Standard NOM059-SEMARNAT-2010 (NOM-059) on Mexican species at risk (see below). In addition, the LGVS regulates the creation of UMAs.

Article 55 of the LGVS implements CITES in Mexico. The LGVS also includes some provisions that are stricter than is required by the Convention. Article 60 Bis 2 of the LGVS specifically prohibits the take, import, export or sale of native species of parrots in the family Psittacidae. Exceptions can only be made for conservation or scientific research purposes by certified academic institutions (DOF 2000).

The Regulations of the LGVS (*Reglamento de la Ley General de Vida Silvestre*—RLGVS) enable and implement the LGVS and provide the essential requirements for the integration of SUMA and the inclusion, establishment, management and operation of the UMAs (DOF 2014).

NOM-059 is the "reference instrument" of the LGVS. It defines the criteria that must be met for a species to be considered "at risk," provides the criteria for reviewing the conservation status of native Mexican terrestrial and aquatic species of animals and plants, and categorizes those species that require special protection (DOF 2010). The exploitation of NOM-059 species is allowed only under a UMA framework, and hence a management plan approved by DGVS (Camarena Osorno, in litt.).

NOM-059 establishes four risk categories: Probably Extinct (in the wild), Endangered, Threatened, and Subject to Special Protection (DOF 2010). These categories are defined in Appendix A of this report.

The United States

The US Fish and Wildlife Service (USFWS) is responsible for implementing the provisions of CITES—including permit issuance, making NDFs and other findings, and enforcement. The United States implements CITES via section 8A of the Endangered Species Act of 1973 (ESA) (USA 1973).

The goal of the ESA is to conserve endangered or threatened species throughout all (or a significant portion) of their range. This includes the conservation of the ecosystems on which these species depend (NOAA 2015). Under the ESA, species listed as Endangered (with limited exceptions) may not be imported or exported, possessed, sold or transported. They may not be taken within the United States or on the high seas (USA 1973). Generally, these same prohibitions and exceptions also apply to species listed as Threatened. However, for some species designated as Threatened, a special rule may be implemented which provides prohibitions and exceptions that are tailored to the conservation needs of the particular species (USA 1971). Not all CITES-listed species are also ESA-listed, and not all ESA-listed species are afforded protection under CITES.

All fish or wildlife that are imported into or exported from the United States must be declared to the USFWS via a special form (USFWS FORM 3-177).[2] In addition, wildlife may normally only be imported or exported through specifically designated ports (USFWS 2016b). Failure to comply with these requirements is a violation of the ESA and its implementing regulations.

In 1992, the United States enacted the Wild Bird Conservation Act (WBCA). The purpose of the WBCA is to reduce the impact of international trade on the conservation of exotic species of birds. WBCA applies to all parrot species that are listed in the CITES Appendices. Permits may be issued to import birds for scientific research, zoological breeding or display; inclusion in approved cooperative breeding programs; or as personal pets. Permits are not required for the import of some approved captive-bred birds. Wild-caught birds may also be imported if they are taken according to approved sustainable use management plans (USA 1992; USFWS 2016c).

In addition to the ESA and WBCA, the Lacey Act makes it illegal to import, export, transport, sell, receive, acquire, or purchase, in interstate or foreign commerce, any fish or wildlife that was taken, possessed, transported, or sold in violation of any foreign law. The Lacey Act also prohibits the import, export, transport, sale, receipt, acquisition or purchase, in interstate or foreign commerce, of any plant taken, possessed, transported or sold in violation of any foreign law that protects plants or that regulates certain activities associated with those plants (Cornell 2017). Importing parrots into the United States that were taken or exported in violation of a foreign law would be a violation of the Lacey Act (USA 1900, 1981; USFWS 2015b).

The importation of parrots into the United States is also regulated by the United States Department of Agriculture's Animal and Plant Health Inspection Service (USDA-APHIS) (USDA 2016a, b). USDA-APHIS prohibits the commercial importation of parrots (including live eggs) from some countries due to the risk of introducing highly pathogenic avian influenza from those countries. Canada is currently not included in the list of prohibited countries. Pet birds may originate from any of the prohibited countries and can be imported with a Veterinary Health Certificate and USDA Import Permit (which specifies additional import criteria)—if they are also in compliance with USFWS requirements. After being imported, all parrots must be quarantined for 30 days at a USDA Animal Import Center, at the owner's expense. If the birds are US pet parrots returning from a non-prohibited country, they may be quarantined at the importer's home. An exception is made for birds imported from Canada. Pet birds from Canada do not need to be quarantined, and if imported via a land border they do not require import permits. Birds imported from Canada for commercial purposes do not need to be quarantined. Zoo birds from Canada do not need to be quarantined unless they are part of an official vaccination program for avian influenza subtypes H5 or H7 (USDA 2016a, b; Helm, in litt.).

2. "Fish or wildlife" is defined in section 3 of the ESA as any member of the animal kingdom, including any parts, products, eggs, or offspring, and including dead bodies or parts (USA 1973).

White-fronted Amazon
(*Amazona albifrons*)

Ondrej Prosicky

Trade in Priority Parrots

This section provides an overview of the impact of trade on conservation and livelihoods. The North American trade in priority parrots almost exclusively involves live birds as pets. Breeders interviewed in Canada and the United States stated that, generally, the market for parrots is increasing. The American market demand is particularly good for captive-bred, hand-fed babies rather than adult birds (Jordan, and Koenig, pers. comm.). One Canadian breeder voiced concerns that while the market is increasing, there may not be enough genetic diversity within the populations existing in Canada to sustain breeding past the next five to ten years (Koenig, pers. comm.).

With the passage of the WBCA, importing wild CITES-listed parrots into the United States for the pet trade was prohibited (USFWS 2016c). Wild-caught birds may still be imported if they are managed in accordance with USFWS-approved management plans for sustainable use. However, as of August 2016, no such management plans had been approved (USFWS 2016a). The WBCA provides exemptions to allow the importation of birds, including wild-caught birds, for scientific research, zoological breeding or display, and cooperative breeding programs. Personally owned pet birds may be imported by individuals who are returning to the United States after being continuously out of the country for at least one year (USA 1992). In addition, there is an approved list of species that may be imported if the specimens are captive-bred. The only priority parrot species currently on the approved list is *Bolborhynchus lineola* (LII 2016).

As a result of the WBCA, birds sold in the American pet trade industry are, for the most part, captive-bred. There are some older wild-caught birds still producing in the United States, but many species are multiple-generational breeding pairs. The situation is similar in Canada—historically many were wild-caught, but the majority are now domestically bred, with some being imported (Koenig, pers. comm.). Breeders often trade with other breeders. Within the United States, smaller hobbyist breeders usually sell directly to the public or to another breeder, for stock. Larger facilities have a greater need for a broker to sell directly to stores (Jordan, in litt.). One breeder estimated that in Canada, 60% of breeders sell directly to the public, while 40% sell through brokers or retailers (Koenig, pers. comm.).

As noted previously, in Canada the importation of birds is regulated via the Health of Animals Act (Canada 1990).[3] Canada allows commercial imports of live parrots from very few countries. Commercial imports are not permitted from Mexico, but are allowed from the United States. If Mexican parrots were legally imported into the United States, and went through US quarantine procedures, then those birds could be imported into Canada. Once in Canada, they would not need an additional quarantine but would need an inspection (Rajzman, in litt.).

Pet parrots may be imported into Canada if they are travelling with their owners, and as long as the import requirements set out by the Health of Animals Act are met. Birds coming from the United States may be imported as long they are healthy, have been in the possession of the owner for at least 90 days, and are not being imported for re-sale. The requirements for imports from other countries vary, depending on the country. Importing is prohibited from those countries in which highly pathogenic avian influenza is endemic. Mexico is not currently included on the list of prohibited countries. An import permit issued by CFIA is required to import pet birds from any country other than the United States. Once a parrot arrives in Canada it must be quarantined for a minimum of 45 days (Canada 2011, 2014).

Canadian retail stores generally sell only hand-fed babies. The price of a hand-fed, weaned baby is about the same as the price of an adult pair, although some buyers are willing to pay premium prices for proven pairs. The prices for single Central American male and female birds do not tend to differ. Canadian prices for birds tend to be higher than in the United States (Koenig, pers. comm.). In the United

3. Importation of parrots and other CITES-listed species is also regulated by WAPPRIITA and WAPTR.

States, juvenile, hand-fed and tame baby parrots usually sell for more than an adult of the same species, unless they are hard to find for breeding purposes. For adult males and females, prices will vary within a species when one sex is harder to find for breeding (Jordan, in litt.).[4]

Within Mexico, wild specimens may not be legally collected, and the offspring of captive Mexican parrots cannot be sold or traded, as per Article 60 bis 2 of the General Wildlife Act (*Ley General de Vida Silvestre*—LGVS) (Mexico 2016). One academic expert stated that, despite this law, the capture of parrots in Mexico for domestic trade is widespread. This expert reported that interviews were conducted with 339 local people along the Pacific coast of Mexico. Of the people interviewed, 75% reported poaching of parrot chicks in their region, and 53% reported the capture of parrots with nets (Anonymous, pers. comm.).[5] One Mexican breeder stated that the current law encourages people to gather birds from the wild for sale in the black market (Costa Lavin, pers. comm.). This same breeder noted that Profepa staff actively enforce the law prohibiting the possession of Mexican parrots, and seize birds that are in captivity illegally. Seized birds cannot usually be released into the wild. Instead they are released into the custody of qualified breeders (like himself) to provide long-term care. The breeder may not sell, trade or breed the birds, and receives no financial compensation for their care (Costa Lavin, pers. comm.).

Trade and Conservation

WBCA has significantly reduced the number of wild parrots (and other birds) imported into the United States (UNODC 2016). By 1994, the majority of imported birds were either captive-bred or exempted species (Armstrong et al. 2001). The trade of priority parrot species that have been bred in captivity in Canada and the United States has no impact on the in-situ conservation of those species in Mexico.

In Mexico, despite the prohibition on collecting, breeding or trading native parrots, illegal take and trade apparently continues (Costa Lavin, pers. comm.; Anonymous, pers. comm.). One expert felt that trade had a very negative impact on wild parrot populations. Reports from local people in Sonora, Sinaloa, Jalisco, and Michoacán indicated that professional trappers were coming from Nayarit to their areas to catch parrots. Professional trappers would set up nets for wild parrots in areas where large flocks gather, such as roosting areas or feeding sites. Locals reported that trappers set up the nets before dusk to catch birds flying in to the roost, and would then return in the morning to collect the flocks of birds caught in the nets (Anonymous, pers. comm.). The average mortality rate for infant parrots that are removed from their nests is estimated to be between 30% and 40%, with some species averaging 50% or more (UNODC 2016). Surveys also showed that parrots were absent from regions along the Pacific coast of Mexico that contained suitable forest, indicating that the absence was due to capture of birds for trade rather than habitat loss (Anonymous, pers. comm.).

One breeder suggested that if individuals could legally breed Mexican parrots and sell the offspring, it would reduce the illegal collection of wild specimens (Costa Lavin, pers. comm.). He noted that measures would need to be put in place to monitor these breeding efforts to ensure that they were not used to launder wild birds.

One negative result of the Mexican prohibition on possessing native species is that the domestic market for pet birds has turned to exotic species imported or bred in Mexico. One study linked trade to the establishment of invasive non-native parrot species in Mexico (MacGregor-Fors et al. 2011). The Argentinian monk parakeet (*Myiopsitta monachus*) has now established feral populations within Mexico, which are now increasing and are likely to cause ecological problems by competing with native species. These feral populations are the result of birds escaping or being released from captivity (MacGregor-Fors et al. 2011).

Trade and Livelihoods

Parrots dominate the pet bird trade in many markets, with a continuing demand for wild-caught birds. In Mexico, wild specimens may not be legally collected. However, evidence shows that illegal trade is occurring in domestic markets, as is trafficking from Mexico to the United States (UNODC 2016). Illegally captured birds that are seized by Profepa staff are handed over to qualified breeders. Caring

4. For example, blue-throated conure (*Pyrrhura cruentata*) females are harder to find and will sell for US$2,000 and higher. Males are surplus, and can be purchased as a pet from a breeder for US$1,000 to US$1,500.
5. This scientist asked to remain anonymous

for these birds can place financial strain on the breeders, as they receive no financial compensation for their care (Costa Lavin, pers. comm.). The ban on collection and trade also has important implications for indigenous peoples, as bird trade "may be an important or only source of cash income in times of hardship or to pay for commodities or needs such as schooling for children" (Cooney and Jepson 2006).

In the United States, the pet trade is a billion-dollar industry. A survey conducted by the American Pet Products Association (APPA 2017) estimates that during 2015–2016, 6.1 million United States households owned a pet bird, with a total of 14.3 million pet birds living throughout the country. While the domestic US pet trade industry is strong, one parrot breeder from the United States opined that the permitting system of the USFWS presented a significant challenge to United States breeders and exporters (Jordan, in litt.). This breeder noted that it can take more than seven months to process CITES permit applications for captive-bred parrots. He also noted that this long lag time ruins many sales, as customers in other countries often do not want to pay for a bird and then wait six or seven months for the breeder to get an export permit. He further suggested that many breeders in the United States will not export anymore due to the paperwork issues, lag times, costs, etc., associated with exporting. Therefore, according to this breeder, some breeders in the United States feel that international sales are lost to breeders in the European Union (EU) and other countries, who can often get a permit in a week or two (Jordan, in litt.).

In 2011, there were a reported 2,675 pet birds in Canada (AAFC 2012) and bird food sales in 2014 reached US$23.6 million (AAFC 2016). A breeder from Canada expressed frustration with the onerous import restrictions imposed under the Health of Animals Act (Koenig, pers. comm.). He suggested that a review of the current policy could find ways to simplify the importation process, while maintaining strict control of disease transmission.

Sean Hoyer

Yellow-lored Amazon (*Amazona xantholora*)

Challenges to CITES Implementation

Non-detriment Findings

None of the priority parrot species naturally occurs in Canada. Therefore, any specimens that are exported from Canada will either have been imported or captive-bred in-country. Exports would not be considered detrimental as long as there was no indication that the specimens were in the country illegally.[6]

The situation is similar for US authorities. One species (*P. holochlorus*) may range into southern Texas, but any specimens that are exported would have been imported or captive-bred in the United States. Generally speaking, preparing NDFs for non-native parrot species that have been captive-bred in the United States should be straightforward if the parental birds are were legally acquired in accordance with CITES Resolution Conf. 10.16 (CITES 1997b). This may be problematic because of the shared border with Mexico, which makes it more feasible for a bird to be smuggled into the country. However, the risk that specimens had been either illegally imported into the country, or were the offspring of illegally imported stock, would appear to be low from established, respected breeders.

Under Mexican law, priority parrot species may only be exported for scientific or educational purposes, by certified academic institutions. Therefore, to complete an NDF, Mexican authorities first need to confirm that any exports are legitimately for these purposes. If so, and the use is credible and reasonable, then an export would not likely be considered detrimental.

If Mexico's prohibition on the export of priority parrot species were lifted, then the completion of NDFs would be dependent on sound wild population data (in the case of wild-caught birds) or confirmation that the parents were legally possessed (in the case of captive-bred birds). In the absence of suitable population surveys, exports could be confined to captive-bred parrots, as confirmed through monitoring of breeding facilities and through DNA analysis to confirm parentage.

In 2008, an International Expert Workshop on CITES Non-detriment Findings was held in Cancún, Mexico, to examine taxon-specific case studies and analyze approaches to the NDF decision-making process (CITES 2009). At this workshop, the bird working group developed a decision tree to guide the process of making NDFs for birds. The decision tree considers the availability of information, whether the requested harvest is within sustainable limits, whether other factors are affecting the population, and conditions that could render trade acceptable. The birds working group also established a standardized framework for assessing risk categories. This framework was tested on several case studies, including a parrot case study.

Enforcement

The North American trade in priority parrots almost exclusively involves live birds as pets. This reduces the difficulty that enforcement officers face when tasked with identifying specimens in trade. Generally, the identification of whole animals, such as live parrots, is easier than the identification of parts, pieces and derivatives (Cooper, per. obs.). In addition, many books and Internet resources dedicated to parrots are available to assist with identification. However, the identification of *Amazona* species can be tricky, as there are many which look quite similar. If officers need to distinguish the species that are the subject of this report (*A. albifrons*, *A. autumnalis* and *A. xantholora*) from other *Amazona* species, it could be quite difficult (Jordan, in litt.).

6. NDF and legal acquisition are separate findings that must be made by the CITES Management and Scientific Authorities of a Party. However, legal acquisition may also be a factor in making an NDF.

Sean Hoyer

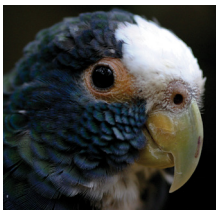
Orange-fronted parakeet (*Eupsittula canicularis*)

Identification poses less of a challenge for officers when dealing with imports and exports, as all parrots are listed in the Appendices of CITES and must be traded with CITES permits. If no permits accompany a shipment of parrots, then the birds will be seized and may be identified later. An expert may be called in if required. On the other hand, if parrots are being imported/exported with permits, then officers need only to consider whether the birds match the species listed on the permits (for the enforcement of CITES).

The identification of priority parrots may be more of a problem for enforcement officers in Mexico. Mexican officers must enforce the laws pertaining to possession of native species, in addition to enforcing CITES for imports and exports. They not only need to identify native species but also must be able to distinguish them from non-native imported species.

In 1996, the North American Wildlife Enforcement Group (NAWEG) of the CEC held an enforcement workshop on wild bird trade in Xalapa, Mexico. The workshop brought together officers from Canada, Mexico and the United States to learn about the trade, share information and build relationships (Cooper, pers. obs.). No similar trilateral workshops on the trade in birds have been held since, and most of the officers who participated in the 1996 workshop are likely no longer working in enforcement.

Priority Parrot Species



This section provides description, distribution, conservation status and trade overview of each priority species. The physical descriptions provided below are based on the appearance of a "typical" specimen as found in its wild state. The morphological terms used for the different species in the following descriptions are defined in the Glossary and shown in Figures 1 and 2.

The IUCN Red List Categories, and categories for species at risk in Mexico and the United States referenced in this section are defined in Appendix A.

Davey6585

Amazona albifrons (Sparrman, 1788)

Common names

White-fronted amazon, white-fronted parrot (English)
Amazone à front blanc (French)
Loro frente blanca, cotorra guayabera, amazona frentialba, perico manglero (Spanish)

Description

Amazona albifrons is the smallest of the amazon parrots. Adults grow to a length of 26 centimeters and generally weigh 188–242 grams (World Parrot Trust 2016h). The three subspecies may be distinguished as follows:

- *Amazona albifron albifrons* adults have a green body, red lores which encircle the eyes, white forecrown, blue hindcrown and yellow bill. The eye ring is pale grey and the eyes are yellow. The alula and primary-coverts are red on males and green on juveniles and females. Juveniles also differ from adults in that the red coloration on the lores does not encircle the eyes, the white forecrown is tinted with yellow, and the eyes are pale grey (Forshaw 2010; World Parrot Trust 2016h).
- *Amazona albifron saltuensis* adults have green upperparts that are washed with blue, and the blue hindcrown extends to the nape (Forshaw 2010).
- *Amazona albifron nana* adults are similar in coloration to *A.a. albifrons*, with *A.a. nana* being smaller in size (Forshaw 2010).

Distribution

Amazona albifrons is native to Mexico and ranges through the states of Sonora, Chihuahua, Sinaloa, Durango, Nayarit, Jalisco, Guerrero, Oaxaca, Veracruz, Chiapas, Campeche, Tabasco, Quintana Roo and Yucatán (BirdLife International 2012a; BirdLife International, and Handbook of the Birds of the World 2016a). There are three subspecies found in Mexico (Forshaw 2010):

- *Amazona albifrons albifrons* occurs on the Pacific slope of southwestern Mexico, south from Nayarit to southwestern Guatemala.
- *Amazona albifrons saltuensis* is found in northwestern Mexico (Sonora, Sinaloa and western Durango).
- *Amazona albifrons nana* occurs in southern Mexico.

Amazona albifrons does not occur in Canada or the United States.

Conservation status

Amazona albifrons has been assessed by the IUCN as Least Concern (BirdLife International 2012a).

In Mexico, *A. albifrons* is Subject to Special Protection (DOF 2010). In addition, all parrots have been protected under Mexico's LGVS since 2000. They may be collected from the wild only for scientific purposes, and export is prohibited (Mexico 2016).

Amazona albifrons is not included on the ESA list.

Trade

In the United States, *A. albifrons* is very hard to find now in the pet trade. The average wholesale price for this species is US$250 for a single bird (Jordan, in litt.). In Canada, the wholesale price for a pair of birds is US$692–$769, and a handfed baby goes for US$846–$923 (Koenig, pers. comm). A search in July and August 2016 found that retail prices in the United States average US$490 for juveniles and US$200 for adults (Arizona Parrots 2016; Avian Biotech International 2016; Green Parrot Superstore 2016). Canadian retail prices averaged at US$1,178 (Adpost.com 2016; Central Pet 2016).

Data downloaded from the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) CITES Trade Database shows that during 2009–2014, Canada exported three live *A. albifrons*, for personal purposes, to the United States and an unknown destination. In the United States, 31 live birds were exported to Canada, for breeding purposes; two were exported to Asia, for personal purposes; and 13 were exported to Chile, Japan, Taiwan and Canada, for commercial purposes. All of the birds were reported as captive-bred. Mexico did not report exports of *A. albifrons* during 2009–2014 (CITES 2016).

Daniel Mennerick

Amazona autumnalis (Linnaeus, 1758)

Common names

Red-lored amazon, red-lored parrot (English)
Amazone à lores rouges jaunes, Amazone diadème (French)
Loro cachete amarillo, cotorra cucha, loro frente roja, amazona frentirroja, loro frentirrojo (Spanish)

Description

An adult *A. autumnalis* grows to a length of 34 centimeters and weighs 314–485 grams (World Parrot Trust 2016c).

Adult *A.a. autumnalis* (both male and female) have green with black edging on the crown to the mantle and breast, red foreheads and lores, yellow upper cheeks and ear-coverts, a green crown to the nape, which becomes mauve or blue towards the tips, and red at the bases of secondaries 1–5. The bill is grey, with yellow at the base of the upper mandible, the eye ring is white and the eyes are orange (World Parrot Trust 2016f).

Juvenile *A.a. autumnalis* are duller in color than adults, with diminished red on the forehead and lores. The upper cheeks to ear coverts also display some green and yellow coloration, and the eyes are brown (World Parrot Trust 2016f).

Distribution

Amazona autumnalis autumnalis is the only subspecies that occurs in Mexico (Forshaw 2010); it ranges from Tamaulipas, Mexico, south to Nicaragua (BirdLife International 2014a; Forshaw 2010). This range includes the states of Tamaulipas, San Luis Potosí, Querétaro, Hidalgo, Veracruz, Puebla, Oaxaca, Chiapas, Tabasco, Campeche and Quintana Roo (BirdLife International, and Handbook of the Birds of the World 2016b).

Amazona autumnalis does not occur in Canada or the United States.

Conservation status

Amazona autumnalis has been assessed by the International Union for Conservation of Nature (IUCN) as Least Concern (BirdLife International 2012a, b, c, d, e, f, g, 2014a, b). In addition, all parrots have been protected under Mexico's LGVS since 2000. They may be collected from the wild only for scientific purposes, and export is prohibited (Mexico 2016). (Mexico 2016).

Amazona autumnalis is not included on the ESA list.

Trade

In the United States, *A. autumnalis* is commonly traded between breeders and is often seen in the pet trade (Jordan, in litt.) In Canada, *A. autumnalis* was historically imported in large numbers and a few pairs are still in aviculture (Hagen, in litt.). Some breeders feel that other *Amazona* species are more suited as pets (Hagen, and Koenig, pers. comm.).

The average wholesale price for this species in the United States is US$400 per bird (Jordan, in litt.). In Canada, a pair wholesales for US$692–$769 (Koenig, pers. comm). A search in July and August 2016 found that retail prices in the United States averaged US$500 for an adult male and US$1,248 for a juvenile (BirdsNow 2016; Golden Cockatoo 2016; Green Parrot Superstore 2016; Hookbills For Sale 2016; JC Aviary 2016). Four listings were found from Mexico, with one pair of *A. autumnalis* listed at US$5,000 and single birds averaging US$3,367 (Anuncios ya 2016; Locanto 2016; QuéBarato! 2016). No retail prices were found for Canada.

Data downloaded from the UNEP-WCMC CITES Trade Database showed that during 2009–2014, Canada exported seven live *A. autumnalis* to France, the Bahamas, the United States and unknown destinations, for personal purposes. The United States exported four live birds to Mexico and the Philippines, for breeding purposes; seven were exported to Canada, Europe, Argentina and Panama, for personal purposes; and 83 live birds were exported to Italy, Panama and Asia, for commercial purposes. One bird exported from the United States to Switzerland for personal purposes was reported as being wild-caught. All of the other *A. autumnalis* were reported as captive-bred. Mexico did not report exports of this species during 2009–2014 (CITES 2016).

Philippe Boissel

Amazona xantholora (Gray, 1859)

Common names

Yellow-lored amazon, yellow-lored parrot, Yucatan parrot (English)
Amazone du Yucatan (French)
Loro yucateco, amazona yucateca (Spanish)

Description

An adult *A. xantholora* grows to a length of 26 centimeters and weighs 200–232 grams (World Parrot Trust 2016d).

Males specimens have green plumage, a white forecrown, black ear-coverts, yellow lores and red around the eyes (Forshaw 2010). They have a dull yellow bill, pale gray eye rings, and brown or yellow eyes (World Parrot Trust 2016j).

Female *A. xantholora* have a green forecrown that is suffused with blue, dark gray ear-coverts, yellow lores that are duller than those in males, and a red line beneath the eye (Forshaw 2010).

Juvenile *A. xantholora* are similar in coloration to adult females, except that the yellow lores are flecked with green, the upper cheeks are green with small amounts of red, and the eyes are grey (World Parrot Trust 2016j).

Distribution

Amazona xantholora is native to Mexico and occurs in the states of Yucatán, Campeche and Quintana Roo (BirdLife International 2012b; BirdLife International and Handbook of the Birds of the World 2016c; Forshaw 2010).

Amazona xantholora does not occur in Canada or the United States.

Conservation status

Amazona xantholora has been assessed by the IUCN as Least Concern (BirdLife International 2012a, b, c, d, e, f, g, 2014a, b). In Mexico, *A. xantholora* is listed as Threatened (DOF 2010). In addition, all parrots have been protected under Mexico's LGVS since 2000. They may be collected from the wild only for scientific purposes, and export is prohibited (Mexico 2016).

Amazona xantholora is not listed on the ESA.

Trade

Amazona xantholora is rarely seen in the US pet trade. As of July 2016, there were an estimated 200 birds in the United States (Jordan, in litt.). The wholesale price for these birds in the United States is US$350–$500 for a single bird (Jordan, in litt.). In July 2016, one adult pair was found listed for sale in the United States for a retail price of US$1,500 (Bird-Breeders 2016). This species is not found in the Canadian pet trade (Koenig, pers. comm.). If the species were available in Canada, one breeder estimated that birds would command a wholesale price of US$4,642–$6,190 for a pair (Koenig, pers. comm.). Online searches in July and August 2016 found no retail prices for *A. xantholora* in Canada or Mexico.

Data downloaded from the UNEP-WCMC CITES Trade Database for 2009–2014 showed that the United States exported one live bird to Canada, for scientific purposes, and 27 live birds to Germany, South Africa and Taiwan, for commercial purposes. All the birds were captive-bred. No exports were reported from Canada or Mexico (CITES 2016).

Timo Helgert

Bolborhynchus lineola (Cassin, 1853)

Common names

Barred parakeet (English)
Toui catherine (French)
Perico barreteado, perico barrado, perico catarina, periquito serrano, periquito barrado, catita barrada (Spanish)

Description

1. An adult *B. lineola* grows to 16 centimeters in length and weighs 42–52 grams (World Parrot Trust 2016e).
2. *Bolborhynchus lineola* are small, green, short-tailed parrots. Subspecies *Bolborhynchus lineola lineola* may be differentiated from *B.l. tigrinus* by the intensity of barring. The upperparts of *B.l. lineola* are barred black, the bend of the wing is black, the underwings are a blue-green, and the central tail-feathers are broadly edged black on males and narrowly edged black on females. The bill is pale horn in color and is tinged with pink, and the eyes are dark brown. Juvenile *B.l. lineola* are paler in color and have fainter barring than adult females (Forshaw 2010; World Parrot Trust 2016a).

Distribution

Of the two subspecies of *B. lineola* (*B.l. lineola* and *B.l. tigrinus*), only *B.l. lineola* occurs in Mexico. It ranges through the states of Puebla, Veracruz, Oaxaca, Chiapas and Tabasco (BirdLife International, and Handbook of the Birds of the World 2016d; Forshaw 2010).

Bolborhynchus lineola does not occur in Canada or the United States.

Conservation status

Bolborhynchus lineola has been assessed by the IUCN as Least Concern (BirdLife International 2012c).

In Mexico, *B. lineola* is listed as Threatened (DOF 2010). In addition, all parrots have been protected under Mexico's LGVS since 2000. They may be collected from the wild only for scientific purposes, and export is prohibited (Mexico 2016).

Bolborhynchus lineola is not included on the ESA list.

Trade

Bolborhynchus lineola is commonly found in both the Canadian and US pet industry, likely because it can be bred in small cages indoors. It is available now in several color mutations and has become a hobby bird for pet owners and breeders. This species is often found at bird markets in blue, yellow, white, violet or green colors (Jordan, in litt.). Wholesale prices in the United States for *B. lineola* are US$75–$100 (Jordan, in litt.). Retail prices in the United States average US$140–$208, with juveniles fetching an average of US$208 (BirdBreeders 2016; Hookbills For Sale 2016; Lucky Feathers 2016). One breeder reported that wholesale prices in Canada are US$192 for a pair and US$135 for a handfed baby (Koenig, pers. comm.). A review of Canadian retail prices in July and August 2016 found *B. lineola* available for an average of US$125 per bird (Adpost.com 2016).

Data downloaded from the UNEP-WCMC CITES Trade Database for 2009–2014 showed that Canada exported six live *B. lineola* to the United States, Europe, and unknown destinations, for personal purposes. The United States exported two non-living specimens to Canada, for scientific purposes, three live birds to Niger and Canada, for personal purposes, and 20 live birds to Panama and Thailand, for commercial purposes. The two non-living specimens exported from the United States to Canada for scientific purposes were wild-caught. All other birds were captive-bred. No exports were reported from Mexico (CITES 2016).

Alexander Schimmeck

Brotogeris jugularis (Müller, 1776)

Common names

Orange-chinned parakeet (English)
Toui à menton d'or (French)
Perico ala amarilla, perico señorita, periquito barbinaranja, catita churica (Spanish)

Description

An adult *B. jugularis* grows up to 18 centimeters in length and weighs approximately 58 grams (World Parrot Trust 2016d).

Brotogeris jugularis can be identified by the orange chin-spot, prominent white eye-ring, and olive-brown upper wing-coverts that form a "shoulder-patch." The two subspecies may be distinguished as follows:

- *Brotogeris jugularis jugularis* has a mantle that is washed with olive, and the lower back to rump and underparts are tinged with blue (Forshaw 2010). The bill is horn-colored, and the eyes are dark brown. Juveniles have similar colorization as adults (World Parrot Trust 2016f).

- *Brotogeris jugularis exsul* has bright green thighs; undertail-coverts that lack the blue tinge of *B.j. jugularis*; a paler orange chin-spot; more-noticeable olive suffusion on the mantle; and a darker-brown "shoulder-patch" (Forshaw 2010).

Distribution

Of the two subspecies of *B. jugularis*, *Brotogeris jugularis exsul* does not range into Mexico. (Forshaw 2010). *Brotogeris jugularis jugularis* is native to southwestern Mexico, mainly on the Pacific slope in the states of Oaxaca and Chiapas (BirdLife International, and Handbook of the Birds of the World 2016e; Forshaw 2010).

Brotogeris jugularis does not occur in Canada or the United States.

Conservation status

This species has been assessed by the IUCN as Least Concern (BirdLife International 2012d).

In Mexico, *B. jugularis* is listed as Threatened (DOF 2010). In addition, all parrots have been protected under Mexico's LGVS since 2000. They may be collected from the wild only for scientific purposes, and export is prohibited (Mexico 2016).

Brotogeris jugularis is not included on the ESA list.

Trade

Brotogeris jugularis is very rarely found in the US pet trade. In the United States, the wholesale price for this species is around US$125 per bird (Jordan, in litt.). The wholesale price in Canada is US$384 for a pair and US$269–$288 for a handfed baby (Koenig, pers. comm.). An online search in July and August 2016 yielded no retail prices for *B. jugularis* in the United States or Canada.

Data downloaded from the UNEP-WCMC CITES Trade Database for 2009–2014 showed no reported exports of *B. jugularis* from Canada, the United States or Mexico (CITES 2016).

Sean Hoyer

Eupsittula canicularis (Linnaeus, 1758)

Common names

Orange-fronted conure, orange-fronted parakeet (English)
Conure à front rouge (French)
Perico frente naranja, aratinga frentinaranja (Spanish)

Description

An adult *E. canicularis* grows to a length of 24 centimeters and weighs 70–75 grams (World Parrot Trust 2016e).

Eupsittula canicularis is green, with an orange frontal band and an olive throat. Males and females are similar in appearance, and the juveniles look like the adults. The three subspecies may be differentiated mainly by the orange frontal band (Forshaw 2010), as noted below:

- *Eupsittula canicularis canicularis* has a broad orange frontal band that extends to the lores, a dull blue crown, a pale brownish-olive throat and upper breast, and an eye-ring that is dull orange-yellow (Forshaw 2010).

- *Eupsittula canicularis eburnirostrum* has a narrower orange frontal band, the blue coloration is restricted to the forecrown, and there is a brown spot on each side of the lower mandible base (Forshaw 2010).
- *Eupsittula canicularis clarae* has a significantly reduced orange frontal band, and the base of the lower mandible is dark gray (Forshaw 2010).

Distribution

Eupsittula canicularis is native to Mexico, and ranges through the states of Sinaloa, Durango, Nayarit, Jalisco, Colima, Michoacán, México, Guerrero, Oaxaca and Chiapas (BirdLife International, and Handbook of the Birds of the World 2016f). Three subspecies of *E. canicularis* occur in Mexico (Forshaw 2010):

- *Eupsittula canicularis canicularis* occurs on the Pacific slope in Chiapas.
- *Eupsittula canicularis eburnirostrum* is found in easternmost Michoacán south to Oaxaca.
- *Eupsittula canicularis clarae* is found in western Mexico, from Sinaloa south to Colima.

Eupsittula canicularis does not occur in Canada or the United States.

Conservation status

Eupsittula canicularis has been assessed by the IUCN as Least Concern (BirdLife International 2012a, b, c, d, e, f, g, 2014a, b).

In Mexico it is Subject to Special Protection (DOF 2010). In addition, all parrots have been protected under Mexico's LGVS since 2000. They may be collected from the wild only for scientific purposes, and export is prohibited (Mexico 2016).

Eupsittula canicularis is not included on the ESA list.

Trade

This species was once commonly available in the US pet trade industry and was bred in fair numbers; however, it is very rare now (Jordan, in litt.). One breeder felt that *E. canicularis* make good pets, as they can be devoted birds; in addition, they wean faster than other species (Koenig, pers. comm.). Wholesale prices for this species in the United States are approximately US$100 for a single bird (Jordan, in litt.). In Canada, wholesale prices are US$461 for a pair and US$423–$461 for a handfed baby (Koenig, pers. comm.). A search conducted in July and August 2016 found retail prices in the United States averaged US$409 for a juvenile bird and US$450 for an adult (BirdBreeders 2016; Birds n Ways 2016; BirdsNow 2016; Rhonda's Aviary 2016). No retail prices were available for Canada.

Data downloaded from the UNEP-WCMC CITES Trade Database for 2009–2014 showed two live *E. canicularis* were exported from Canada to the United States, for personal purposes; one wild-caught non-living specimen was exported from the United States to Poland, for scientific purposes; and four live birds were exported from the United States to Canada and Guatemala, for personal purposes. With the exception of the specimen exported to Poland for scientific purposes, all other birds were captive-bred. No exports of *E. canicularis* were reported from Mexico (CITES 2016).

Nature Vallarta

Forpus cyanopygius (Souancé, 1856)

Common names

Blue-rumped parrotlet, Mexican parrotlet (English)
Toui du Mexique (French)
Cotorrita mexicana, periquito mexicano, perico catarina (Spanish)

Description

An adult *F. cyanopygius* reaches a length of 13 centimeters and weighs about 30 grams (World Parrot Trust 2016c).

Forpus cyanopygius is sexually dimorphic. Males can be identified by the turquoise-blue rump, secondaries and underwing-coverts. On females, these are all green. Juveniles look similar to adults (Forshaw 2010). The two subspecies may be distinguished as follows:

- *Forpus cyanopygius cyanopygius* males have a turquoise-blue lower back, rump, secondaries, and underwing-coverts. On females, these are green. The bill is horn-colored (Forshaw 2010). In juvenile males, blue markings are intermixed with green (World Parrot Trust 2016c).
- *Forpus cyanopygius insularis* has darker-green upperparts and glaucous-green underparts. In males the lower back to rump is a darker blue (Forshaw 2010).

Distribution

Forpus cyanopygius is endemic to Mexico (BirdLife International 2015), and occurs in the states of Sonora, Chihuahua, Sinaloa, Durango, Nayarit, Jalisco and Colima (BirdLife International, and Handbook of the Birds of the World 2016g). There are two subspecies, as follows (Avibase 2016b; Forshaw 2010; ITIS 2017):

- *Forpus cyanopygius cyanopygius* is found in southeastern Sonora, Sinaloa, and western Durango south to Colima.
- *Forpus cyanopygius insularis* is located in the Tres Marías Islands.

Forpus cyanopygius does not occur in Canada or the United States.

Conservation status

Forpus cyanopygius has been assessed by the IUCN as Near Threatened (BirdLife International 2015).

Forpus cyanopygius is Subject to Special Protection in Mexico, and the subspecies *F.c. insularis* is Endangered (DOF 2010). In addition, all parrots have been protected under Mexico's LGVS since 2000. They may be collected from the wild only for scientific purposes, and export is prohibited (Mexico 2016).

Forpus cyanopygius is not included on the ESA list.

Trade

Forpus cyanopygius is commonly found in the US pet trade, and the green form retails for around $100. Color mutations can fetch a higher price (Jordan, in litt.). Wholesale prices in the United States are US$100 per bird, on average (Jordan, in litt.). In Canada, wholesale prices are US$192–$211 for a pair and US$115–$135 for a handfed baby (Koenig, pers. comm.). An online search in July and August 2016 yielded no retail prices for *F. cyanopygius* in the United States or Canada.

Data downloaded from the UNEP-WCMC CITES Trade Database for 2009–2014 showed no reported exports of *F. cyanopygius* from Canada, the United States or Mexico (CITES 2016).

Brian Gratwicke

Pionus senilis (Spix, 1824)

Common names

White-capped parrot, white-crowned parrot (English)
Pione à couronne blanche (French)
Loro corona blanca, loro cabeza de viejo, loro viejito, loro senil, loro coroniblanco (Spanish)

Description

An adult *P. senilis* grows to a length of 24 centimeters and weighs 193–229 grams (World Parrot Trust 2016g).

Pionus senilis are mostly green, with short, squarish tails; red undertail-coverts; a white crown; a prominent brownish-pink eye ring; a white patch on the chin and the center of the throat; green cheeks and breast that are suffused with dark blue; and upper wing-coverts that are golden-brown (Forshaw 2010). The bill is green or yellow, with gray at the base, and the eyes are brown (World Parrot Trust 2016g).

In juveniles, the forehead and forecrown are buff-white tinged with green. Juveniles do not have blue on the green cheeks or breast (Forshaw 2010), and the white patch on the chin and the middle of the throat is absent (World Parrot Trust 2016g).

Distribution

Pionus senilis is native to Mexico. It occurs in the states of Tamaulipas, San Luis Potosí, Querétaro, Hidalgo, Puebla, Veracruz, Oaxaca, Tabasco, Chiapas, Campeche and Quintana Roo (BirdLife International, and Handbook of the Birds of the World 2016h).

Pionus senilis does not occur in Canada or the United States.

Conservation status

Pionus senilis has been assessed as Least Concern by the IUCN (BirdLife International 2012a, b, c, d, e, f, g, 2014a, b).

In Mexico, *Pionus senilis* is considered Threatened (DOF 2010). In addition, all parrots have been protected under Mexico's LGVS since 2000. They may be collected from the wild only for scientific purposes, and export is prohibited (Mexico 2016).

Pionus senilis is not included on the ESA list.

Trade

Live specimens of *Pionus senilis* were regularly imported into the United States prior to 1992, but are no longer common. Remnant pairs can be found with some US breeders, but they are not often found in the pet trade. They tend to have low economic value and are difficult to sell because of their dull plumage and inability to talk. Wholesale prices for this species in the United States are between US$150–$200 per bird (Jordan, in litt.). In Canada, many breeders did not retain birds for breeding and many of the original imported pairs have died (Hagen, in litt.). Canadian wholesale prices are approximately US$615 for a pair and US$346–$384 for a handfed baby (Koenig, pers. comm.). An online search in July and August 2016 yielded no retail prices for *P. senilis* in the United States or Canada.

Data downloaded from the UNEP-WCMC CITES Trade Database for 2009–2014 showed that the United States exported eight live birds to Europe, Canada and Costa Rica, for personal purposes, and 15 live birds to Japan, the Philippines and Hungary, for commercial purposes. All of these birds were captive-bred. No exports were reported for Canada or Mexico (CITES 2016).

G. Lasley/Vireo

Psittacara holochlorus (P.L. Sclater, 1859)

Common names

Green conure, green parakeet (English)
Conure verte (French)
Perico mexicano, aratinga verde, perico verde (Spanish)

Description

An adult *P. holochlorus* reaches a length of 30 centimeters (World Parrot Trust 2016b) and weighs about 225 grams (Vuilleumier 2016).

Subspecies *Psittacara holochlorus holochlorus* adults are green in color and have yellowish-green underparts, a blue tinge to the primary coverts and outer webs of the flight feathers, dull yellowish-green underwing coverts, and olive and yellow on the undersides of the flight feathers. The heads of some birds have scattered red feathers. The bill is horn in color, the eye ring is pinkish-grey, and the eyes are orange-brown. Juveniles have similar coloration to that of adults, except that the eyes are brown (World Parrot Trust 2016b).

Subspecies *Psittacara holochlorus brewsteri* adults are similar to *P.h. holochlorus* except that they are a darker green, with less yellow, and the crown has a blue wash (World Parrot Trust 2016b).

Subspecies *Psittacara holochlorus strenuus* adults are mostly green, with yellowish underparts. They have a blue tinge on the primary coverts and the outer webs of the flight feathers; dull yellowish-green underwing coverts; and dull yellow undersides on the flight feathers. Some birds have scattered orange-red feathers on the throats and necks. The eye ring is brownish-grey and the eyes are orange. Juveniles have similar coloration to adults, but have brown eyes (World Parrot Trust 2016b).

Distribution

Psittacara holochlorus is native to Mexico. In Mexico, it occurs in the states of Chiapas, Oaxaca, Veracruz, Puebla, Hidalgo, Querétaro, San Luis Potosí, Tamaulipas, Nuevo León, Sinaloa, Chihuahua and Sonora (BirdLife International, and Handbook of the Birds of the World 2016i).

Psittacara holochlorus does not occur in Canada, but might range into the southernmost United States (southern Texas) (BirdLife International 2014b).

Conservation status

This species has been assessed as Least Concern by the IUCN (BirdLife International 2014b).

In Mexico, *P. holochlorus* is considered Threatened (DOF 2010). In addition, all parrots have been protected under Mexico's LGVS since 2000. They may be collected from the wild only for scientific purposes, and export is prohibited (Mexico 2016).

Psittacara holochlorus is not included on the ESA list.

Trade

This species is not often found in trade in the United States. Today only remnant pairs remain in US breeding circles, and one breeder felt this species would be gone from the pet trade in a few years (Jordan, in litt.). The small size and dull colors of this species make it less popular as a pet (Hagen, in litt.). In the United States, the wholesale price of this species ranges from US$75 to $100 per bird (Jordan, in litt.). In Canada, the wholesale prices are US$500–$538 for a

pair and US$461 for a handfed baby (Koenig, pers. comm.). An online search in July and August 2016 yielded no retail prices for *P. holochlorus* in the United States or Canada.

Data downloaded from the UNEP-WCMC CITES Trade Database for 2009–2014 showed that Mexico exported eight wild-caught, non-live specimens to Poland, for scientific purposes. The United States exported 31 live, captive-bred birds to Panama and Taiwan, for commercial purposes. No exports were reported for Canada (CITES 2016).

Eduardo Mariano Rivero

Pyrilia haematotis (Sclater & Salvin, 1860)

Common names

Brown-hooded parrot (English)
Caïque à capuchon (French)
Loro cabeza oscura, perico cabeza negra, loro marrón encapuchado, lorito encapuchado, loro orejirrojo (Spanish)

Description

An adult *P. haematotis* grows to a length of 21 centimeters and weighs 145–150 grams (World Parrot Trust 2016k).

Subspecies *Pyrilia haematotis haematotis* has a brown face, with white lores; red axillaries; a brownish-olive foreneck and breast; and brown or maroon ear coverts. The bill is horn in color, with a pale yellow or brown tinge; the eye ring is white; and the eye is yellow. Juveniles have similar coloration to that of adults, except that the head is paler in color, the breast is greener, the brown/maroon ear coverts are absent, and the eyes are brown (World Parrot Trust 2016k).

Subspecies *Pyrilia haematotis coccinicollaris* has a red foreneck and upper breast, which often forms a collar in males (Forshaw 2010).

Distribution

Of the two subspecies of *P. haematotis*, only *P.h. haematotis* is found in Mexico (Forshaw 2010), where it occurs in the states of Quintana Roo, Campeche, Tabasco, Chiapas, Oaxaca and Veracruz (BirdLife International, and Handbook of the Birds of the World 2016j).

Pyrilia haematotis does not occur in Canada or the United States.

Conservation status

Pyrilia haematotis has been assessed by the IUCN as Least Concern (BirdLife International 2012g).

In Mexico *P. haematotis* is considered endangered (DOF 2010). In addition, all parrots have been protected under Mexico's LGVS since 2000. They may be collected from the wild only for scientific purposes, and export is prohibited (Mexico 2016).

Pyrilia haematotis is not included on the ESA list.

Trade

This species is not found in the United States or Canadian pet trade. Data downloaded from the UNEP-WCMC CITES Trade Database for 2009–2014 showed no reported exports of *P. haematotis* for Canada, the United States or Mexico (CITES 2016).

Recommended Actions

The following actions are recommended for promoting the conservation of priority parrot species in Mexico, and their legal, sustainable trade throughout North America. Completion of the recommended actions is subject to available funding. If the cost of an action can reasonably be considered to be part of normal government spending, then the cost is listed as n/a. If the cost will likely require additional and possibly external funding, then a very rough estimate of the cost is provided.

Measuring, reporting and following up on the recommendations provided in this action plan will be the responsibility of the governments of Canada, Mexico and the United States, in collaboration with academic institutions, nongovernmental organizations and/or individual experts. Given that the parrot species that are the subject of this report are all native to Mexico, the government of Mexico will have special interest in tracking and reporting on progress.

No.	Goals	Actions	Cost (US$)	Timeline	Priority
1	Ensure that progress on the recommendations in this action plan is reported and measurable.	**Measuring progress**: The governments of Canada, Mexico and the United States should develop and implement a process for tracking and reporting on efforts to fulfill the recommendations of this action plan, such as a dedicated website or other method.	n/a	2017 (ongoing)	High
2	Support collaborative North American efforts directed at promoting sustainable, traceable trade and conservation of priority CITES Appendix II species.	**(a) Trinational collaboration**: The governments of Canada, Mexico and the United States should support and monitor collaborative efforts to promote sustainable, traceable trade and conservation of native species deemed to be of priority concern, including CITES Appendix II parrots.	n/a	2017 (ongoing)	High
		(b) Funding strategy: The governments of Canada, Mexico and the United States (to the extent possible, and in consideration of domestic priorities) should develop a long-term strategy for funding this action plan, emphasizing realization of the high-priority actions.	n/a	2018	High
3	Review and amend existing Mexican policy on the possession, breeding and trade of parrots.	**(a) LGVS review**: The Government of Mexico should hire a contractor to: review the impact of Article 60 bis 2 of the LGVS, and the associated regulations on parrot conservation and livelihoods; evaluate possible restrictions on the import of potentially invasive exotic parrot species; and provide recommendations for regulations pertaining to captive breeding operations.	n/a	2017	High
		(b) LGVS amendment: The Government of Mexico should consider amending Article 60 bis 2 of the LGVS, so as to remove the prohibition on breeding, and domestic and international trade of native parrot species.	n/a	2018	High
		(c) Captive-breeding policy: If the legal restriction on breeding native parrot species is amended, and captive breeding of native parrots is permitted, the government of Mexico, in collaboration with academia, nongovernmental organizations, and private breeders, should develop and implement regulations and procedures to prevent wild-caught birds from being laundered through breeding facilities.	n/a	2018	High

No.	Goals	Actions	Cost (US$)	Timeline	Priority
4	Support the conservation of native Mexican parrots through collaborative and cooperative projects by academia, government, private breeders and nongovernmental organizations.	**Annual Mexican workshop**: The Government of Mexico, in collaboration with the CEC, private breeders, academia and nongovernmental organizations, should host an annual workshop that brings together experts to: share information about Mexican parrot conservation; establish research and management goals; establish and revise a priority species list; and develop or revise policy for securing parrot conservation.	10,000 (per year)	2017 (ongoing)	High
5	Promote the in-situ conservation of wild parrot populations in Mexico	**a) Eradication program**: The Government of Mexico, in collaboration with private breeders, academia and nongovernmental organizations, should review and evaluate the risks and benefits of an eradication program for introduced parrot species, or develop alternative strategies for managing the impact of invasive parrot species.	10,000	2019	Medium
		b) Community-based conservation: The Government of Mexico, in collaboration with academia and nongovernmental organizations, should evaluate the potential for community-based efforts to conserve native parrot species and create livelihoods through development of ecotourism lodges in regions with rich parrot diversity, and should promote other complementary non-extractive activities such as hiking, sport fishing, bird-watching and wildlife-viewing.	10,000	2019	High
		c) Public awareness program: The Government of Mexico, in collaboration with academia, nongovernmental organizations and private breeders, should develop and institute a comprehensive public education program to reduce the illegal collection of native parrot species.	40,000	2019	Medium
6	Reduce the threat of introduced invasive parrot species in Mexico.	**a) Regulating parrot imports**: The Government of Mexico should consider enacting regulations to restrict the import of potentially invasive non-native parrot species.	n/a	2018	High
		b) Captive breeding and release: The government of Mexico, in collaboration with academia, nongovernmental organizations and private breeders, should review the status of and threats to native Mexican parrots; the management of trade and enforcement; and the availability of critical habitat; in order to assess the risks and benefits of a captive breeding and release program to increase wild populations.	10,000		High
		c) Captive-release policy: If captive breeding and release of native parrot species is determined to be a viable conservation strategy, the Government of Mexico, in collaboration with academia, nongovernmental organizations and private breeders, should develop policy and procedures to ensure genetic compatibility, disease-free status, and survival prospects of captive-bred parrots released to the wild.	10,000	2018	High

No.	Goals	Actions	Cost (US$)	Timeline	Priority
7	Review existing Canadian regulations and policy for importing parrots.	(a) **Canadian regulatory review**: The Government of Canada should review the Health of Animals Act in order to better understand import of parrots within the context of all imports from the USA and Mexico and to determine if there are options to facilitate the commercial import of parrots from Mexico.	n/a	2019	Low
8	Provide enforcement officers with the information and resources necessary to identify parrot species and enforce the laws that regulate parrot trade.	(a) **Parrot trade workshop**: The governments of Canada, Mexico and the United States, via the CEC, should hold a trinational workshop on the trade in parrots, bringing together experts and enforcement staff from Canada, Mexico and the United States to provide handling and identification training, build links between different North American enforcement authorities and stimulate collaborative enforcement actions to combat trafficking.	75,000	2018	Medium
		(b) **Digital identification guide**: The governments of Canada and the United States, via the CEC, should support translation of the Mexican digital identification guide for commonly traded CITES species, into English and French.	20,000	2018	Medium
		(c) **Increased enforcement effort**: The government of Mexico should increase funding of and prioritize enforcement activities, to protect wild parrot populations and prevent illegal collection and trade of native parrot species.	100,000 (per year)	2018 (ongoing)	High
9	Review existing US policy for importing and exporting parrots.	(a) **US CITES permit process**: The USFWS should review the policy and procedures for processing CITES permit applications for exporting captive-bred parrots, with the goal of streamlining the process and reducing the waiting time for obtaining permits.	n/a	2019	Low
		(b) **Foreign captive-breeding facilities rules**: The US government should finalize and publish the rules for foreign breeders to qualify as captive-breeding facilities as defined by the WBCA.	n/a	2017	Medium

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7. This scientist asked to remain anonymous.

Appendix A: **Categories of Risk**

Mexico

The legislated categories for species and populations at risk in Mexico, as summarized from the General Law of Wildlife of Mexico (*Ley General de Vida Silvestre*) (Mexico 2016), are as follows:

- **Probably Extinct (in the wild)**: Those species that no longer can be found in the wild and are only known to exist in captivity or outside Mexican territory.
- **Endangered (in danger of extinction)**: Those species whose ranges or population size have declined dramatically in Mexico, thereby threatening their survival, due to factors such as the destruction or drastic modification of habitat; unsustainable exploitation; disease; or predation.
- **Threatened**: Those species that could be in danger of extinction in the short or medium term, if the factors that threaten their survival continue unabated.
- **Subject to Special Protection**: Those species that could potentially be threatened by factors that threaten their survival, and for which efforts are required to promote their recovery and conservation.

United States

The categories for species at risk established by the United States, as defined in section 3 of the ESA, are as follows (USA 1973):

- **Endangered**: Any species which is in danger of extinction throughout all or a significant portion of its range. Species of insects may be exempt if they are deemed by the Secretary to be pests whose protection would present an overwhelming risk to man.
- **Threatened**: Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

IUCN Red List Categories

The Categories and Criteria from the IUCN Red List, are summarized as follows (IUCN 2012):

- **Extinct (EX)**: A taxon[8] of which no living individuals exist.
- **Extinct in the Wild (EW)**: A taxon that is known to survive only in cultivation, in captivity or as a naturalized population (or populations) well outside its past range.
- **Critically Endangered (CR)**: A taxon that meets any of five established criteria (A to E) and is facing an extremely high risk of extinction in the wild. The criteria for Critically Endangered are based on population size, geographic ranges and/or at least a 50% probability of extinction in the within 10 years or three generations.
- **Endangered (EN)**: A taxon that meets any of five established criteria (A to E) and is facing a very high risk of extinction in the wild. The criteria for Endangered are based on population size, geographic ranges and/or at least a 20% probability of extinction within 20 years or five generations.
- **Vulnerable (VU)**: A taxon that meets any of five established criteria (A to E) and is facing a high risk of extinction in the wild. The criteria for Vulnerable are based on population size, geographic ranges and/or at least a 10% probability of extinction in within 100 years.
- **Near Threatened (NT)**: A taxon that has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered or Vulnerable—but is close to qualifying for or is likely to qualify for the category Threatened in the near future.
- **Least Concern (LC)**: A taxon that has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. Widespread and abundant taxa qualify for this category.
- **Data Deficient (DD)**: A taxon for which there is inadequate information to make a direct or indirect assessment of its risk of extinction based on its distribution and/or population status.
- **Not Evaluated (NE)**: A taxon which has not yet been evaluated against the criteria.

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