



MINISTERIE VAN GRONDBELEID EN BOSBEHEER

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To: Mrs. Ivonne Higuero
CITES Secretary-General
CITES Secretariat
Palais des Nations
Avenue de la Paix 8-14
1211 Geneva 10, Switzerland

Enclosure(s):

Your feature: Your letter of: Our feature: Bureau No.: *LBB 127-23*

Subject: Response from Suriname concerning the Review of Significant Trade for *Amazona farinosa*, *Ara ararauna*, *Ara chloropterus* and *Chelonoidis denticulatus*

Paramaribo, 08 of August 2023

Dear Mrs. Higuero,

At its 29th meeting (Geneva, July 2017), the Animals Committee examined the recorded levels of direct exports for Appendix-II species during the five most recent years, as recorded in the CITES Trade Database, as well as an extended analysis of this trade prepared by the United Nations Environment Programme-World Conservation Monitoring Centre (UNEP-WCMC). Based on this and other information available, the Animals Committee selected a number of species/country combinations for review, including *Amazona farinosa*; *Ara ararauna* and *Ara chloropterus* of Suriname.

The CITES Secretariat sent a letter dated September 20, 2017, to the Head of Suriname Forest Service (CITES Management Authority) with the request to Suriname to provide the scientific basis by which Suriname established, that exports of *Amazona farinosa*; *Ara ararauna* and *Ara chloropterus* from Suriname are not detrimental for the survival of the species concerned and are in compliant with Article IV of the CITES convention.

The CITES Management Authority of Suriname has communicated with the CITES Secretariat on this matter and the Secretariat has given recommendations from the Animals Committee to Suriname in this regard. However according to the report from the Secretariat to the 74th meeting of the Standing Committee (SC74, Lyon, 2021), Suriname did not comply with any of their recommendations. Consequently, the Standing Committee **adopted the following recommendation:**

- a) request the Secretariat to publish a zero-export quota for *Amazona farinosa*, *Ara ararauna* and *Ara chloropterus*, until Suriname provides information to justify a higher quota to be agreed with the AC Chair; and
- b) Urge Suriname to provide an update on the implementation of recommendations by three months before the documentation deadline for SC77.

In response to the Standing Committee's decision (SC74 doc.30.1) we hereby provide you with the following matrix containing the updates of the implementation of all the Animals' Committee recommendations as requested.

Ara ararauna (Blue and yellow macaw)

Recommendation CITES Secretariat	Action taken by Suriname	Result	Action taken 2023 by Suriname
<p>Short term action: Within 60 days (13 January 2019):</p> <p>a) Establish an interim conservative export quota of 500 within 60 days for the species and communicate the quota to the Secretariat.</p>	No action taken	<p>The Standing Committee adopted the recommendations of the Secretariat to publish a zero-export quota for <i>Ara ararauna</i> until Suriname provides information to justify a higher quota to be agreed with the AC Chair. (SC74 Doc. 30.1). The Secretariat has published the zero quota on its website.</p> <p>Suriname should provide an update on the implementation of recommendations d) to m) by three months before the documentation deadline for SC77.</p>	Adopt the zero quota for the <i>Ara ararauna</i> as per decision of the SC74.
b) No exports should occur until the quota has been published on the Secretariat's website.	No action taken		Adopt the zero quota for the <i>Ara ararauna</i> as per decision of the SC74.
c) The export quota (which could include zero allowable exports) should be justified as conservative based on estimates of sustainable off-take that make use of available scientific information.	No action taken	Refer to recommendation a) for <i>A. ararauna</i>	Population study on known harvest site for the <i>Ara ararauna</i> has been conducted in 2022 on request of the MA. The MA requests the SA on June 14, 2023 to do a NDF on the <i>Ara ararauna</i> , <i>Ara chloropterus</i> and <i>Amazona farinosa</i>
d) Before making any increases to the interim quota, the planned changes should be communicated by the Management Authority of Suriname to the Secretariat and Chair of the Animals Committee along with a justification of how the change is conservative, based on estimates of sustainable off-take that make use of best available scientific information, for their agreement.	No action taken	Refer to recommendation a) for <i>A. ararauna</i>	The Scientific Authority conducted Non-detriment findings for the <i>Ara ararauna</i> , <i>Ara chloropteusa</i> and <i>Amazona farinosa</i> with conclusion and recommendation (2023)
<p>Long term actions Within 2 years (14 November 2020): e) Initiate appropriate harvest measures to ensure sustainability (for example): - size/selective harvest - open/closed seasons - harvest seasons - harvest maximums - restrictions to harvest frequency, sites or time of day - control of number of harvesters - types and methods of harvest</p>	Suriname has endorsed the Compliance assistance program (CAP) on February 20, 2022. One of the priority actions in the work plan is to revise the legislation regarding CITES related matters. Suriname is not yet a CITES I category country. This process will be initiated again within the CITES Compliance Assistant	Initial stage.	The CAP will be implemented starting August 2023 and has a duration of one year. Legislation will be evaluated and revised in compliance with the CITES convention. A technical CITES working group will be established. The general conditions, which is an annex of the export permits will be evaluated and revised according to the revised legislation.

	<p>Programme (CAP) This process includes stakeholders session, where the CITES Management Authority will have an opportunity to collect relevant data for the development of a harvest management plan. At the moment there is no harvest management plan for <i>Ara ararauna</i>, <i>Ara chloropterus</i> and <i>Amazona farinosa</i>. Because the <i>Ara ararauna</i> is a game species, the harvest is subject to the hunting calendar. Harvest is prohibited during closed season. Harvest in Protected areas (nature reserves) is strictly prohibited.</p>		<p>This will also be an opportunity to enhance the process of developing a harvest plan as a measure to ensure sustainable harvest regime. The Scientific Authority and the relevant stakeholders will be involved in this process.</p>
<p>f) Initiate measures to ensure the descriptions on all CITES permits are standardized so that export is only permitted at the species level and that it complies with Annex 1 of Resolution Conf. 12.3 (Rev. CoP17) on permits and certificates; trade ceases to be reported or permitted at higher taxon levels.</p>	<p>Suriname is using a standardized CITES permit format in compliance with Annex 2 of Resolution Conf. 12.3 (Rev.CoP17)</p>		<p>See Annex 3 (sample of the permit format).</p>
<p>g) Clarify and standardize the terms and units used in reporting trade. Ensure that appropriate terms and units are recorded on permits for trade. Standardized terms and appropriate units are found in the most recent version of the Guidelines for the preparation and submission of CITES annual reports, which is referenced in Resolution Conf. 11.17 (Rev. CoP17) on national reports and distributed by the Secretariat by notification.</p>	<p>Suriname is using a standardized CITES permit format in compliance with Annex 2 of (Rev.CoP17) and the latest guidelines for the preparation of the submission of CITES annual reports (Annex 2 Resolution Conf. 12.3 (Rev. Cop18)).</p>		<p>The CITES Management Authority will strengthen the capacity of the staff of the permit section in regards to CITES related issues. The MA will initiate Internal training for staff members in the proper data entry of trade and permit to minimize and avoid administrative errors and discrepancies in the trade database.</p>
<p>h) Ensure that permits issued for the species clearly and accurately indicate the source of the specimens.</p>	<p>Refer to recommendation f.) for <i>A. ararauna</i>.</p>		<p>Suriname is using a standardized CITES permit format in compliance with Annex 2 of (Rev.CoP17). Sample attached as annex to this report.</p>
<p>i) Undertake science-based studies on status of the species (e.g. population size/density, trends, distribution) including an evaluation of the threats to the species for use as the basis for NDFs or Develop/Implement an ongoing science-based population monitoring program that is used in conjunction with an adaptive management program for the species (see harvest management</p>	<p>Suriname, through the Nature Conservation Division (NCD), has carried out a pre-study to learn and better understand the locations and habitats of at least three parrot species (<i>Amazona farinosa</i>, <i>Ara ararauna</i> and <i>Ara chloropterus</i>). This work was</p>		<p>The Scientific Authority conducted Non-detriment findings for the <i>Ara ararauna</i>, <i>Ara chloroptera</i> with conclusion and recommendation (2023). The Management Authority will developed a harvest plan taking into consideration the National regulations such</p>

<p>measures and trade controls, below), for use in making NDFs.</p>	<p>supported by the ACTO's Bioamazon Project and was undertaken in March 2021. To understand population size of at least the three above mentioned parrot species, a population size study was initiated as well in 2021. The reports from these studies are: "A pre-study conducted on psittacine species presence and numbers. With the emphasis on the <i>Ara ararauna</i>, <i>Ara chloroptera</i> and <i>Amazona farinosa</i>". An assessment on the habitat and occurrence of at least three parrot species in Suriname (2021) and "Population size status of parrot species", a focus on population size of parrot species in known harvest areas (2022).</p>		<p>as the Game Act, the Forest management Act, the Nature Conservation Law and its implementing decrees as well as the guidance of Convention. The Management Authority will together with relevant institutions work on enhancing monitoring and traceability of trade in CITES listed species (Flora and Fauna). For the monitoring of tree species the Foundation of Forest Management and Production, control has developed the Sustainable Forestry Information System Suriname (SFISS) and the National Forest Monitoring system (NFMS), which are operational. The Suriname Forest Service has developed an e-permitting system for Wildlife Trade (CITES and non-CITES species). This system is due to some glitches not fully operational, but this issue is being address by the developer in order to have it fully operational within this year (2023) With the implementation of the CAP Suriname will establish a technical working group to coordinate monitoring of CITES related issues.</p>
<p>j) Undertake qualitative monitoring of the scale and trends of all harvest (increasing, stable or decreasing) for use in making NDFs -Develop and implement harvest guidelines (or "best practices") describing accepted practices or Develop and implement local management with clearly defined harvest management measures (e.g., harvest seasons, harvest maximums, restrictions to harvest frequency, sites or time of day, control of number of harvesters, types and methods of harvest) or Develop and implement coordinated national and/or local management plans (that include harvest management considerations) with clear monitoring requirements; management is adaptive (regular</p>	<p>Refer to recommendation i.) for <i>A. ararauna</i>.</p>		<p>Refer to recommendation i.) for <i>A. ararauna</i>.</p>

review of harvest records, of impact of harvesting, adjustment of harvest instructions as necessary), harvest restrictions based on monitoring results.			
k) Undertake qualitative monitoring of the scale and trends of all export (increasing, stable or decreasing) for use in making NDFs -initiate measures to ensure that permit information is standardized (e.g., export only at a species level, source of specimens is indicated, consistency of conversion factors, standardized units) Or Undertake monitoring of export; any established export limits are precautionary Or Undertake regular quantitative surveys of scale and trend of all export; establish/modify export limits according to quantitative data that is reviewed regularly, for example through an adaptive management program for the species.	Refer to recommendation i.) for <i>A. ararauna</i> .		Refer to recommendation i.) for <i>A. ararauna</i> .
l) Implement/ improve a system to ensure individuals in captive / ranched / artificially propagated production systems are distinguished from wild if both wild specimens and non-wild specimens are in trade.	The Permit Section of the Nature Conservation division has since 2009 dedicated a Section especially for monitoring, further developing and guiding of bred in captivity, which keeps track of the breeding of CITES Appendix II species. In 2013, the CITES MA launched nationally a programme on Bred in Captivity.		Capacity building in captive breeding will need to be enhanced and Suriname is looking for possibilities to do refreshment training and capacity building training on this matter and possibility for automation of the monitoring. There is collaboration with the Veterinary Department and IICA on matters related to bred in captivity.
m) Clearly designate CITES authorities.	By Ministerial Decree of April 15th 2016 no. 0567B-16/Min RGB, S.B. 2016 No. 102, the Head of Suriname Forest Service is also designated as the CITES Management Authority in Suriname. CITES Scientific Authority was established by Ministerial Decree of April 15 th 2016 no. 0567A 16/Min RGB, S.B. 2016 No. 101. The members of the CITES SA were formally appointed by Ministerial Decree of 2 nd of March 2022 no. 0699 22/MinGBB and has been registered with the CITES secretariat during CoP19 in Panama.		The SA consist of the following members: 1. the National Zoological Collection of Suriname (NZCS), 2. the National Herbarium (BBS), 3. the Agricultural Research Centre in Suriname (CELOS), 4. the Import, export and foreign exchange control Division of the Ministry of Trade and Industry, 5. plant protection and quality inspections of the Ministry of Agriculture, Animal Husbandry and Fisheries (LVV) with expertise in plant diseases and pests, 6. the Ministry of Agriculture, Animal Husbandry and Fisheries (expertise on fisheries), 7. veterinary service of

			<p>the Ministry of Agriculture, Animal Husbandry and Fisheries with expertise in animal welfare and animal diseases,</p> <p>8. the Suriname Forest Service,</p> <p>9. the Nature Conservation Division and</p> <p>10. the Foundation for Forest Management and Forest Production (SBB)</p>
n) provide training for CITES authorities (e.g., CITES Virtual College, NDF workshops in a country or region)	<p>Suriname participated in the "UNIA MASTER'S DEGREE IN MANAGEMENT AND CONSERVATION OF SPECIES IN TRADE. THE INTERNATIONAL FRAMEWORK 14th edition from 18th April to 1st July 2022 at the University of Andalucía, Baeza, Spain, with support from the CITES Secretariat</p>		<p>The representative from Suriname graduated in June 2023 after defending her thesis "Non-detriment findings for <i>Cedrela odorata</i> from Suriname" and is now giving guidance on CITES related matters to the MA and SA. Furthermore, Suriname is in the process of Strengthening the capacity of the Ministry of GBB/CITES management and Scientific Authority with the implementation of CITES in Suriname through the BIOAMAZON project and other project such as the Global Climate Change Alliance (GCCA+) project, the Amazon Sustainable Landscape project (ASL2 project) and the CITES Compliance Assistant Program (CAP) that just recently (February 2023) has been endorsed by the Ministry of GBB.</p>
o) develop identification methods and materials			<p>The Suriname Forest Service has collaborate with Conservation International Suriname (CIS) and Panthera in developing the identification guide of felines of Suriname, 2021.</p> <p>The Suriname Forest Service has also collaborated with WWF in the revision of the Wildlife of the Guianas, species identification pocketbook for Wildlife Trade Monitoring and Enforcement (2nd edition, February 2023).</p>
p) share information/collaboration with	The Amazon Regional Observatory (ARO) is		ACTO has supported its member countries

<p>other range States (exchange of NDF information, development and implementation of regional management measures).</p>	<p>constituted as a permanent virtual forum, through the website of Amazon Cooperation Treaty Organization (ACTO), which promotes the flow of information between institutions and intergovernmental authorities of Member countries, linked to the study of the Amazonia, becoming a reference center for regional scientific-technological information and socio-cultural diversity of the Amazon. At the end of 2019, the Permanent Secretariat of ACTO took the decision to effectively implement the ORA and thus began an intense work to fulfill this purpose, inaugurating this regional milestone on November 10, 2021. The Amazon Regional Observatory will contribute with the exchange of information on specific studies carried out by the Member Countries, at their request and approval, on the basis of existing research, including a periodic inventory of research initiatives, researchers and Amazonian institutions or that act in the Amazon. Within the Bioamazon project, the "Consultancy for training and support to ACTO member countries in the development of Non-detriment Findings (NDF) and the inclusion of Cedreia spp. in Appendix II of CITES" was contracted. An online workshop was held among the member countries, with the participation of experts, who shared the methodological and scientific bases for the formulation of NDFs. During this workshop, representatives of ACTO Member Countries raised questions on</p>		<p>including Suriname, through the Bioamazon project with implementation of the CITES. Bioamazon is a regional project of the Amazon Cooperation Treaty Organization (ACTO) that contributes to the conservation of the Amazonian Biodiversity, especially of the species included in the CITES Convention. For this, it seeks to increase the efficiency and effectiveness of management, monitoring and control of wildlife species threatened by trade in ACTO Member Countries - Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela. It is part of a Cooperation Agreement between the Federal Government of Germany and ACTO with implementation through KfW. This project that ended in December 2022 has recently been extended until December 2023 with the focus on supporting member countries in strengthening Herbarium and/or laboratories for wood identification and strengthening the implementation of Non-Detriment Findings (NDF) and the legal Acquisition Findings (LAF) for different taxa. PS/ACTO will be hiring through the Bioamazon project 5 thematic specialist (forestry, orchids, reptiles, amphibians and freshwater rays) to guide the design and elaboration implementation plan and Training on these issues in the member countries.</p>
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	<p>application issues and exchanged information and experiences regarding the processes they implement for the identification and management of scientific information, and the legal and management frameworks for the formulation of NDFs for timber species in their countries. Among the relevant information contained in this report is the systematization of information on progress in the inclusion of Cedrela in Appendix II of the ACTO MCs and the state of progress in the formulation of NDFs in the countries of the region. This information was shared and included in the report of the Working Group on Neotropical Tree Species, the contents of which was presented and analyzed at the 25th meeting of the CITES Plants Committee in June 2021</p>		
<p>q) provide training of conservation staff in the range State.</p>	<p>The updating of the curriculum and recruitment of the aspirant game wardens training in 2022 with funding from the Bioamazon project. 37 trainees passed the selection for the game wardens training. This new game wardens training officially started on March 31, 2023 to December 31, 2023 and is being co-financed by the Global Climate Change Alliance (GCCA+) and the Amazon Sustainable Landscape project (ASL2 project)</p>		<p>Gamewardens training still ongoing in 2023.</p>
<p>r) provide information and guidance to persons and organizations involved in the production and export of specimens of the species concerned;</p>			<p>Within the working plan of the CAP the following trainings will be conducted: 1. using, pilot testing of ringing birds born in captivity by trappers, traders, game wardens, and permit section staff; 2. Training of inspecting officers; 3. Training and awareness of relevant stakeholders including</p>

			development of folders or handouts.
s) facilitate information exchange among range States.			The CITES MA is facilitating information exchange among range state (ACTO member countries) through the Bioamazon project.
t) provide technical equipment and support.	Through the Bioamazon project the Management Authority's capabilities and capacity to comply with the CITES regulations is enhanced. The acquirement of equipment through this project for the Management Authority and the ministry of Land Policy and Forest Management (GMB), Herbarium, National Zoological Collection Suriname (NZCS), Foundation for Forest Management and Production Control (SBB) and ministry of Spatial Planning and Environment (ROM) is secured and the working conditions of the personnel of the Ministry of GMB/CITES MA/Nature Conservation Division and the Scientific Authority acquired equipment is enhanced.		Included in the Amazon Sustainable Landscape Project (ASL2 project) is the development of the jaguar conservation plan, and key priority actions are carried out to raise awareness and strengthen Enforcement since 2022. Also strengthening the institutional capacity of the Suriname Forest Service for jaguar conservation and improving inter-institutional coordination for control of illegal trafficking and trade.
Final recommendation u) Upon completion of other recommendations, the Management Authority of Suriname should provide the scientific basis by which it has established that exports from their country are not detrimental to the survival of the species and are compliant with Article IV, paragraphs 2(a), 3 and 6(a) of the Convention. Particular focus should be given to how the actions Suriname has taken or will take address the concerns/problems identified in the Review of Significant Trade process.			<p>The Scientific Authority has submitted Non-detriment findings for the <i>Ara ararauna</i>, <i>Ara chloropterus</i> and the <i>Amazona farinosa</i> with conclusion and recommendation (2023) to the MA.</p> <p>The SA conclusion for the <i>Ara ararauna</i> is as follows:</p> <p>According to the latest population study (Ramcharan 2022) the national population status of the <i>Ara ararauna</i> is stable and generally very abundant and occurs at high densities.</p> <p>The Scientific Authority recommends stepping up</p>

			<p>control and enforcement activities in strategic posts in order to stop possible illegal activities. The Scientific Authority advises the Management Authority to keep record of all illegal harvest and trade of this species and other CITES listed species in order to be able to produce an illegal trade report for CITES listed species in Suriname.</p> <p>Due to the remoteness of the interior of Suriname, very limited harvest of this species comes from the interior. The Scientific Authority recommends the development of a harvest plan for all wildlife species on the export list.</p> <p>The Scientific Authority recommends revision of the general conditions on the harvest quota and set the harvesting quota at 12 % higher than the export quotas for all bird species. This was earlier set as 25% higher than the export quota.</p> <p>With the confines of the available data, the conclusion of the CITES Scientific Authority of Suriname on this NDF for this species is precautionary positive. The SA recommends establishing the interim conservative export quota of 500, as recommended by the Animals Committee, for the <i>Ara ararauna</i> until further studies are done on the population of this species.</p>
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Amazona farinosa (Mealy parrot)

Recommendation CITES Secretariat	Action taken by Suriname	Result	Action taken 2023 by Suriname
Short term action: Within 60 days (13 January 2019): a) Establish an interim conservative export quota of 200 within 60 days for the species and	No action taken	The Standing Committee adopted the recommendations of the Secretariat to publish a zero-export quota for <i>Amazona farinosa</i> until Suriname provides information to justify	Adopt the zero quota for the <i>Amazona farinosa</i> as per decision of the SC74.

communicate the quota to the Secretariat.		a higher quota to be agreed with the AC Chair. (SC74 Doc. 30.1). The Secretariat has publish the zero quota on its website. Suriname should provide an update on the implementation of recommendations d) to m) by three months before the documentation deadline for SC77.	
b) No exports should occur until the quota has been published on the Secretariat's website.	No action taken		Adopt the zero quota for the <i>Amazona farinosa</i> as per decision of the SC74.
c) The export quota (which could include zero allowable exports) should be justified as conservative based on estimates of sustainable off-take that make use of available scientific information.	No action taken	Idem	Population study on known harvest site for the <i>Amazona farinosa</i> has been conducted in 2022 on request of the MA. The MA request the SA to do a NDF on the <i>Amazona farinosa</i> .
d) Before making any increases to the interim quota, the planned changes should be communicated by the Management Authority of Suriname to the Secretariat and Chair of the Animals Committee along with a justification of how the change is conservative, based on estimates of sustainable off-take that make use of best available scientific information, for their agreement.	No action taken	Idem	The Scientific Authority conducted Non-detriment findings for the <i>Amazona farinosa</i> , <i>Ara ararauna</i> and <i>Ara chloropterus</i> with conclusion and recommendation (2023)
Long term actions Within 2 years (14 November 2020): e) Initiate appropriate harvest measures to ensure sustainability (for example): - size/selective harvest - open/closed seasons - harvest seasons - harvest maximums - restrictions to harvest frequency, sites or time of day - control of number of harvesters - types and methods of harvest	Suriname has endorsed the Compliance assistance program (CAP) on February 20, 2022. One of the priority action in the work plan is to revise the legislation regarding CITES related matters. Suriname is not yet a CITES I category country. This process will be initiated again within the CITES Compliance Assistant Programme (CAP). This process includes stakeholders session, where the CITES Management Authority will have an opportunity to collect relevant data for the development of a harvest management plan. At the moment there is no harvest management plan for <i>Ara ararauna</i> , <i>Ara chloropterus</i> and <i>Amazona farinosa</i> . Because the <i>Amazona</i>	Initial stage.	The CAP will be implemented starting August 2023 and has a duration of one year. Legislation will be evaluated and revised in compliant with the CITES convention. A technical CITES working group will be established. The general conditions, which is an annex of the export permits will be evaluated and revised according to the revised legislation. This will also be an opportunity to start with the process of developing a harvest plan as a measure to ensure sustainable harvest regime. The Scientific Authority and the relevant stakeholders will be involved in this process.

	<i>farinosa</i> is a cage species, the harvest is subject to the hunting calendar, however only live specimens may be harvested. Harvest is prohibited during closed season. Harvest in Protected areas (nature reserves) is strictly prohibited.		
f) Initiate measures to ensure the descriptions on all CITES permits are standardized so that export is only permitted at the species level and that it complies with Annex 1 of Resolution Conf. 12.3 (Rev. CoP17) on permits and certificates; trade ceases to be reported or permitted at higher taxon levels.	Suriname is using a standardized CITES permit format in compliant with Annex 2 of (Rev.CoP17)		See Annex 3 (sample of the permit format).
g) Clarify and standardize the terms and units used in reporting trade. Ensure that appropriate terms and units are recorded on permits for trade. Standardized terms and appropriate units are found in the most recent version of the Guidelines for the preparation and submission of CITES annual reports, which is referenced in Resolution Conf. 11.17 (Rev. CoP17) on national reports and distributed by the Secretariat by notification.	Suriname is using a standardized CITES permit format in compliant with Annex 2 of (Rev.CoP17) and the latest guidelines for the preparation of the submission of CITES annual reports (Annex 2 Resolution Conf. 12.3 (Rev. Cop18)).		The CITES Management Authority will strengthen the capacity of the staff of the permit section in regards to CITES related issues. The MA will initiate internal training for staff members in the proper data entry of trade and permit to minimize and avoid administrative errors and discrepancies in the trade database.
h) Ensure that permits issued for the species clearly and accurately indicate the source of the specimens.	Suriname is using a standardized CITES permit format in compliant with Annex 2 of (Rev.CoP17)		Sample attached as annex 3 to this report.
i) Undertake science-based studies on status of the species (e.g. population size/density, trends, distribution) including an evaluation of the threats to the species for use as the basis for NDFs or Develop/Implement an ongoing science-based population monitoring program that is used in conjunction with an adaptive management program for the species (see harvest management measures and trade controls, below), for use in making NDFs.	Suriname, through the Nature Conservation Division (NCD), has carried out a pre-study to learn and better understand the locations and habitats of at least three parrot species (<i>Amazona farinosa</i> , <i>Ara ararauna</i> and <i>Ara chloropterus</i>). This work was supported by the ACTO's Bioamazon Project and was undertaken in March 2021. To understand population size of at least the three above mentioned parrot species, a population size study was initiated as well in 2021. The reports from these studies are: "A pre-study conducted on psittacine species presence and numbers.		

	With the emphasis on the <i>Ara ararauna</i> , <i>Ara chloreptera</i> and <i>Amazona farinosa</i> ". An assessment on the habitat and occurrence of at least three parrot species in Suriname (2021) and "Population size status of parrot species", a focus on population size of parrot species in known harvest areas (2022)		
j) Undertake qualitative monitoring of the scale and trends of all harvest (increasing, stable or decreasing) for use in making NDFs -Develop and implement harvest guidelines (or "best practices") describing accepted practices or Develop and implement local management with clearly defined harvest management measures (e.g., harvest seasons, harvest maximums, restrictions to harvest frequency, sites or time of day, control of number of harvesters, types and methods of harvest) or Develop and implement coordinated national and/or local management plans (that include harvest management considerations) with clear monitoring requirements; management is adaptive (regular review of harvest records, of impact of harvesting, adjustment of harvest instructions as necessary), harvest restrictions based on monitoring results.	Refer to recommendation i.) for <i>Amazona farinosa</i> .		Refer to recommendation i.) for <i>Amazona farinosa</i> .
k) Undertake qualitative monitoring of the scale and trends of all export (increasing, stable or decreasing) for use in making NDFs -initiate measures to ensure that permit information is standardized (e.g., export only at a species level, source of specimens is indicated, consistency of conversion factors, standardized units) Or Undertake monitoring of export; any established export limits are precautionary Or Undertake regular quantitative surveys of scale and trend of all export; establish/modify export limits according to quantitative data that is reviewed regularly, for example through an adaptive management program for the species.	Refer to recommendation i.) for <i>Amazona farinosa</i> .		Refer to recommendation i.) for <i>Amazona farinosa</i> .
l) Implement/ improve a system to ensure individuals in captive / ranched / artificially propagated	The Permit Section of the Nature Conservation division		Capacity building in bred in captivity will need to be enhanced and

<p>production systems are distinguished from wild if both wild specimens and non-wild specimens are in trade.</p>	<p>has dedicated since 2009 a Section especially for monitoring, further developing and guiding of bred in captivity, which keeps track of the breeding of CITES Appendix II species. In 2013, the CITES MA launched nationally a programme on Bred in Captivity.</p>		<p>Suriname is looking for possibilities for do refreshment training and capacity building training on this matter and possibility for digitalizing the monitoring. There is collaboration with the Veterinary Department and IICA on matters related to bred in captivity.</p>
<p>m) Clearly designate CITES authorities.</p>	<p>By Ministerial Decree of April 15th 2016 no. 0567B-16/Min RGB, S.B. 2016 No. 102, the Head of Suriname Forest Service is also designated as the CITES Management Authority in Suriname. CITES Scientific Authority was established by Ministerial Decree of April 15th 2016 no. 0567A 16/Min RGB, S.B. 2016 No. 101. The members of the CITES SA were formally appointed by Ministerial Decree of 2nd of March 2022 no. 0699 22/MinGBB and has been registered with the CITES secretariat during CoP19 in Panama.</p>		<p>The SA consist of the following members: 1. the National Zoological Collection of Suriname (NZCS), 2. the National Herbarium (BBS), 3. the Agricultural Research Centre in Suriname (CELOS), 4. the Import, export and foreign exchange control Division of the Ministry of Trade and Industry, 5. plant protection and quality inspections of the Ministry of Agriculture, Animal Husbandry and Fisheries (LVV) with expertise in plant diseases and pests, 6. the Ministry of Agriculture, Animal Husbandry and Fisheries (expertise on fisheries), 7. veterinary service of the Ministry of Agriculture, Animal Husbandry and Fisheries with expertise in animal welfare and animal diseases, 8. the Suriname Forest Service, 9. the Nature Conservation Division and 10. the Foundation for Forest Management and Forest Production (SBB)</p>
<p>n) provide training for CITES authorities (e.g., CITES Virtual College, NDF workshops in a country or region)</p>	<p>Suriname participated in the "UNIA MASTER'S DEGREE IN MANAGEMENT AND CONSERVATION OF SPECIES IN TRADE. THE INTERNATIONAL FRAMEWORK 14th edition from 18th April to 1st July 2022 at the University of Andalucía, Baeza, Spain, with support from the CITES Secretariat</p>		<p>The representative from Suriname and graduated in June 2023 after defending her thesis "Non-detriment findings for <i>Cedrela odorata</i> from Suriname" and is now giving guidance on CITES related matters to the MA and SA. Furthermore, Suriname is in the process of Strengthening the capacity of Ministry of GBB/CITES management</p>

			and Scientific Authority with the implementation of CITES in Suriname through the BIOAMAZON project and other project such as the Global Climate Change Alliance (GCCA+) project, the Amazon Sustainable Landscape project (ASL2 project) and the CITES Compliance Assistant Program (CAP) that just recently (February 2023) been endorsed by the Ministry of GBB.
o) develop identification methods and materials			<p>The Suriname Forest Service has collaborate with Conservation International Suriname (CIS) and Panthera in developing the identification guide of felines of Suriname, 2021.</p> <p>The Suriname Forest Service has also collaborated with WWF in the revision of the Wildlife of the Guianas, species identification pocketbook for Wildlife Trade Monitoring and Enforcement (2nd edition, February 2023).</p>
p) share information/collaboration with other range States (exchange of NDF information, development and implementation of regional management measures).	<p>The Amazon Regional Observatory (ARO) is constituted as a permanent virtual forum, through the website of Amazon Cooperation Treaty Organization (ACTO), which promotes the flow of information between institutions and intergovernmental authorities of Member countries, linked to the study of the Amazonia, becoming a reference center for regional scientific-technological information and socio-cultural diversity of the Amazon. At the end of 2019, the Permanent Secretariat of ACTO took the decision to effectively implement the ORA and thus began an intense work to fulfill this purpose, inaugurating this regional milestone on November 10, 2021. The Amazon Regional Observatory will</p>		<p>ACTO has supported its member countries including Suriname, through the Bioamazon project with implementation of the CITES. Bioamazon is a regional project of the Amazon Cooperation Treaty Organization (ACTO) that contributes to the conservation of the Amazonian Biodiversity, especially of the species included in the CITES Convention. For this, it seeks to increase the efficiency and effectiveness of management, monitoring and control of wildlife species threatened by trade in ACTO Member Countries - Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela. It is part of a Cooperation Agreement between the Federal Government of Germany and ACTO with implementation through KfW. This project that</p>

	<p>contribute with the exchange of information on specific studies carried out by the Member Countries, at their request and approval, on the basis of existing research, including a periodic inventory of research initiatives, researchers and Amazonian institutions or that act in the Amazon. Within the Bioamazon project, the "Consultancy for training and support to ACTO member countries in the development of Non-detriment Findings (NDF) and the inclusion of Cedrela spp. in Appendix II of CITES" was contracted. An online workshop was held among the member countries, with the participation of experts, who shared the methodological and scientific bases for the formulation of NDFs. During this workshop, representatives of ACTO Member Countries raised questions on application issues and exchanged information and experiences regarding the processes they implement for the identification and management of scientific information, and the legal and management frameworks for the formulation of NDFs for timber species in their countries. Among the relevant information contained in this report is the systematization of information on progress in the inclusion of Cedrela in Appendix II of the ACTO MCs and the state of progress in the formulation of NDFs in the countries of the region. This information was shared and included in the report of the Working Group on Neotropical Tree Species, the contents of which was presented</p>		<p>ended in December 2022 has recently been extended until December 2023 with the focus on supporting member countries in strengthening Herbarium and/or laboratories for wood identification and strengthening the implementation of Non-Detriment Findings (NDF) and the legal Acquisition Findings (LAF) for different taxa. PS/ACTO will be hiring through the Bioamazon project 5 thematic specialist (forestry, orchids, reptiles, amphibians and freshwater rays) to guide the design and elaboration implementation plan and Training on these issues in the member countries.</p>
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	and analyzed at the 25th meeting of the CITES Plants Committee in June 2021		
q) provide training of conservation staff in the range State.	The updating of the curriculum and recruitment of the aspirant game wardens training in 2022 with funding from the Bioamazon project. 37 trainees passed the selection for the game wardens training. This new game wardens training officially started on March 31, 2023 to December 31, 2023 and is being co-financed by the Global Climate Change Alliance (GCCA+) and the Amazon Sustainable Landscape project (ASL2 project)		Gamewardens training still ongoing in 2023.
r) provide information and guidance to persons and organizations involved in the production and export of specimens of the species concerned;			Within the working plan of the CAP the following trainings will be conducted: 1. using, pilot testing by trappers, traders, game wardens, and permit section staff; 2. Training of inspecting officers; 3. Training and awareness of relevant stakeholders including development of folders or handouts.
s) facilitate information exchange among range States.			The CITES MA is facilitating information exchange among range state.
t) provide technical equipment and support.	Through the Bioamazon project the Management Authority's capabilities and capacity to comply with the CITES regulations is enhanced. The acquirement of equipment through this project for the Management Authority and the ministry of Land Policy and Forest Management (GMB), Herbarium, National Zoological Collection Suriname (NZCS), Foundation for Forest Management and Production Control (SBB) and ministry of Spatial Planning and Environment (ROM) is		Included in the Amazon Sustainable Landscape Project (ASL2 project) is the development of the jaguar conservation plan, and key priority actions are carried out to raise awareness and strengthen Enforcement since 2022. Also strengthening the institutional capacity of the Suriname Forest Service for jaguar conservation and improving inter-institutional coordination for control of illegal trafficking and trade.

	<p>secured and the working conditions of the personnel of the Ministry of GBB/CITES MA/Nature Conservation Division and the Scientific Authority acquired equipment is enhanced.</p>		
<p>Final recommendation u) Upon completion of other recommendations, the Management Authority of Suriname should provide the scientific basis by which it has established that exports from their country are not detrimental to the survival of the species and are compliant with Article IV, paragraphs 2(a), 3 and 6(a) of the Convention. Particular focus should be given to how the actions Suriname has taken or will take address the concerns/problems identified in the Review of Significant Trade process.</p>			<p>The Scientific Authority submit Non-detriment findings for the <i>Ara ararauna</i>, <i>Ara chloropteusa</i> with conclusion and recommendation (2023) to the MA. The SA conclusion for the <i>Amazona farinosa</i> is as follows:</p> <p><i>Amazona farinosa</i> is widespread with a continuous distribution at the national level. According to the latest population study (Ramcharan 2022) the national population status of the <i>Amazona farinosa</i> is stable and generally very abundant and occurs at high densities.</p> <p>The Scientific Authority recommends stepping up control and enforcement activities in strategic posts in order to stop possible illegal activities. The Scientific Authority advises the Management Authority to keep record of all illegal harvest and trade of this species and other CITES listed species in order to be able to produce an illegal trade report for CITES listed species of Suriname. Most known harvest areas are in the coast of Suriname. Due to the remoteness of the interior of Suriname, very limited harvest of this species comes from the interior. The Scientific Authority recommends the development of a harvest plan for all wildlife species on the export list.</p> <p>The Scientific Authority recommends revision of the general conditions on</p>

			<p>the harvest quota and set the harvesting quota at 12 % higher than the export quotas for all bird species. This was earlier set as 25% higher than the export quota.</p> <p>The SA recommends establishing the interim conservative export quota of 200, as recommended by the Animals Committee, for the <i>Amazona farinosa</i> until further studies are done on the population of this species.</p>
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***Ara chloropterus* (Red and green Macaw)**

Recommendation CITES Secretariat	Action taken by Suriname	Result	Action taken 2023 by Suriname
<p>Short term action: Within 60 days (13 January 2019):</p> <p>a) Establish an interim conservative export quota of 250 within 60 days for the species and communicate the quota to the Secretariat.</p>	No action taken	<p>The Standing Committee adopted the recommendations of the Secretariat to publish a zero-export quota for <i>Ara Chloropterus</i> until Suriname provides information to justify a higher quota to be agreed with the AC Chair. (SC74 Doc. 30.1). The Secretariat has publish the zero quota on its website.</p> <p>Suriname should provide an update on the implementation of recommendations d) to m) by three months before the documentation deadline for SC77.</p>	Adopt the zero quota for the <i>Ara Chloropterus</i> as per decision of the SC74.
b) No exports should occur until the quota has been published on the Secretariat's website.	No action taken		Adopt the zero quota for the <i>Ara Chloropterus</i> as per decision of the SC74.
c) Before making any increases to the interim quota, the planned changes should be communicated by the Management Authority of Suriname to the Secretariat and Chair of the Animals Committee along with a justification of how the change is conservative, based on estimates of sustainable off-take that make use of best available scientific information, for their agreement.	No action taken	Idem	The Scientific Authority conducted Non-detriment findings for the <i>Amazona farinosa</i> , <i>Ara ararauna</i> and <i>Ara Chloropterus</i> with conclusion and recommendation (2023)
Long term actions Within 2 years (14 November 2020):			
d) Initiate appropriate harvest	Suriname has endorsed the Compliance assistance program (CAP) on February 20,	Initial stage.	The CAP will be implemented starting August 2023 and has a duration of one year.

<p>measures to ensure sustainability (for example): - size/selective harvest - open/closed seasons - harvest seasons - harvest maximums - restrictions to harvest frequency, sites or time of day - control of number of harvesters - types and methods of harvest</p>	<p>2022. One of the priority action in the work plan is to revised the legislation regarding CITES related matters. Suriname is not yet a CITES I category country. This process will be initiated again within the CITES Compliance Assistant Programme (CAP) This process includes stakeholders session, where the CITES Management Authority will have an opportunity to collect relevant data for the development of a harvest management plan. At the moment there is no harvest management plan for <i>Ara ararauna</i>, <i>Ara chloropterus</i> and <i>Amazona farinosa</i>. Because the <i>Ara chloropterus</i> is a game species, the harvest is subject to the hunting calendar. Harvest is prohibited during closed season. Harvest in Protected areas (nature reserves) is strictly prohibited.</p>		<p>Legislation will be evaluated and revised in compliant with the CITES convention. A technical CITES working group will be establish. The general conditions, which is an annex of the export permits will be evaluated and revise according to the revised legislation. This will also be an opportunity to start with the process of developing a harvest plan as a measure to ensure sustainable harvest regime. The Scientific Authority and the relevant stakeholders will be involved in this process.</p>
<p>e) Undertake science-based studies on status of the species (e.g. population size/density, trends, distribution) including an evaluation of the threats to the species for use as the basis for NDFs</p> <p>f) Develop/Implement an ongoing science-based population monitoring program that is used in conjunction with an adaptive management program for the species (see harvest management measures and trade controls, below), for use in making NDFs</p>	<p>Suriname, through the Nature Conservation Division (NCD), has carried out a pre-study to learn and better understand the locations and habitats of at least three parrot species (<i>Amazona farinosa</i>, <i>Ara ararauna</i> and <i>Ara chloropterus</i>). This work was supported by the ACTO's Bioamazon Project and was undertaken in March 2021. To understand population size of at least the three above mentioned parrot species, a population size study was initiated as well in 2021. The reports from these studies are: "A pre-study conducted on psittacine species presence and numbers. With the emphasis on the <i>Ara ararauna</i>, <i>Ara</i></p>		<p>The Scientific Authority conducted Non-detriment findings for the <i>Amazona farinosa</i>, <i>Ara ararauna</i> and <i>Ara chloropterus</i> with conclusion and recommendation (2023). The Management Authority will developed a harvest plan taking into consideration the National regulations such as the Game Act, the Forest management Act, the Nature Conservation Law and its implementing decrees as well as the guidance of Convention. The Management Authority will together with relevant institution work on enhancing monitoring and traceability of trade in CITES listed species (Flora and Fauna). For the monitoring of tree species the Foundation of Forest Management and Production, control has developed the Sustainable Forestry Information System</p>

	<p><i>chloropterus</i> and <i>Amazona farinosa</i>". An assessment on the habitat and occurrence of at least three parrot species in Suriname (2021) and "Population size status of parrot species", a focus on population size of parrot species in known harvest areas (2022).</p>		<p>Suriname (SFISS) and the National Forest Monitoring system (NFMS), which are operational.</p> <p>The Suriname Forest Service has developed an e-permitting system for Wildlife Trade (CITES and non-CITES species). This system is due to some glitches not fully operational, but this issue is being addressed by the developer in order to have it fully operational within this year (2023). With the implementation of the CAP Suriname will establish a technical working group to coordinate monitoring of CITES related issues.</p>
<p>g) Undertake qualitative monitoring of the scale and trends of all harvest (increasing, stable or decreasing) for use in making NDFs -Develop and implement harvest guidelines (or "best practices") describing accepted practices</p> <p>h) Develop and implement local management with clearly defined harvest management measures (e.g., harvest seasons, harvest maximums, restrictions to harvest frequency, sites or time of day, control of number of harvesters, types and methods of harvest)</p> <p>j) Undertake qualitative monitoring of the scale and trends of all export (increasing, stable or decreasing) for use in making NDFs</p> <p>k) Initiate appropriate harvest measures to ensure sustainability (for example): - size/selective harvest - open/closed seasons - harvest seasons - harvest maximums - restrictions to harvest frequency, sites or time of day - control of number of harvesters - types and methods of harvest.</p>	<p>Refer to recommendation e and f.) for <i>Ara Chloropterus</i>.</p> <p>Refer to recommendation e and f.) for <i>Ara Chloropterus</i>.</p> <p>Refer to recommendation e and f.) for <i>Ara Chloropterus</i>.</p>		<p>Refer to recommendation e and f.) for <i>Ara Chloropterus</i>.</p> <p>Refer to recommendation e and f.) for <i>Ara Chloropterus</i>.</p> <p>Refer to recommendation e and f.) for <i>Ara Chloropterus</i>.</p>
<p>l) Clearly designate CITES authorities.</p>	<p>By Ministerial Decree of April 15th 2016 no. 0567B-16/Min RGB, S.B. 2016 No. 102, the Head of Suriname Forest Service is also designated as the CITES Management Authority in Suriname. CITES Scientific</p>		<p>The SA consist of the following members:</p> <ol style="list-style-type: none"> 1. the National Zoological Collection of Suriname (NZCS), 2. the National Herbarium (BBS), 3. the Agricultural Research Centre in Suriname (CELOS), 4. the Import, export and

	<p>Authority was established by Ministerial Decree of April 15th 2016 no. 0567A 16/Min RGB, S.B. 2016 No. 101. The members of the CITES SA were formally appointed by Ministerial Decree of 2nd of March 2022 no. 0699 22/MinGGB and has been registered with the CITES secretariat during CoP19 in Panama.</p>		<p>foreign exchange control Division of the Ministry of Trade and Industry, 5, plant protection and quality inspections of the Ministry of Agriculture, Animal Husbandry and Fisheries (LVV) with expertise in plant diseases and pests, 6. the Ministry of Agriculture, Animal Husbandry and Fisheries (expertise on fisheries), 7. veterinary service of the Ministry of Agriculture, Animal Husbandry and Fisheries with expertise in animal welfare and animal diseases, 8. the Suriname Forest Service, 9. the Nature Conservation Division and 10. the Foundation for Forest Management and Forest Production (SBB)</p>
<p>m) Encourage information sharing with Guyana in order to collaborate on making NDFs</p>	<p>No action taken</p>		<p>No action taken</p>
<p>n) provide training of conservation staff in the range State.</p>	<p>The updating of the curriculum and recruitment of the aspirant game wardens training in 2022 with funding from the Bioamazon project. 37 trainees passed the selection for the game wardens training. This new game wardens training officially started on March 31, 2023 to December 31, 2023 and is being co-financed by the Global Climate Change Alliance (GCCA+) and the Amazon Sustainable Landscape project (ASL2 project)</p>		<p>Game wardens training still ongoing in 2023.</p>
<p>o) provide information and guidance to persons and organizations involved in the production and export of specimens of the species concerned;</p>			<p>Within the working plan of the CAP the following trainings will be conducted: 1. using, pilot testing by trappers, traders, game wardens, and permit section staff; 2. Training of inspecting officers; 3. Training and awareness of relevant stakeholders including development of folders or handouts.</p>

<p>Final recommendation p) Upon completion of other recommendations, the Management Authority of Suriname should provide the scientific basis by which it has established that exports from their country are not detrimental to the survival of the species and are compliant with Article IV, paragraphs 2(a), 3 and 6(a) of the Convention. Particular focus should be given to how the actions Suriname has taken or will take address the concerns/problems identified in the Review of Significant Trade process.</p>			<p>The Scientific Authority submit Non-detriment findings for the <i>Ara ararauna</i>, <i>Ara chloropterus</i> and <i>Amazona farinosa</i> with conclusion and recommendation (2023) to the MA. The SA conclusion for the <i>Ara Chloropterus</i> is as follows:</p> <p><i>Ara chloropterus</i> is widespread with a continuous distribution at the national level.</p> <p>The Scientific Authority recommends stepping up control and enforcement activities in strategic posts in order to stop possible illegal activities. The Scientific Authority advises the Management Authority to keep record of all illegal harvest and trade of this species and other CITES listed species in order to be able to produce an illegal trade report for CITES listed species in Suriname</p> <p>Due to the remoteness of the interior of Suriname, very limited harvest of this species comes from the interior. The Scientific Authority recommends the development of a harvest plan for all wildlife species on the export list.</p> <p>Suriname has a system of voluntary export quotas for wildlife fauna species, which was in place in 1987 after revision of the Game Law 1954 and has been revised in 1995 and is up till date being used. Before the latest decision of the Standing Committee (SC74 doc. 30.1), the quota for the <i>Ara chloropterus</i> was 250. Suriname implemented a zero-export quota for <i>Ara chloropterus</i> after the publication regarding this matter by the CITES Secretariat in 2022.</p> <p>The Scientific Authority recommends revision of the general conditions on the harvest quota and set the harvesting quota at 12 % higher than the export</p>
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			<p>quotas for all bird species. This was earlier set as 25% higher than the export quota.</p> <p>Because of the limitations of the available data, the conclusion of the CITES Scientific Authority of Suriname on this NDF is negative for export until further studies are done on the population of this species. The zero quota will still be applied for this species.</p>
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Suriname, through the Suriname Forest Service (LBB), has carried out a pre-study to learn and better understand the locations and habitats of at least three parrot species (*Amazona farinosa*, *Ara ararauna* and *Ara chloropterus*). This work was supported by the ACTO's Bioamazon Project and was undertaken in March 2021. To understand population size of at least the three above mentioned parrot species, a population size study was initiated as well in 2021. The reports from these studies are:

- "A pre-study conducted on psittacine species presence and numbers. With the emphasis on the *Ara ararauna*, *Ara chloroptera* and *Amazona farinosa*". An assessment on the habitat and occurrence of at least three parrot species in Suriname and
- "Population size status of parrot species", a focus on population size of parrot species in known harvest areas.

With the available data the CITES Scientific Authority of Suriname conducted a baseline NDF on these species in Suriname.

We take this opportunity to submit the above mentioned reports and the NDFs for the *Amazona farinosa*, *Ara ararauna* and *Ara chloropterus* as annexes to this report.

Through the CITES Secretariat, we would like to request the Chair of the Animals Committee to consider the conclusion and recommendations from the CITES Scientific Authority in Suriname as stated in the NDF report for the *Amazona farinosa* and *Ara ararauna*.

With regards to the *Ara chloropterus*, the CITES Management Authority of Suriname does not support the recommendation made by the CITES Scientific Authority of Suriname.

Based on the information:

- that this species is harvested in the southern part of the country of Suriname and
- the fact that no study has been carried out on the population density of the *Ara chloropterus* in that part of the country and
- the fact that it is important for the livelihood of the indigenous and tribal communities, which occur in this area,

the CITES Management Authority of Suriname recommends to keep the voluntary export quota of 250, which was recommended by the Animals Committee till further studies has been carried out on this species.

In regards to the export of *Chelonoidis denticulatus* from Suriname the report of the Standing Committee (SC71 Doc. 12) states as follow: "the Secretariat wrote to Suriname on 22 September 2017 and Suriname replied with a letter dated 30 November 2017 to inform that it had undertaken a number of actions that were reported by the Secretariat at the 70th meeting of the Standing Committee (SC70, Sochi, October 2018). In summary, Suriname provided some useful

information on *C. denticulatus* but acknowledged that more research is needed. Suriname stated that the quota was set in the late nineties but offered no explanation on how the quota was established and did not present population estimates, other than some information on a breeding operation and anecdotal accounts that larger specimens are spotted less frequently. Following SC70, the Secretariat wrote to Suriname on 25 March 2019 to seek clarification on the export quota and confirmation that any quota proposed would include a maximum straight carapace length (SCL) of 10 cm. No response has been received from Suriname to date”.

Consequently, the Standing Committee urged Suriname to implement recommendations a) and b) by 16 September 2019 [by establishing, in agreement with the Chair of the Animals Committee and the Secretariat, a conservative quota for 2019 for live specimens of *Chelonoidis denticulatus* with a maximum straight carapace length (SCL) of 10 cm. The Standing Committee further urged Suriname to implement recommendations c) to g) by 31 December 2019 so that the matter can be discussed at SC73. The Standing Committee agreed that if Suriname fails to meet the deadline to implement recommendations a) and b) by 16 September 2019, it will request the Secretariat to publish a zero export quota as an interim measure, while encouraging Suriname to implement recommendations d) to g) by 31 December 2019 so that the matter can be discussed at SC73. The matter was not discussed at the SC73 meeting and no response has been submitted by Suriname to date. The zero quota was published by the Secretariat for Suriname.

Regarding the above, it has come to our attention that the size restriction of 10 cm maximum straight carapace length (SCL) was not appropriate, and a maximum size restriction of 12 cm would be more realistic, because the US has very specific restrictions on the commercial/public sale of pet turtles with a shell length smaller than 4 inches or 10 cm (choking hazards for toddlers and other health issues). In light of trade restrictions imposed by the United States of America on the imports of tortoises and turtle, Suriname is considering to implement size restriction between 10-12 cm for trade to the US coming from bred in captivity and between 5-10 cm for other countries and therefore, would like to request through the CITES Secretariat to the Chair of the Animals Committee to take this into consideration.

Meanwhile Suriname will work on the implementation of the recommendation urged by the Standing Committee (SC71 doc. 12) and make an NDF for this species, harvest from the wild in order to establish a quota. However this will take time and financial support is needed to do so.

We hope that we have informed you sufficiently in reference to the RSTs.

Our Ministry remains at your disposal if needed.

Please accept the assurances of my highest consideration.

Ministry of Land Policy & Forest Management
Acting Head Suriname Forest Service
(Dienst 's Lands Bosbeheer)
CITES Management Authority of Suriname


08-08-2023

Ms. Claudine Sakimin, BSc.



cc:

- Minister of Land Policy and Forest Management
- Permanent Secretary of Land Policy and Forest Management
- Deputy Permanent Secretary of Land Policy and Forest Management
- Mrs. Kaminie Tajib



A PRE-STUDY CONDUCTED ON PSITTACINE SPECIES PRESENCE AND NUMBERS

*With emphasis on the Ara ararauna, Ara chloroptera
and Amazona farinosa*

Abstract

An assessment on the habitat and occurrence of at least three parrot species in
Suriname



Serano Ramcharan MSc. and Marchal Lingaard

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Introduction

Suriname is flagged as being top global exporter of a few Psittacine species in the international trade. These species are mostly harvested from the wild and sold to exporters who in turn quarantine animals and prepare them for export once a request is made. The Ministry of Spatial Planning, Land and Forest Management (RGB) is currently responsible for implementation of CITES at the national level. The Head of Suriname Forest Service, which resorted under the Ministry of RGB is according to the Game Law of 1954 and the State Order on Game 2002, the Wildlife Management Authority in Suriname. By Ministerial Decree of April 15th 2016 no. 0567B-16/Min RGB, S.B. 2016 No. 102, the Head of Suriname Forest Service is also designated as the CITES Management Authority in Suriname. The head of Suriname Forest Service concluded that 'action is needed' to ensure that the trade of *Amazona farinosa*, *Ara ararauna* and *Ara chloropterus* from Suriname is in compliance with the provisions of Article IV, paragraph 2 (a), 3 and 6 (a) of the Convention. Quotas in Suriname are based on the natural history, domestic threats, and the level of trade of the species.

Hunting and trapping of species of parrots, have been observed for years by the Nature Conservation Division (NCD) of Suriname. Interest to assess for Parrot species population trends has been raised by CITES, in order to responsibly allow exports of certain parrot species. Without data on species number and how this fluctuate over time, it is hard to manage and allow the export of parrot species. Also is it required according to CITES to get an understanding of the wild populations of Mealy parrot, Blue-and-yellow macaw and Red-and-green macaw. This pre-study is in line with an intended study on the population size of the three earlier mentioned psittacine species. In this regard this pre field study was initiated from March 18-25 2021, to understand the areas where these birds are being trapped and how to approach the areas to understand the species population size.

The project purpose was: To learn and better understand the locations and habitats of at least three parrot species (*Amazona farinosa*, *Ara ararauna* and *Ara chloropterus*) in order to propose a population study.

The following objectives, have been achieved:

- Learn the accessibility of the trapping areas
- Learn the habitats of the chosen trapping areas
- Gain field information:
 - Exact locations,
 - Best methods to approach to undertake a population size study,
 - Collection of coordinates for point count locations and locations where much fly-overs of parrot species have been observed.

Methods applied to meet objectives

Two methods were applied. One was done by via an interview with at least five local people within each area of interest. The interview consisted of questions to gain information on the following:

1. Understand if trapping and hunting is known in the area.

2. Is trapping and hunting applied, because it sustain their livelihoods?
3. Are local or non-local animal catchers involved in trapping and hunting and to what extent?
4. What is the sex and age of people that are involved in trapping/hunting?
5. What method(s) do the trappers and hunters apply?
6. How much is harvested?
7. Is the harvest focused on adult birds, young birds (chicks) or both?
8. Where do they sell the chicks/adult birds, to whom, and on what frequency?

The other method that was applied was the point count. By means of fixed points (Locations), have parrot species been identified (by sight and sound) and quantified. The Points have been chosen based on information provided by the local community, the Game wardens and based on field observations.

According to Jones (2000), the following is considered when applying the point count:

Point Counts:

- concentrate fully on the birds and habitats without having to watch where you walk;
- more time available to identify contacts;
- more likely to detect the cryptic and skulking species;
- easy to relate bird occurrence to habitat features.

The bird points have mainly be surveyed during the afternoon. It was decided to start the count at each point at 15.30 pm and ending at 18.30 pm. This time period was based on observations on parrot activity in the field. Observations were done by sight (if necessary with the help of a binocular).

According to Jones (2000), weather conditions such as low cloud, strong winds, rainfall and very high temperatures can affect census results. Census results can be impacted, because regarding Jones (2000), bird activity will be reduced; the conditions reduce your chances to see and hear birds, and you might be less alert (since you are too hot, too cold or wet). To decrease impact of bad weather during collection of bird data, collection were done under good weather conditions, meaning that data collection was undertaken during light wind and no precipitation.

According to Bibby, Marsden & Fielding (2000), of all possible bird-habitat associations, altitude or elevation is the most cited. During the data collection only waterways were used and therefore elevated areas were not assessed.

The data collected via interviews have been analyzed via descriptive statistics. Bird identifications have been verified, when necessary, via the Field Guide to the Birds of Suriname (Spaans et.al. 2018).

The Bray-Curtis measure of similarity was used. Primer (version 6.1.16), was used to perform these analysis. To have diversity tested, both the Shannon-Wiener Index (H') and Pielou's Evenness (J) diversity indices were calculated with the help of Species Diversity & Richness (version 4.1.2) software of Pisces.

Findings

Matapica swamp

This area was surveyed from March 18-19 2021. The encountered parrot species were Orange-winged amazon (*Amazona amazonica*) and Brown-throated parakeet (*Eupsittula pertinax*). A total of 47 nests of Orange-winged amazons were found along the accessible route that was scouted (Refer to map 1 and 2 below). One Brown-throated parakeet nest was found in a termite nest.

Map 1. Surveyed area within the Matapica swamp

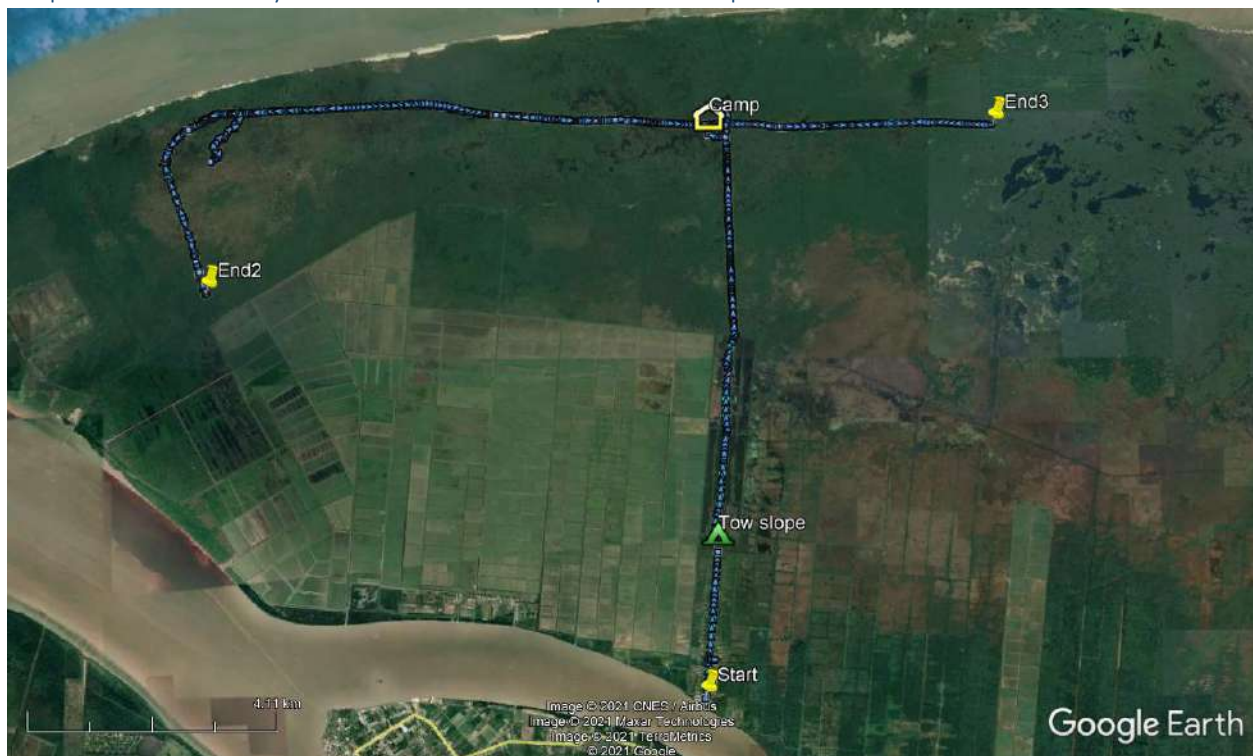


Table 1. Number of Orange-winged amazons observed on different routes

Route	Date	Observation time	Numbers
Start - Camp	18-3-'21	7:45 am – 8:45 am	Orange-winged amazon: 49
Camp-End2	18-3-'21	9:19 am – 13:25 pm	Orange-winged amazon: 2, Brown-throated parakeet: 6
Camp-End3	18-3-'21	15:00 pm – 17:00 pm	Orange-winged amazon: 6, Brown-throated parakeet: 4
Camp-Start	19-3-'21	6:30 am – 8:35 am	Orange-winged amazon: 128, Brown-throated parakeet: 2

Map 2. Surveyed area within the Matapica swamp (With nest locations)



**BTP1=One (1) nest of Brown-throated parakeet

Pic.1 Assessing the presence of a nest



Pic.2 Tree holes indicating nest locations



Pic.3 Black mangrove swamp



Pic.4 Black mangrove swamp



Pic.5 Orange-winged amazon



Pic.6 Nest of Brown-throated parakeet



The Matapica swamp can be classified as a wetland area, consisting mainly of Black mangroves (*Avicennia germinans*). All 47 nests of Orange-winged amazons, have been found in mainly dead black mangrove trees. The few nests that were found in living black mangrove trees, were found in tree burrows. As indicated by picture 6, evidence of a Brown-throated parakeet nest was found. Brown-throated parakeets will use termite nests to carve a hole and make a nest. According to Table 1, most Orange-winged amazons, have been found along route "Camp-Start". This was likely the case since the count started as soon as there was sunrise. According to the IUCN red list version 2021-1, the orange-winged amazon has

a Least Concern status, but its population is globally known to decrease. Brown-throated parakeets are according to the IUCN red list version 2021-1 of least concern, and are increasing in number. Both the Orange-winged amazon and Brown-throated parakeet, are Appendix II Species according to CITES. Noteworthy is the statement of the local guides, that they are seeing a quite bigger parrot species, but in smaller groups and amounts. According to Haverschmidt and Mees (1994), Yellow-crowned amazons (*Amazona ochrocephala*), do overlap with Orange-winged amazon in the coastal area. It is therefore a potential candidate to be present in the Matapica swamp area.

Pic.7 A nest from which chicks were harvested



As indicated in Pic. 7 harvesting on young Orange-winged amazon chicks is a fact. From the 47 recorded nests found along the traveled routes in the swamp, five were clearly harvested by people. When harvesting young birds, the nest opening is cut to widen, to easily take out the young birds.

Kalebaskreek and Batavia

The areas along the Coppename River (Including Kalebaskreek and Batavia) were surveyed from March 20-21 2021. The following psittacine species were encountered: Blue-and- yellow macaw, Orange-winged amazon, Brown-throated parakeet, Red-shouldered macaw, White-eyed parakeet, Red-bellied macaw and Chestnut-fronted macaw.

Map 3. Surveyed areas on the Coppename River (Including Kalebaskreek and Batavia)



Table 2. Surveyed areas on the Coppename River

Route	Date	Observation time	Numbers
Boskamp-Kalebaskreek	20-3-'21	8:33 am – 9:51 am	Orange-winged amazon: 340, Brown-throated parakeet: 21, Blue-and -yellow macaw: 1
Karani (21N 615504.00 m E 619264.00 m N)	20-3-'21	15:30 pm – 18:30 pm	Blue-and -yellow macaw: 306, Chestnut-fronted macaw: 10, Red-shouldered macaw: 30, White-eyed parakeet: 28, Orange-winged amazon: 14, Red-bellied macaw: 175
Batavia (21N 624431.00 m E 631433.00 m N)	21-3-'21	15:30 pm – 18:30 pm	Blue-and -yellow macaw: 38, Orange-winged amazon: 2783, Red-bellied macaw: 64, Brown-throated parakeet: 26

Pic.8 Riverine forest habitat at Karani



Pic.9 Riverine forest habitat at Karani



Pic.10 Eating palm fruits



Pic.11 Foraging for palm fruits



Pic.12 Blue-and-yellow macaw



Pic.13 Blue-and-yellow macaw



Pic.14 Palms at Batavia



Pic.15 Blue-and-yellow macaws in Palm trees



The habitat of the surveyed locations along the Coppename River are mostly riverine habitats. The riverine habitat on route "Boskamp-Kalebaskreek" consist mainly of Red mangrove (*Rhizophora mangle*) and from Batavia on the vegetation is changing to a more diverse sort of vegetation, with Branti-maka (*Machaerium lunatum*) bordering the waterline. All perched and foraging Blue-and-yellow macaws, have been seen at Karani feeding on fruits of the Podosiri palms (*Euterpe oleracea*). The Blue-and-yellow macaws that have been observed at Batavia, were seeking nesting place and roosting area in the Cuban Royal palms (possibly *Roystonea regia*). All other species have been seen in flight.

No signs of harvesting have been observed during the assessment. According to a village captain of Kalebaskreek, adult birds are trapped and depending on the request young birds might be harvested as well. The period to harvest parrot species is between June-August and at least three family members in Kalebaskreek, do collect mostly Blue-and-yellow macaw for exporters. It is not known, if these people are registered catchers. According to the village captain, they will collect during week time and have a break during the weekends. One catcher might collect between 15 and 20 birds a day. During this interview, it was stated, that the catching strategies to collect adult bird species, is by means of building a trapping cabin in a tree and wait for the birds to sit on protruding sticks. Once the catcher inside the cabin makes up his mind to collect, he might use a trap net. Once birds are caught in the net, he will send them for the processor underneath the tree. As it is stated, no feathers are cut, since exporters, need to have intact birds. In order to cope with wild adult birds, the last three primaries of at least one wing are tied with a cable tie and the birds are transported on sticks, with their feet tied to the stick. Once the catchers have their quantum for the day, they would carry the birds on the sticks to their field camp and keep them in cages. Birds are transported in cages and are sold so. To collect young birds, young birds are taken out of their nests between March and May. To collect young birds, catchers would either climb are cut down the tree. The latter might kill or injure the young birds. These strategies are well known among catchers and have been practiced for long. Young birds are taken out of their nests between March and May.

According to the IUCN red list version 2021-1 Blue-and- yellow macaw, Orange-winged amazon, Brown-throated parakeet, Red-shouldered macaw, White-eyed parakeet, Red-bellied macaw and Chestnut-fronted macaw, are all of Least Concern Status. All observed species are Appendix II Species according to CITES.

Upper Nickerie and Marataka

The Marataka route, was undertaken on April 22 2021, and an assessment was done at “Bigibere”. The route on the Nickerie river ending at Tapoeripa was done on March 24-25 2021. The following psittacine species were encountered: Blue-and- yellow macaw, Orange-winged amazon, Red-shouldered macaw, Blue-cheeked amazon, Mealy parrot, Red-bellied macaw, Red-fan parrot and Dusky parrot.

Map 4 Surveyed area on the Marataka and Nickerie River

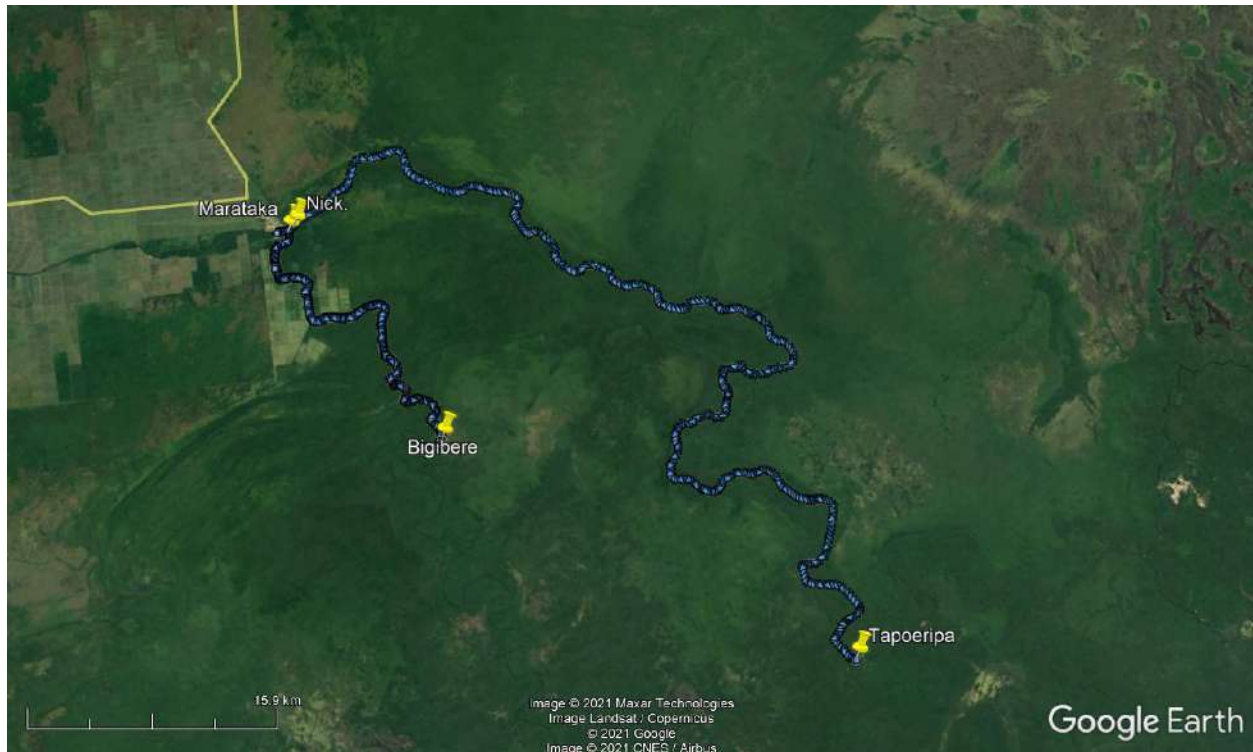


Table 3. Findings of parrot species at Marataka and Nickerie

Route	Date	Observation time	Numbers
Bigibere (21N 535236.00 m E 620409.00 m N)	22-3-'21	15:30 pm – 18:30 pm	Blue-and-yellow macaw: 19, Red-shouldered macaw: 10, Red-bellied macaw: 8, Orange-winged amazon: 18, Blue-cheeked amazon: 2
Nick-Tapoeripa	24-3-'21	12:30 pm – 15:00 pm	Blue-and-yellow macaw:42, Orange-winged amazon: 2
Tapoeripa-Nick	25-3-'21	6:30 am – 10:00 am	Blue-and-yellow macaw: 25, Orange-winged amazon: 23, Mealy parrot: 2, Red-fan parrot: 2, Dusky parrot: 2

Pic.16 Mealy parrots



Pic.17 Mealy parrots



The Marataka riverine habitat is typical for low-land forest area, with swamp vegetation elements and species. The same applies for the route on the Nickerie River ending at Tapoeripa. No signs of harvesting were observed and the local guide would explain, that the route to Marataka is more actively being used as harvest area. The time of harvest is between June-August. The same catch strategies that were applicable at Batavia and Kalebaskreek were observed and known by the local guide. It is however, not known how many catchers do harvest. It was stated that a few local people in the near surrounding of the Marataka area practice harvesting activities on mainly Blue-and-yellow macaw, but non-locals are seen as well. It is referred to Guianan (people from Guyana) catchers as the non-local catchers. Quantities that are harvested on average per catcher per day are unknown. Also is it unknown if the catchers (local and non-local) are registered catchers.

According to the IUCN red list version 2021-1 Blue-and- yellow macaw, Orange-winged amazon, Red-shouldered macaw, Red-bellied macaw, Red-fan parrot and Dusky parrot, are all of Least Concern Status. Both Blue-cheeked amazon and Mealy parrot have a Near Threatened status with populations that are decreasing. All observed species are Appendix II Species according to CITES.

MCP

The MCP was surveyed from March 23-24 2021. The following psittacine species have been encountered: Blue-and-yellow macaw, Orange-winged amazon, Blue-cheeked amazon, Red-bellied macaw, White-eyed parakeet, Mealy parrot, Brown-throated parakeet, Black-headed parrot, Dusky parrot, Red-fan parrot and Golden-winged parakeet.

Map 5. Surveyed area on the MCP



Table 4. Findings of parrot species at MCP

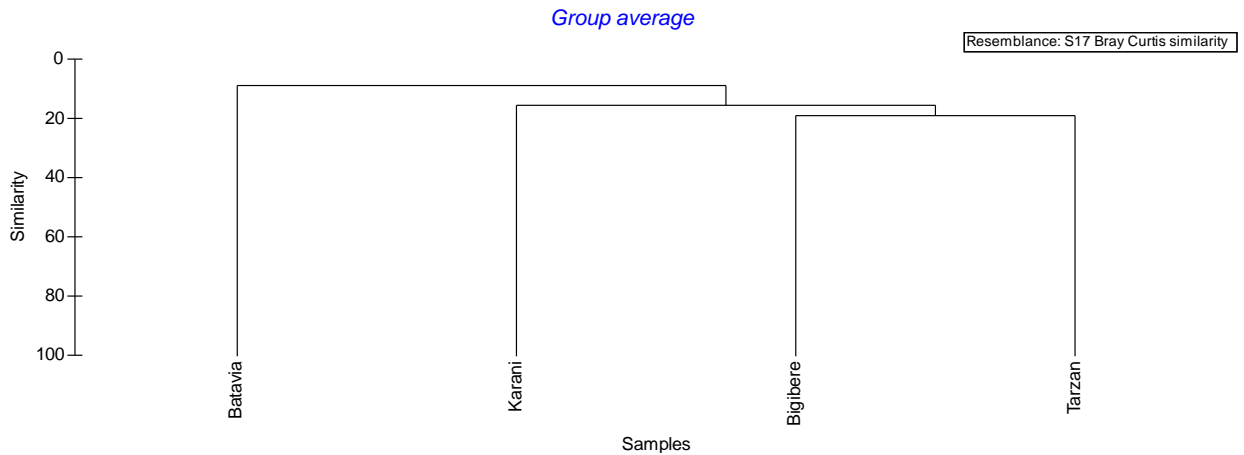
Route	Date	Observation time	Numbers
Kamp 13 – Mealy-end	23-3-'21	11:30 am – 13:00 pm	Blue-and-yellow macaw: 2, Orange-winged parrot: 46, Red-bellied macaw: 9, Blue-cheeked amazon: 2
Mealy-end - Pantekamp	23-3-'21	13:00 pm – 14:30 pm	Blue-and-yellow macaw: 10, Orange-winged parrot: 2
Tarzan (21N 488555.00 m E 613046.00 m N)	23-3-'21	15:30 pm – 18:30 pm	Blue-and-yellow macaw: 24, Orange-winged parrot: 255, White-eyed parakeet: 34, Mealy parrot: 2,

			Dusky parrot: 2, Blue-cheeked amazon: 4, Brown-throated parakeet: 20, Black-headed parrot: 5, Golden-winged parakeet: 10
Isriepie (21N 481616.00 m E 600207.00 m N)	24-3-'21	6:30 am – 9:00 am	Blue-and-yellow macaw: 3, Orange-winged parrot: 20, Blue-cheeked amazon: 2, Brown-throated parakeet: 2, Black-headed parrot: 6, Red-bellied macaw: 6, Red-fan parrot: 4

Approximately 46 km have been assessed of the MCP Canal and the assessment concentrated on the well-known harvest spots (Tarzan and Isriepie). The assessed area of interest had a mosaic of habitats, from more open disturbed edges (with *Cecropia sp.* and *Triplaris surinamensis* trees), to more High dryland forest area, with laterite soils. As discussed with the local guide and game warden, harvesting is well known and is practiced by Guianese catchers. One abandoned field camp have been noticed, but during the period of the assessment no harvesting activities have been observed. The same harvesting strategies of Batavia and Kalebaskreek apply for the MCP canal and Blue-and-yellow macaws, are harvested the most. At least one tree hole have been seen with a widening cut in the previously nest opening, that indicates harvesting of young birds as well. According to the local guide most of the time adult birds are caught and a catcher is able to collect at between 25-30 birds per day. As was stated, the period of harvest is concentrated around June and July, but might last till August. The number of catchers is not known, but an estimated number of at least 30 men have been observed. It is known that one catcher is registered and is harvesting therefore legally for exporters, but the majority might not have such documentations and are therefore not registered catchers. It is likely that birds are also collected and brought out of Suriname or find their way on the illegal market.

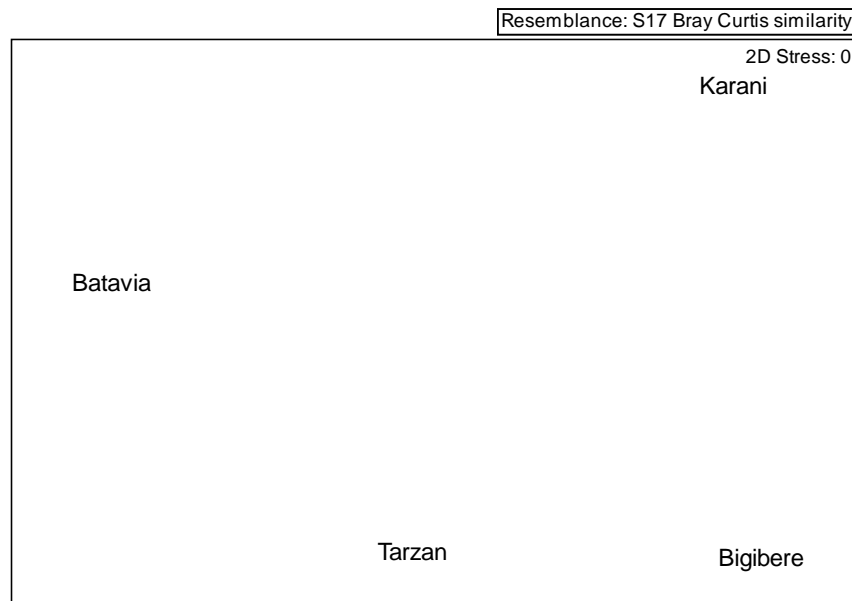
According to the IUCN red list version 2021-1 Blue-and-yellow macaw, Orange-winged amazon, Red-bellied macaw, White-eyed parakeet, Brown-throated parakeet, Black-headed parrot, Dusky parrot, Red-fan parrot and Golden-winged parakeet, are all of Least Concern Status. Both Blue-cheeked amazon and Mealy parrot have a Near Threatened status with populations that are decreasing. All observed species are Appendix II Species according to CITES.

Graph 1. A dendrogram of Resemblance



Graph 1, clearly indicates that all sampled spots (four in total), are unique, and do differ in species and their numbers

Graph 2. An outline of how different the different observation spots are from each other



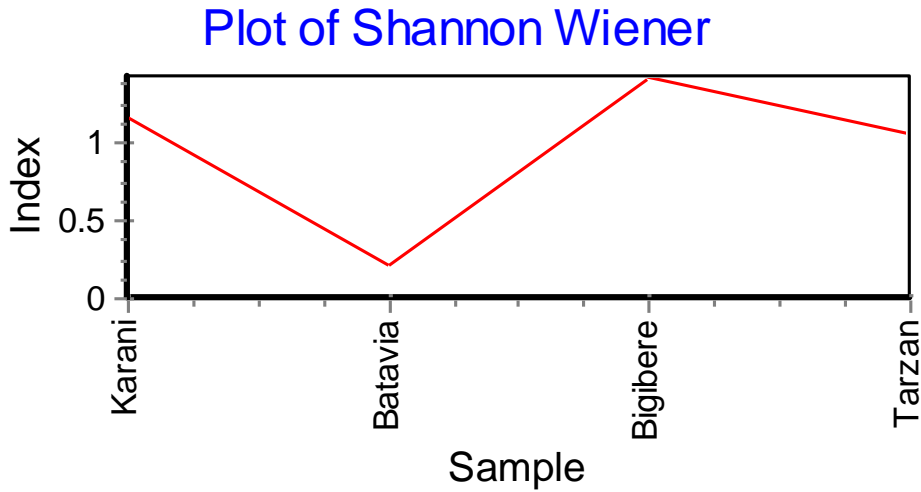
The same as graph 1, indicates, is displayed in graph 2. The four sampled spots are not clustered and do have differences in species and numbers per species.

Table 5. Diversity and evenness values of the different

Observation spot	Shannon Wiener (Diversity)	Pielou J (Evenness)
Karani	1.164	0.6494
Batavia	0.2257	0.1628
Bigibere	1.429	0.8877
Tarzan	1.076	0.4896

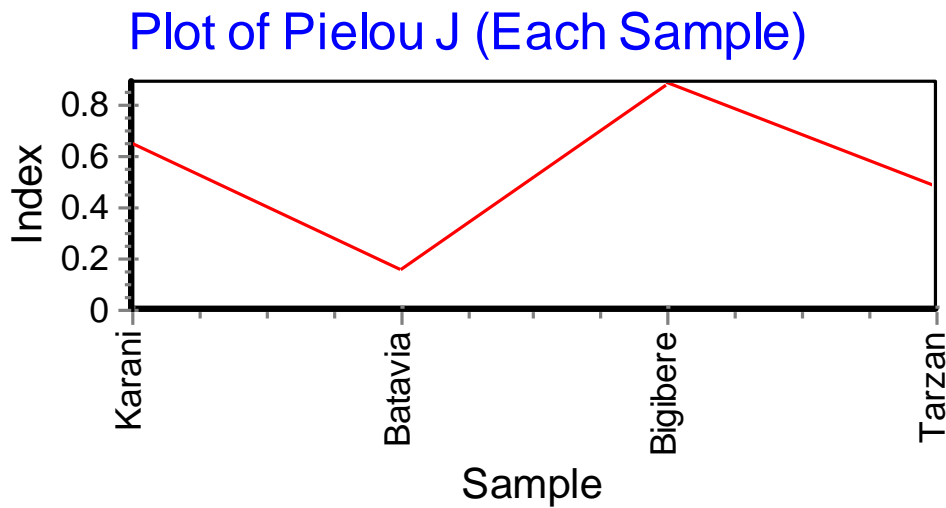
Table 5, graph 3 and graph 4, all indicate that the four areas that have been sampled, do differ in species diversity (species richness) and the number that have been found for each species.

Graph 3. Plot of Shannon Wiener



According to Graph 3, there is a clear difference in the species diversity of each of the sampled areas.

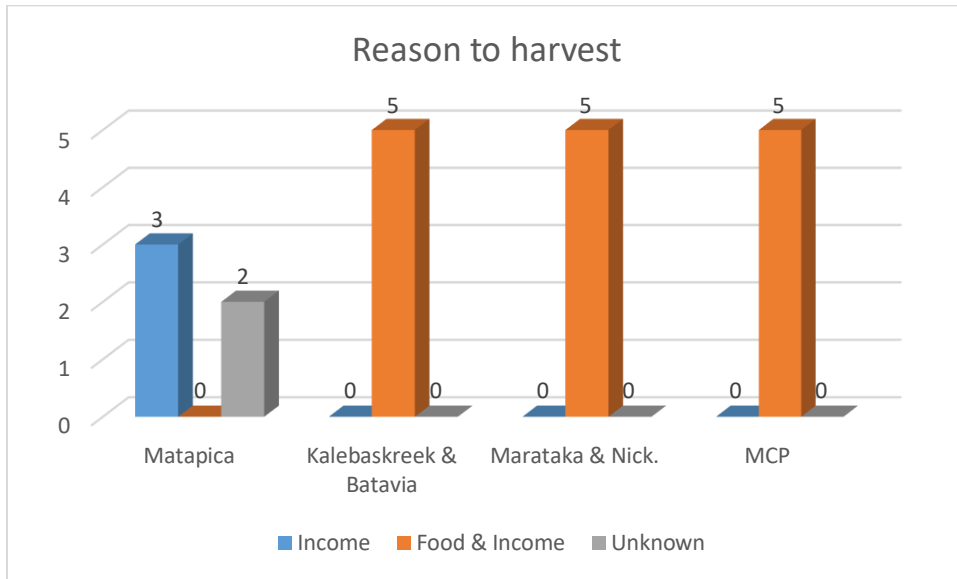
Graph 4. Plot of Pielou J



Graph 4, indicates that the number of species found at each area differ from each other.

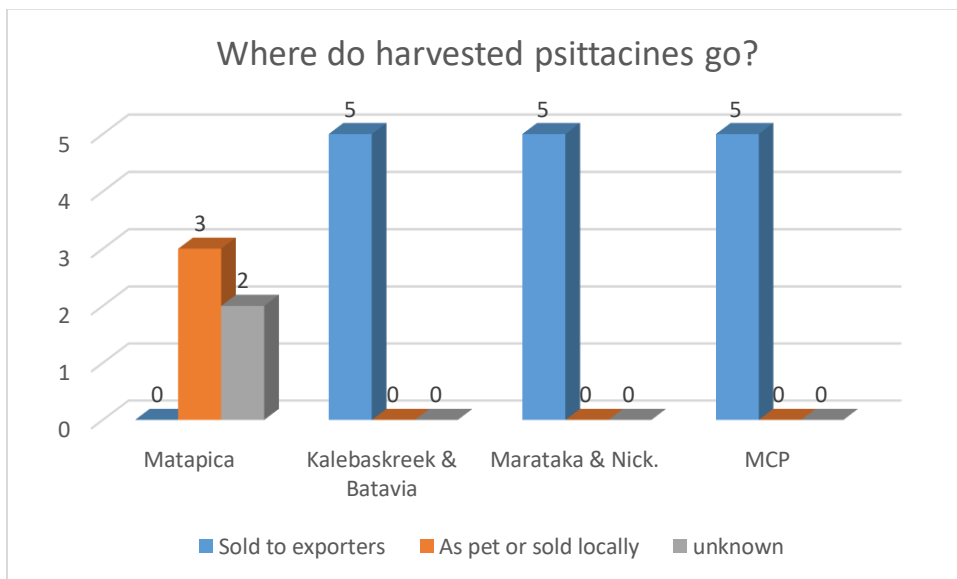
Data that have been gathered via interviews with local people (five in total for each area) in the area of interest is displayed in Graph 5-8.

Graph 5. Reason to harvest



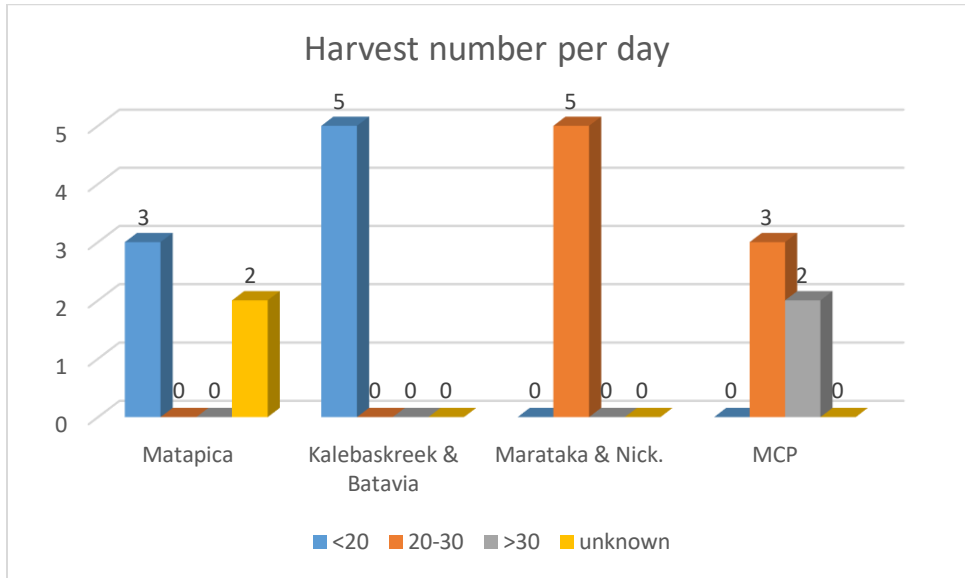
Graph 5, clearly indicates that except for the Matapica area all areas are known harvesting areas and the main reason is to have income and food.

Graph 6. Where do harvested parrot species go?



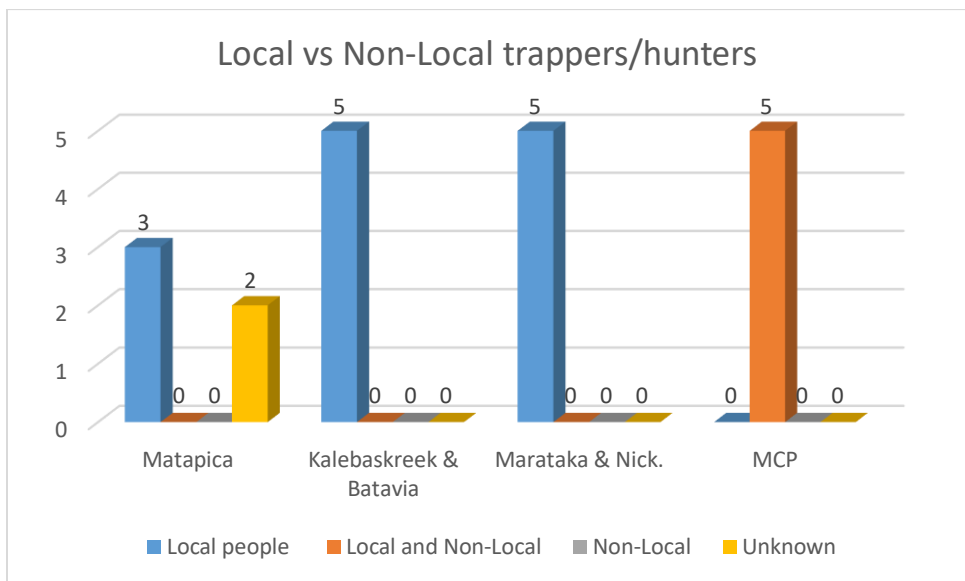
Graph 6, clearly indicates that except for the Matapica area, parrot species from all other areas are being sold to exporters.

Graph 7. Harvest number per day



According to Graph 7, the highest harvest numbers per catcher per day are reached at the Marataka and Nickerie river area and at the MCP.

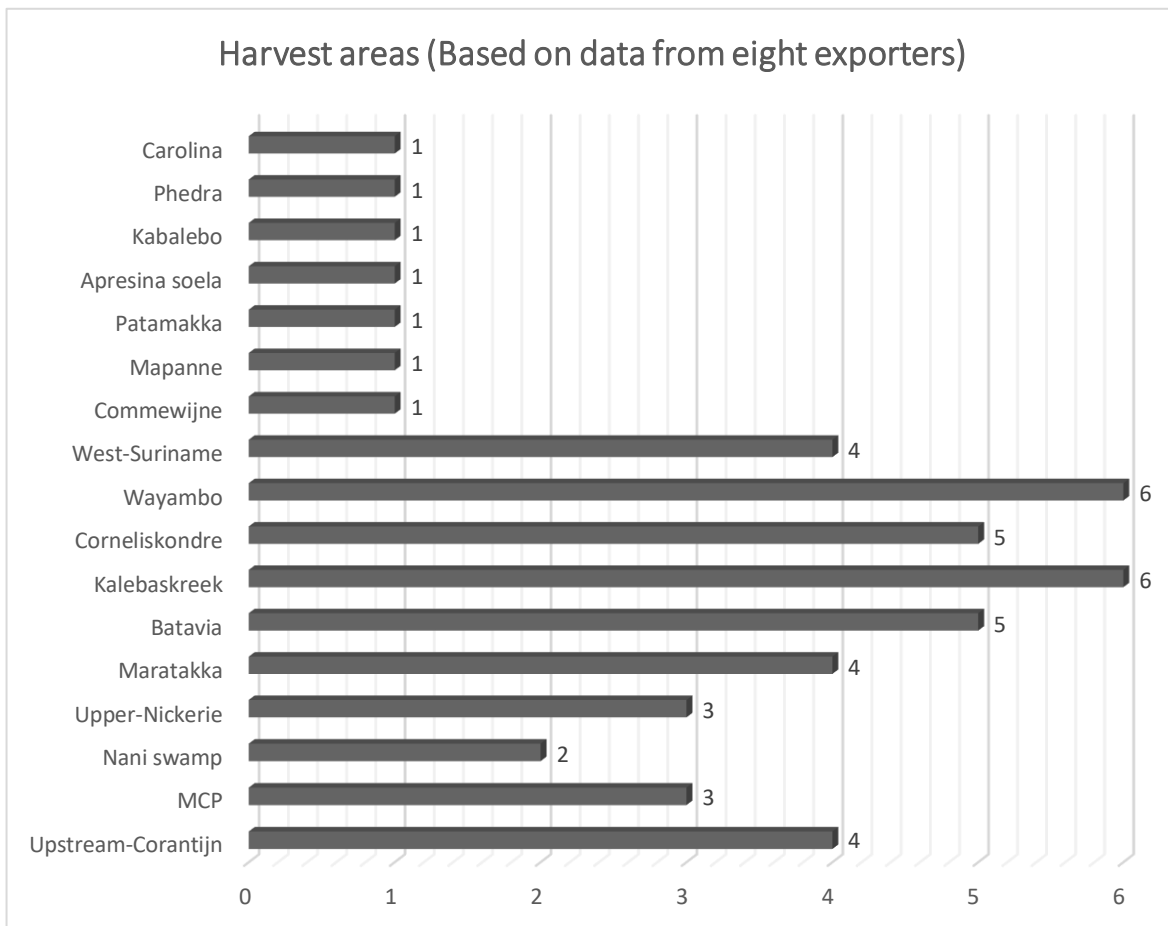
Graph 8. Local vs non-local trappers/hunters



According to Graph 8, all catchers in the MCP are non-local catchers. According to the local interviewees, these non-local catchers are people with the nationality of Guyana. The age of hunters and trappers varies between 18-50 years. According to the interviewees, the psittacines of interest are mostly found and trapped/hunted from May-July (Might be extended till August).

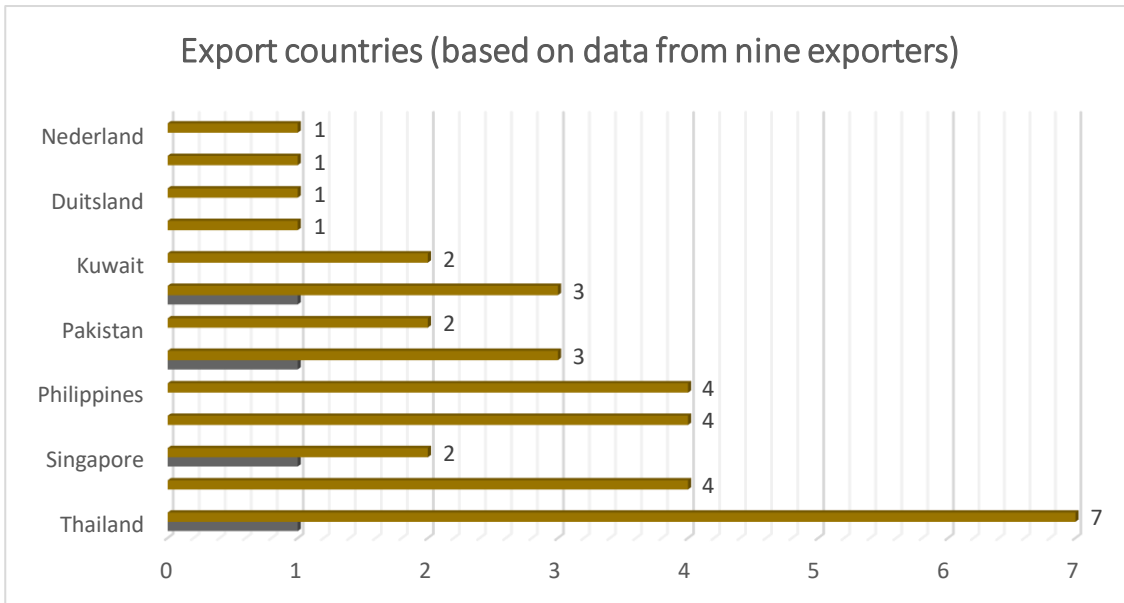
Interviews were held with animal exporters as well. At least nine of the fifteen contacts that have been provided by NCD, have been reached. Below graphs 9-11, provides data on their harvest areas of interest, exporting countries and how their quota refer to the overall field data and the NCD quota (with emphasis on Mealy parrot, Blue-and-yellow macaw and Red-and-green macaw).

Graph 9. Harvest areas



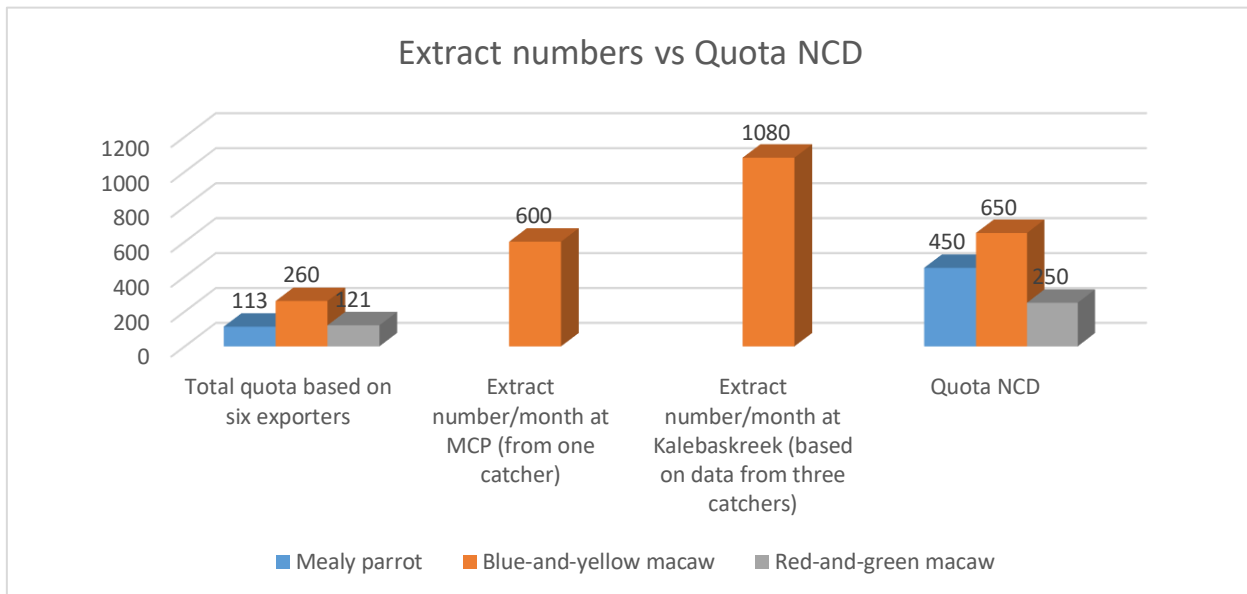
Graph 9, clearly indicates that most Parrots are harvested at Batavia, Kalebaskreek and Wayambo and Corneliskondre.

Graph 10. Export countries



It is quite obvious that the majority of Surinamese parrot species are exported to Thailand, as can be seen in Graph 10.

Graph 11. Harvest numbers vs the NCD quota



Graph 11 provides information on:

- available quota information based on data of six exporters,
- data based on a calculation of harvest numbers with available data from local interviewees at MCP and at Kalebaskreek,
- the actual quota per parrot species of interest.

It is obvious to see, based on field interview data that more is caught than is allowed.

Conclusion and recommendations

All research areas were assessed via waterways. The Matapica swamp was assessed through accessible routes in the swamp. All other areas were assessed via main waterways (Rivers and a canal). The Matapica swamp consists mainly of Black mangrove forest patches and the habitats of most other research areas were all riverine consisting of elements of secondary vegetation and High dryland forest. Only two parrot species of interest have been found; Mealy parrot and Blue-and-yellow macaw. The *Euterpe oleracea* palm fruits have proved to be a welcoming food source along the rivers and were eaten by Blue-and-yellow macaws during the period of assessment. A total of four spots were identified and data on parrot species and numbers, were collected between 15.30 pm – 18.30 pm. These four locations were Karani, Batavia, Bigibere and Tarzan. When comparing species diversity and evenness of each of these locations with each other, it is clear that all these locations do differ in species richness and species number. Interviews with five local people per research area have indicated, that except for the Matapica area all other areas are known harvesting areas and the main reason is to have income and food. The Matapica area was also the only area (according to the local interviewees), where no parrot species are being sold to exporters. It should be stated, that the Matapica swamp was also the only area where none of the three parrot species of interest were found. All catchers in the MCP are non-local catchers. According to the local interviewees, these non-local catchers are people with the nationality of Guyana. Both local interviewees and animal exporters, have claimed that psittacines of interest are mostly found and trapped/hunted from May-July (might be extended till August). Besides interviews with five local people per research area, interviews were held with animal exporters as well. At least nine of the fifteen contacts (of animal exporters) that have been provided by NCD, have been reached. Based on data from eight exporters, most parrot species are harvested at Batavia, Kalebaskreek, Wayambo and Corneliskondre. Data from nine exporters have claimed that the majority of Surinamese parrot species are exported to Thailand. Of interest is to see how much is actually being harvested and what is actually allowed. When comparing data from local interviewees at MCP and Kalebaskreek with actual quota numbers per parrot species of interest, more is caught than is allowed.

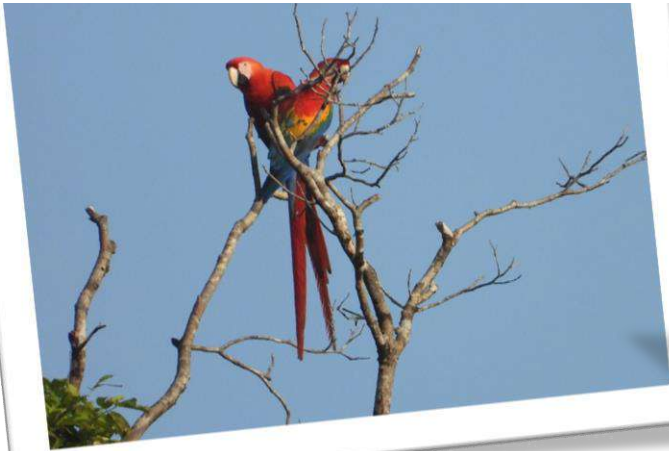
Given the above mentioned observations, the following recommendations can be provided to understand all facts of parrot harvesting and exporting out of Suriname:

- Conduct at least for one year a population study on at least Mealy parrot, Blue-and-yellow macaw and Red-and-green macaw.
 - The following aspects will be covered:

- All mentioned harvest areas appointed by the animal exporters should be assessed (this will increase the chance to find the harvest locations for Red-and-green macaw).
- Field observations during the period of harvest, with consideration to quantify as much as possible of species and numbers that are being trapped.
- Understand the needs of animal exporters and how much is allowed for export.
- Understand how much of parrots species are being exported and how much are dying.
- How much do Local people earn and rely on harvesting and selling parrot species.
- Evaluate how the NCD is anticipating on the needs of the Animal exporters when it comes to providing quota numbers (learn how quota numbers are decided).

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August 5-2022

Population size status of parrot species - A focus on population size of parrot species in known harvest areas

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Introduction

Hunting and trapping of species of parrots, have been observed for years by the Nature Conservation Division (NCD) of Suriname. Interest to assess for parrot species population trends has been raised by CITES, in order to responsibly allow exports of certain parrot species. Without data on species number and how this fluctuate over time, it is hard to manage and allow the export of parrot species. Also is it required according to CITES to get an understanding of the wild populations of Mealy Parrot, Blue-and-yellow Macaw and Red-and-green Macaw (these species will be referred as “the research objects” further in this report). In this regard a pre field study was initiated from March 18-25 2021, to understand the areas where these birds are being trapped and how to approach the areas to understand the species population size. The project purpose was to learn and better understand the locations and habitats of at least these three parrot species (*Amazona farinosa*, *Ara ararauna* and *Ara chloropterus*) in order to propose a population study.

During the pre-study all research areas proposed by the NCD, were assessed via waterways. The North Commewijne swamp was assessed via accessible routes in the swamp. All other areas were assessed via main waterways (Rivers and a canal). The North Commewijne swamp consists mainly of Black mangrove forest patches and the habitats of most other research areas were all riverine consisting of elements of secondary vegetation and high dry-land forest. During the pre-study only two parrot species of interest have been found; Mealy Parrot and Blue-and-yellow Macaw. The *Euterpe oleracea* palm fruits have proofed to be a welcoming food source along the rivers and were eaten by Blue-and-yellow Macaws during the period of assessment. A total of four spots were identified and data on parrot species and numbers, were collected between 15:30 pm – 18:30 pm. These four locations were Karani, Batavia, Bigibere and Tarzan. When comparing species diversity and evenness of each of these locations with each other, all these locations did differ in species richness and species number. Interviews with five local people per research area have indicated, that except for the North Commewijne area all other areas are known harvesting areas and the main reason is to have income and food. The North Commewijne area was also the only area (according to the local interviewees), where no parrot species are sold to exporters. It should be stated, that the North Commewijne swamp was also the only area where none of the three parrot species of interest were found. All catchers in the MCP are non-local catchers. According to the local interviewees, these non-local catchers are people with the nationality of Guyana. Both local interviewees and animal exporters, have claimed that psittacine species of interest are mostly found and trapped/hunted from May-July (Might be extended till August). According to the Game calendar, the open hunting period for Mealy Parrot, Blue-and-yellow Macaw and Red-and-green Macaw is from July-November. Harvesting that is proceeding earlier is therefore illegal. Besides interviews with five local people per research area, interviews were held with animal exporters as well. At least nine of the fifteen contacts (of animal exporters) that have been provided by NCD, have been reached. Based on data from eight exporters, most parrot species are harvested at Batavia, Kalebaskreek, Wayambo and Corneliskondre. Data from nine exporters have claimed that the majority of Surinamese parrot species are exported to Thailand. Of interest is to see how much is actually being harvested and what is actually allowed. When comparing data from local interviewees at MCP and Kalebaskreek with actual quota numbers per parrot species of interest, more is caught than is allowed.

In order to provide data on species numbers, a population study in each area of interest is required. This study was initiated on Augustus 2021, January 2022 and during June and July 2022 (The findings section deals with the results). The aim was to collect data seasonally to understand species numbers throughout certain times of the year.

In the study areas, preference is given to collect data on the three species of interest. Data collection on other psittacine species is also obtained as much as possible along the way, but more in depth analyses based on species diversity and evenness are based on data collected on the three research objects.

The objectives for this parrot population study were set as follow:

- a. Collect information on the abundance and distribution of psittacines, especially that is under the Review of Significant Trade (*Amazona farinosa*, *Ara ararauna* and *Ara chloropterus*), from selected areas in Suriname already visited in the pre-study and others that can also be identified as relevant for the study.
- b. Develop a baseline for Non-Detriment Findings of psittacine species.
- c. Collect data to support the management of quota for psittacines species in Suriname.
- d. Develop specific management strategies, through consultations with stakeholders, to contribute to the overall management plan for psittacines in Suriname.
- e. Develop and produce an informational user's guide on best practices for trapping, transporting and caring for psittacines in the international and domestic trade
- f. Prepare a population study report of the psittacines species in Suriname for the CITES Management and Scientific Authority of Suriname.

Methodology

The methodology applied was versatile. The approach was to collect data via:

- desktop research (historical data from passed field studies/notes)
- Interviews (with local people and the NCD)
- actual field visits (all intended field surveys)

Field survey:

Point counts

One (1) area was subject to the point count method. This area was the island across the village Apoera. Data at the established observation location was collected from 6:00 am – 8:15 am and from 17:00 pm – 19:15 pm.

According to Bibby et al. (2000), the following is considered when applying the point count:

- concentrate fully on the birds and habitats without having to watch where you walk;
- more time available to identify contacts;
- more likely to detect the cryptic and skulking species;
- easy to relate bird occurrence to habitat features.

According to Bibby et al. (2000), weather conditions such as low cloud, strong winds, rainfall and very high temperatures can affect census results. Census results can be impacted, because regarding to Bibby et al. (2000), bird activity will be reduced; the conditions reduce your chances to see and hear birds, and you might be less alert (since you are too hot, too cold or wet). To decrease impact of bad weather during

collection of bird data, collection was done under good weather conditions, meaning that data collection took place during light wind and no precipitation.

For all other areas, see Table 1 below, data were collected on river transects.

Table 2. Locations of river transects

River/tributary	known harvest areas
Coppename	Karani
Wayambo	Corneliskondre
Maratakka	Bigibere
	Morotokko
Cottica	Cottica
Barbacoeba	Barbacoeba
MCP	Tarzan
Corantijn	Kaburi
	Island Apoera

According to Joyner (2021), fixed river transects are ideally deployed in areas of known parrot species presence (especially for the species of interest). The following is considered during implementation of this protocol:

- Conduct counts for two hours and a quarter: 30 minutes before sunrise and 105 minutes after, and 90 minutes before sunset and 45 minutes after on transects that are located in well-known harvest areas.
- Cover a stretch of 500 m within 15 minutes time, when doing the river transect count on the river. (This will make a total of 4500 m distance within the two hour counting session). Consideration to manage motor noise is important in order to maximally understand and hear bird sounds.
- Have a downstream and upstream transect, that both start 500 m away from an established spot (this spot is well known for parrot harvesting and might function as basecamp as well). All upstream river transects and downstream river transects, will each be subjected to a morning and afternoon count.

During the river transect counts, coordinates of each 500 m point, have been obtained to draw maps of each transect.

The coordinates of each point and transect, is presented on maps that have been drawn via QGIS ver. 3.18.3.

Bird identifications were verified, if necessary, via the Field Guide to the Birds of Suriname (Spaans et.al. 2018).

All statistical analysis have been conducted via the following software programs (except for Ms. Excel 2013):

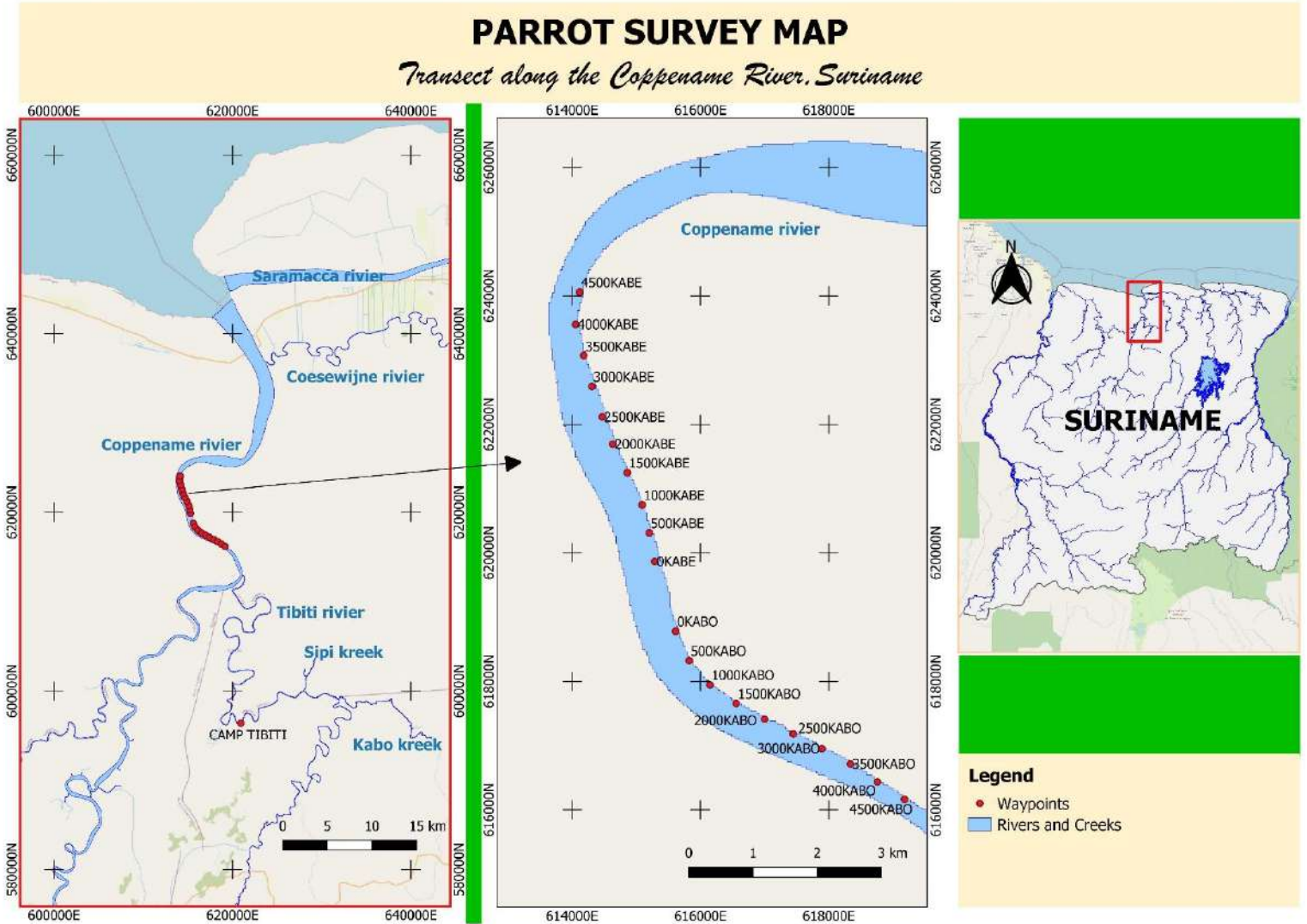
- Species Diversity and Richness version 4.1.2
- Primer 6 version 6.1.16

Research area(s)

A total of nine locations have been surveyed. Below you will find maps of the different locations.

Map 1.

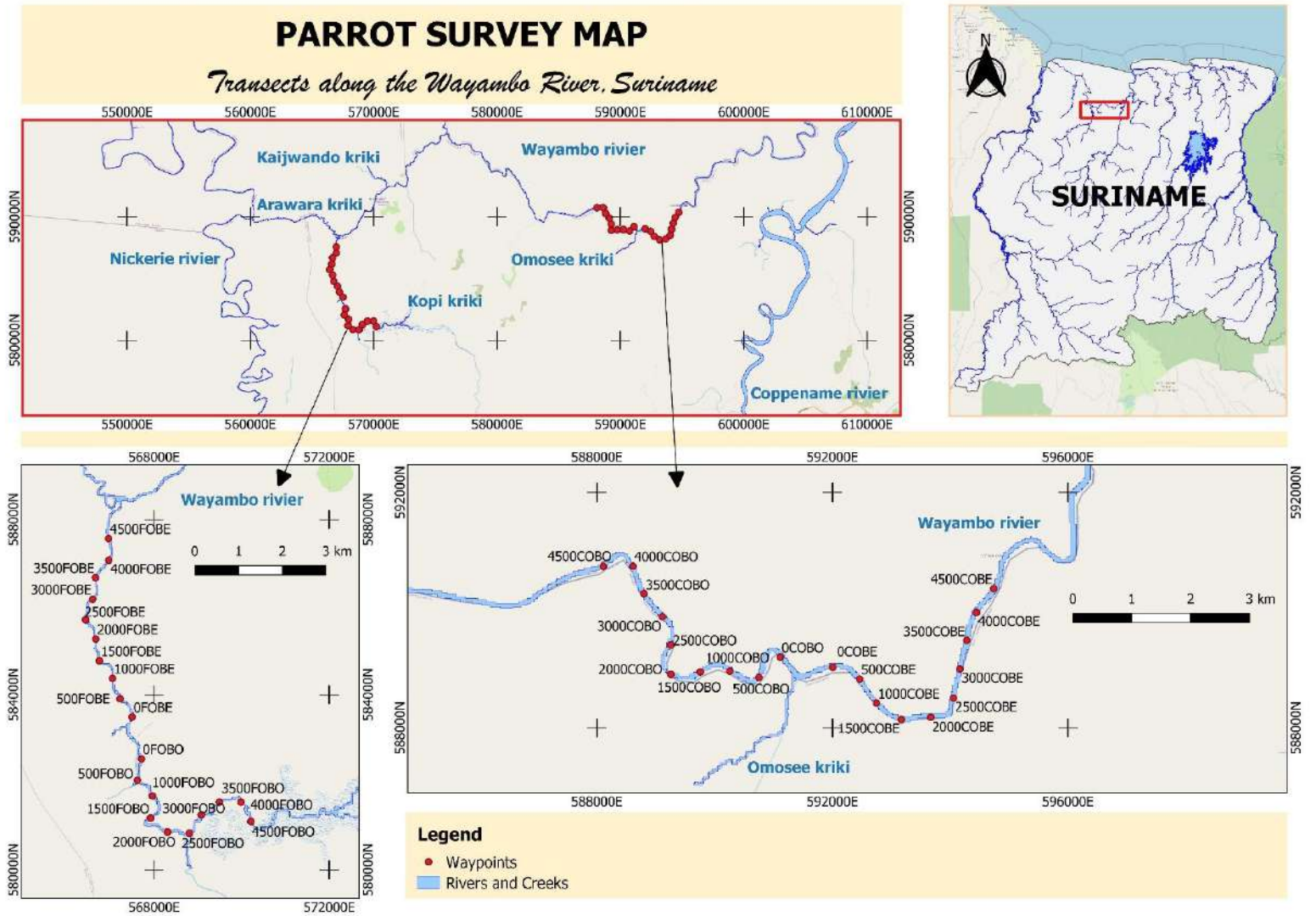
River transects along the Coppename River



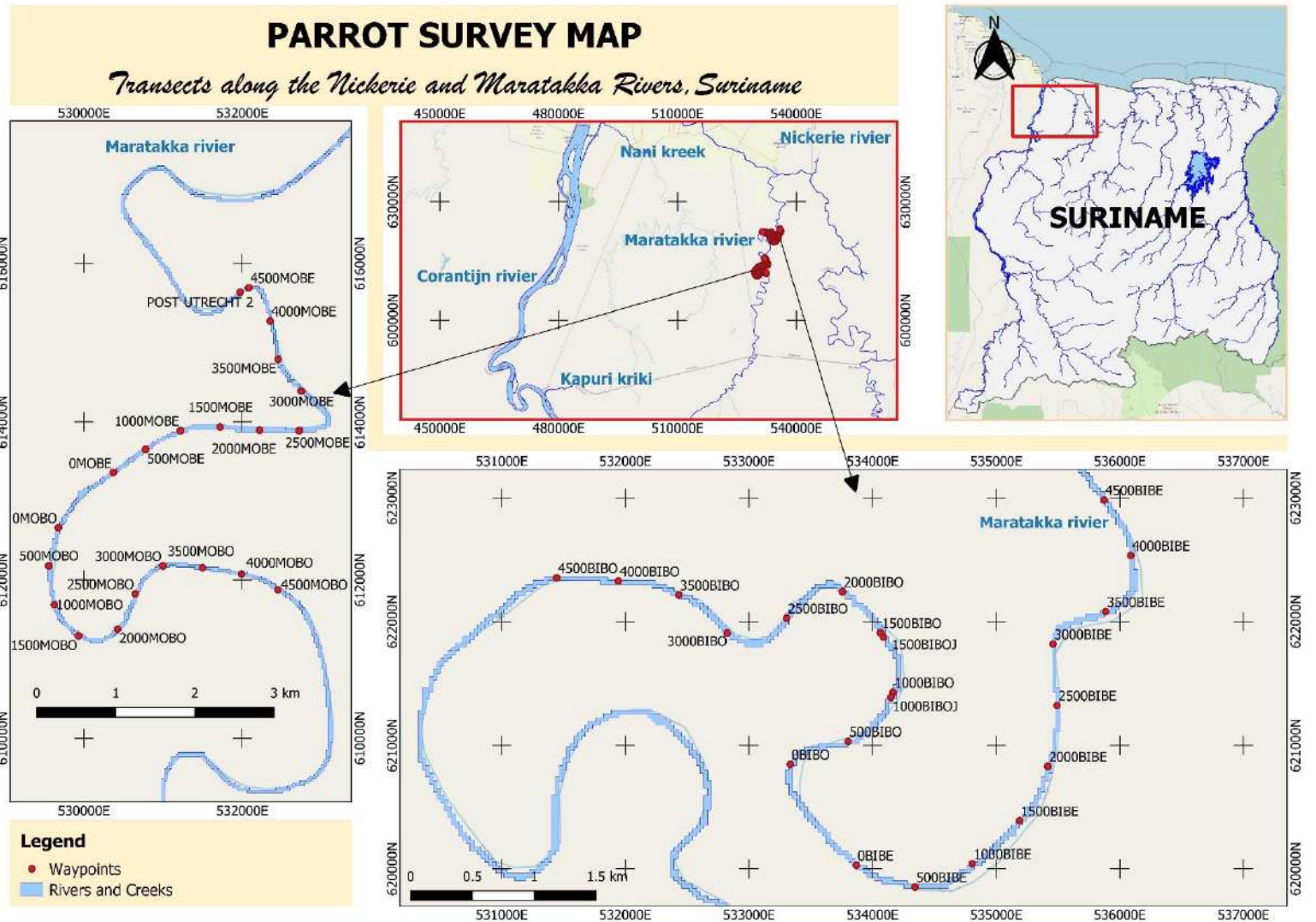
KABE=Karani beneden (downstream)

KABO=Karani boven (upstream)

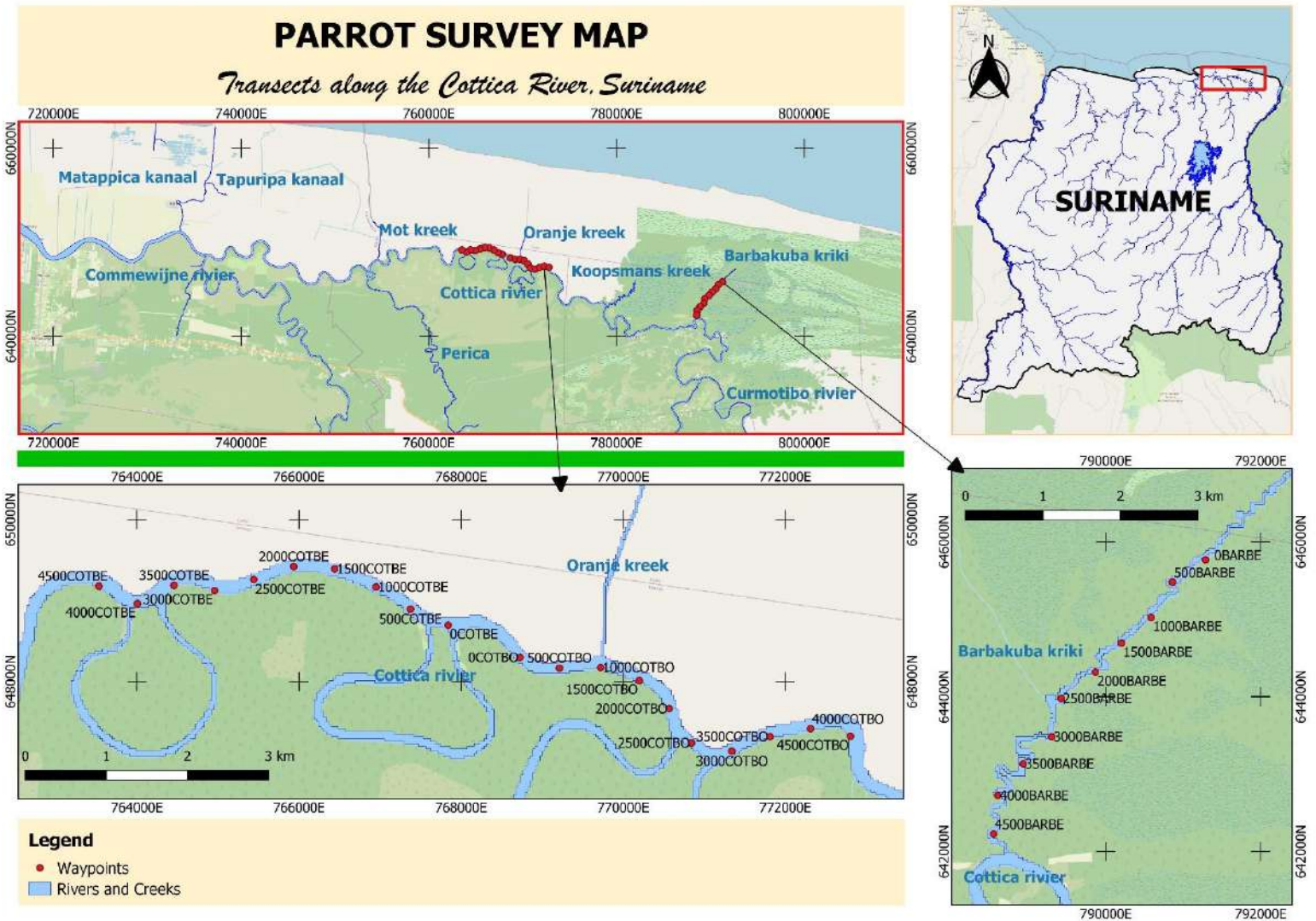
Map 2. River transects along the Wayambo River



Map 3. River transects along the Nickerie and Maratakka rivers



Map 4. Transects along the Cottica River

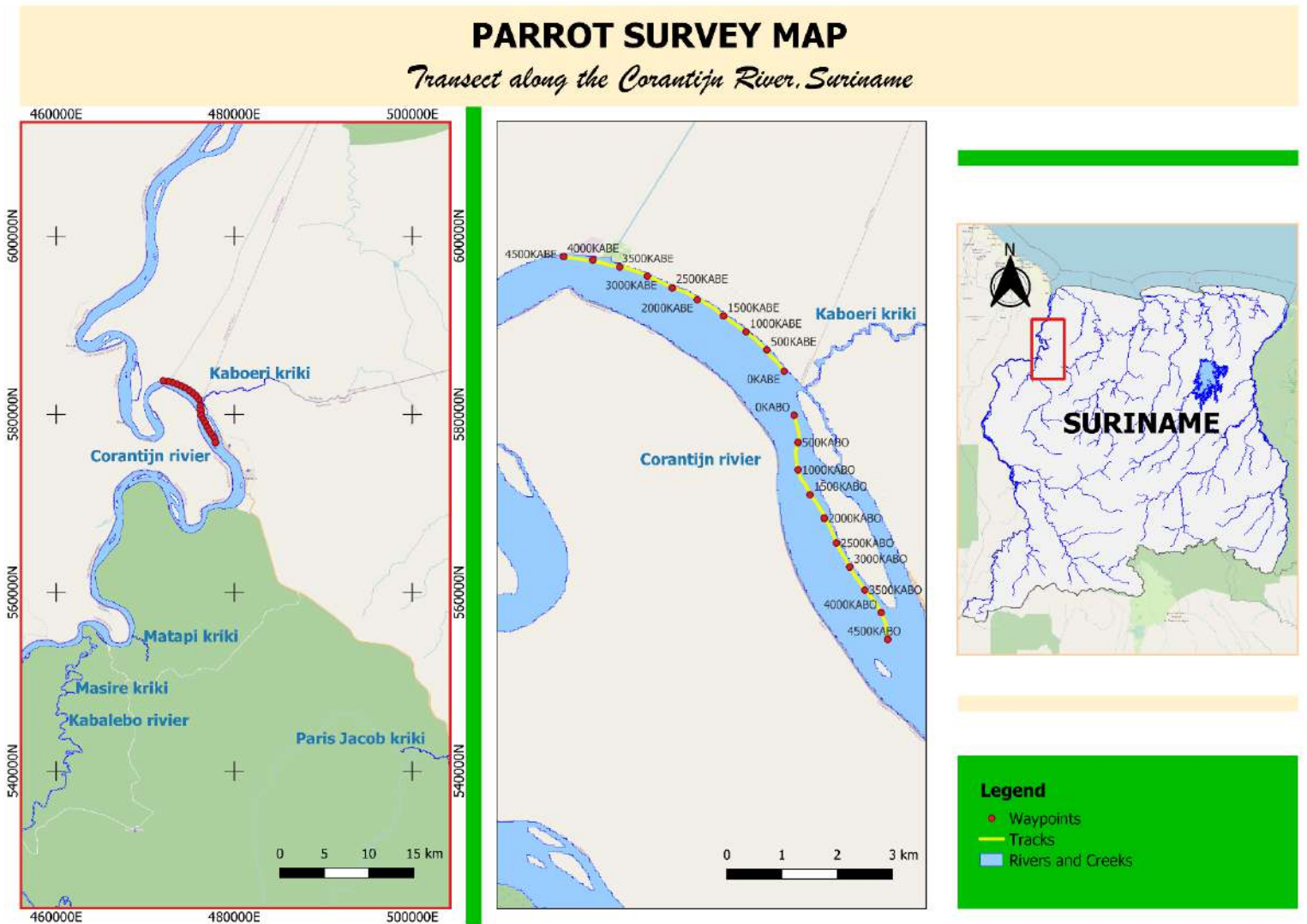


COTBE= Cottica beneden (downstream)

COTBO= Cottica boven (upstream)

BARBE= Barbacoeba

Map 5. Transect along the Corantijn River

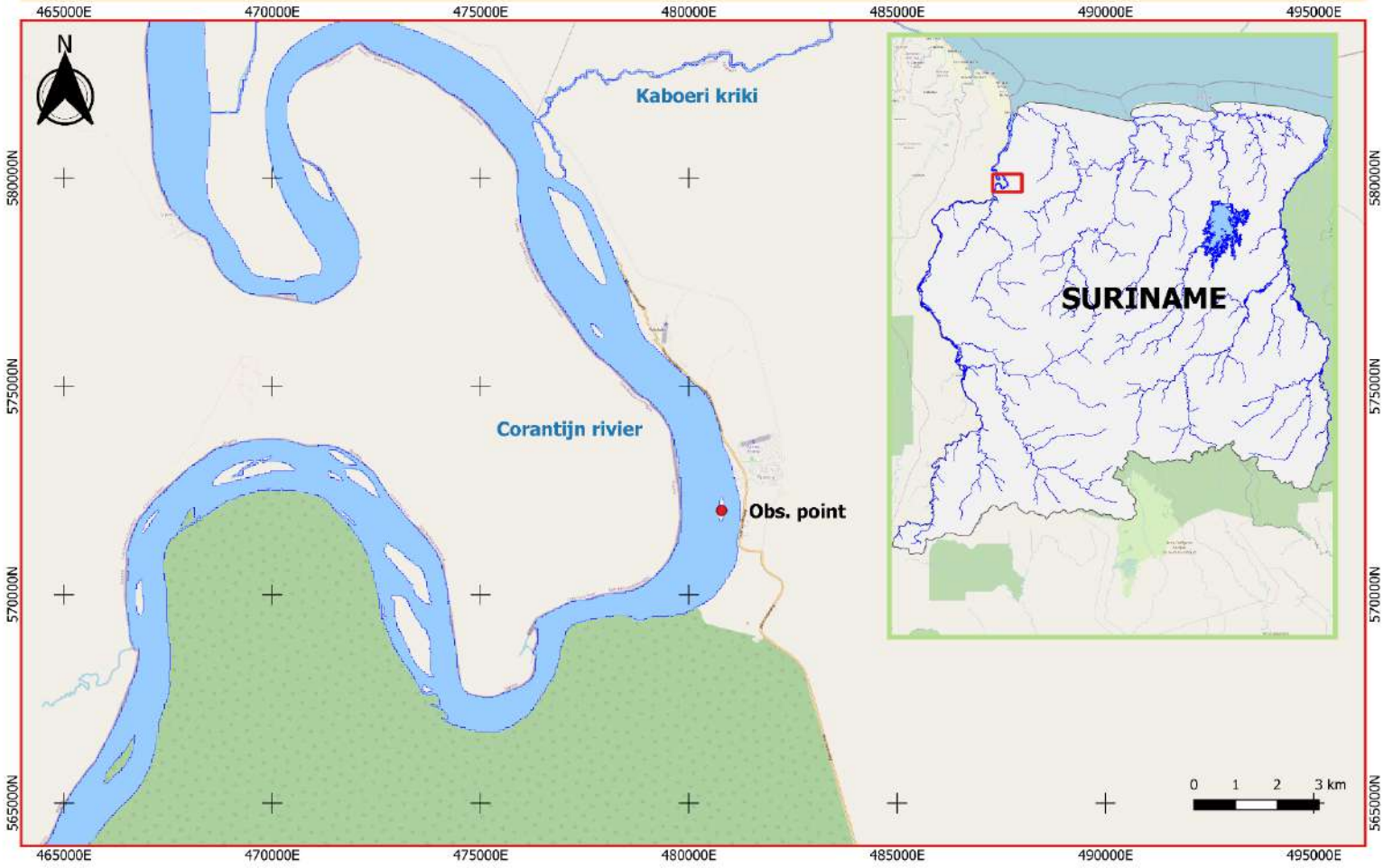


KABE= Kaboeri beneden (downstream)

KABO= Kaboeri boven (upstream)

Map 6. Island across Apoera

PARROT SURVEY MAP

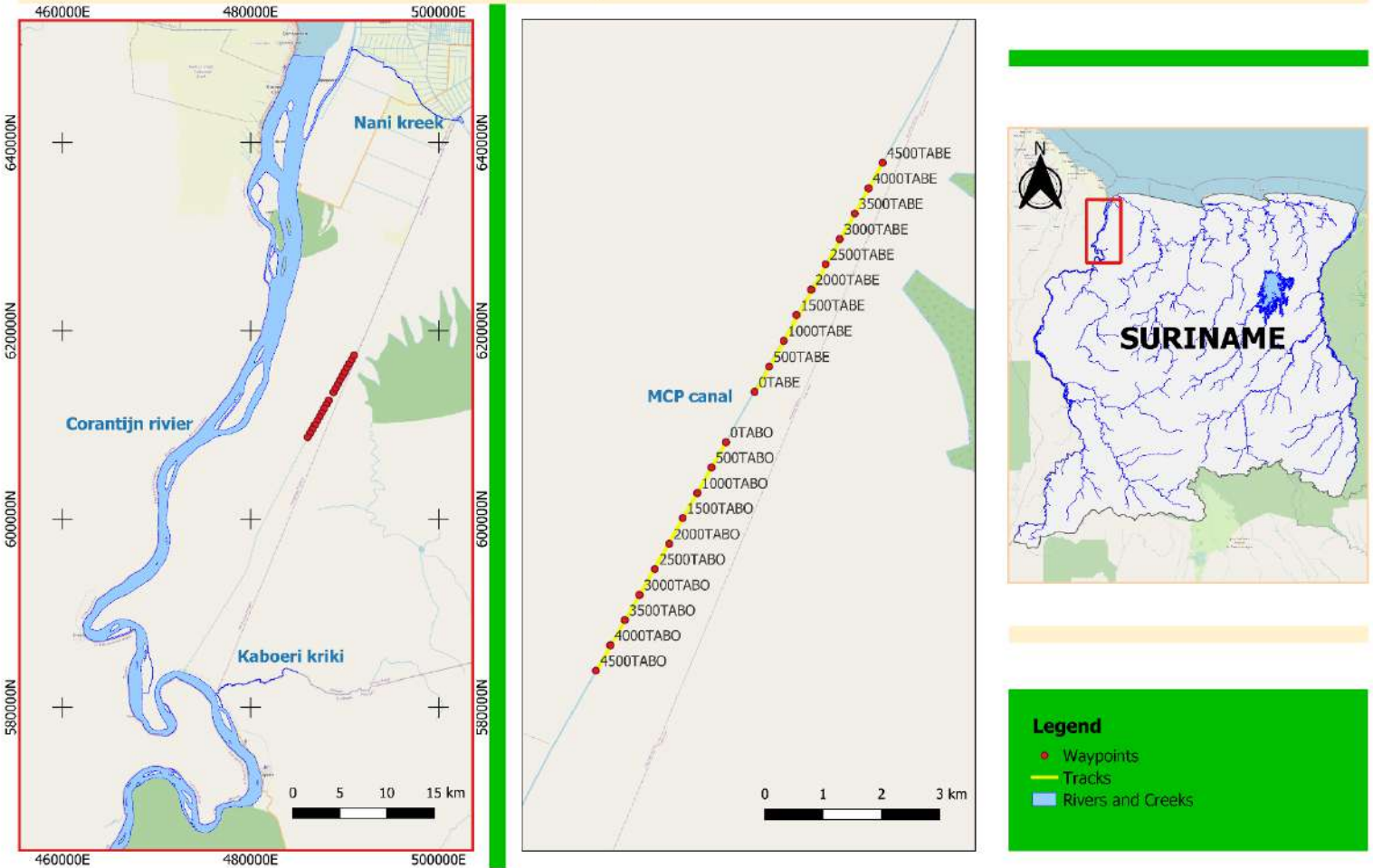


Obs. point= island across the village Apoera

Map 7. Transect within the MCP canal

PARROT SURVEY MAP

Transect along the MCP Canal, Suriname



TABE= Tarzan beneden (downstream)

TABO= Tarzan boven (upstream)

Findings

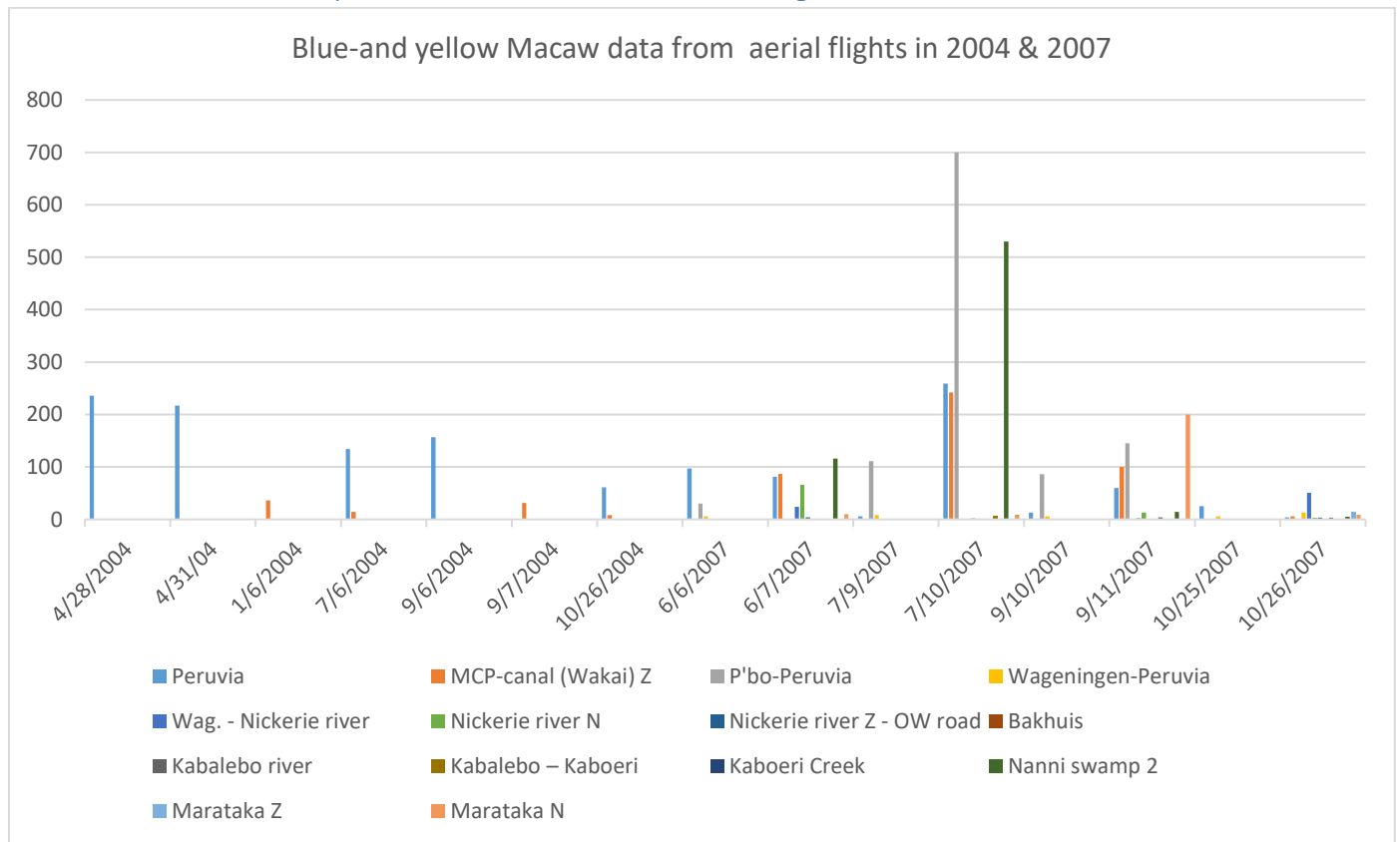
Historical data/findings on the research objects

The historical data is based on data from three separate parrot population studies that have been initiated in pass years and partly on what is available within existing literature.

Blue-and yellow Macaw

Below Chart provides an overview of data collected on Blue-and yellow Macaws derived from Ottema (2005) and Ottema (2008).

Chart 1. Blue-and yellow Macaw data from aerial flights in 2004 & 2007



According to chart 1, the highest number for Blue-and yellow Macaw, were observed in 2007 with a total number of 700 individuals (obtained on route Paramaribo (P'bo)-Peruvia).

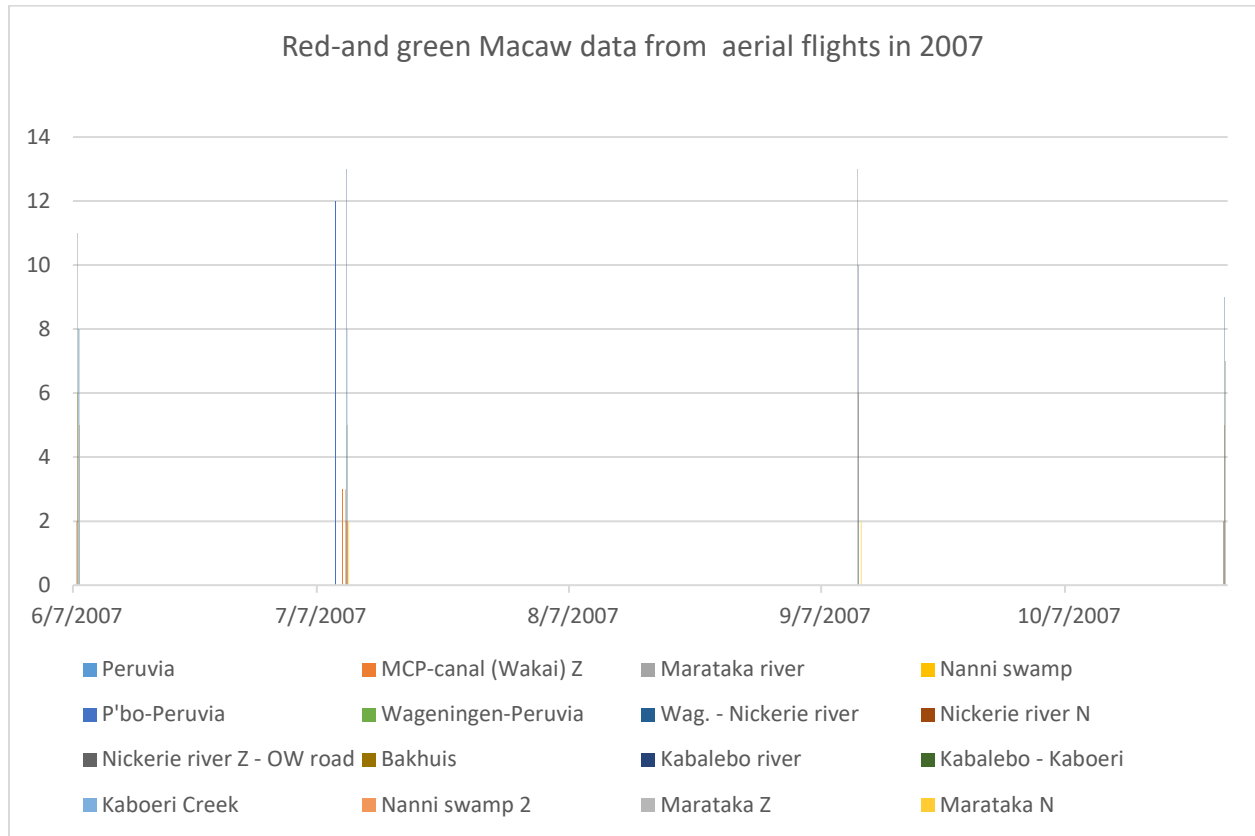
Schouten (1995), observed the highest number of Blue-and yellow Macaws near the Coppename River with a total of 1800 individuals. The count was initiated on August 1994 and was done by aerial survey.

Haverschmidt & Mees (1994), have stated that this macaw is among the most numerous species which is more confined to the coastal area. As classified by Spaans et al. (2018) & Spaans et al. (2009), the habitats where this species is common are the Coastal Area, Lowland Forest and the Sipaliwini Savanna.

Red-and green Macaw

Below Chart provides an overview of data collected on Red-and green Macaws derived from Ottema (2008). Only data on species level was extracted, since Ottema (2008), had unidentified Red Macaw species as well over 2004 and 2007.

Chart 2. Red-and green Macaw data from aerial flights in 2007



According to Chart 2, the highest number of observed Red-and green Macaw was 13 for both the Nickerie- and Kabalebo River.

The highest count via aerial flight conducted by Schouten, yield a total number of 147 individuals on August 1994 (Schouten, 1995). Schouten (1995), Haverschmidt & Mees (1994), Spaans et al. (2018) & Spaans et al. (2009), have observed this particular Macaw species to be confined to the interior. According to Spaans et al., 2018 & Spaans et al., 2009, the Red-and green Macaw is common found in Humid Forests and High Dryland Forests. According to Haverschmidt & Mees (1994) this species is known for its wide distribution in Suriname as well.

Mealy parrots

Chart 3. Mealy Parrot data from aerial flights in 2007

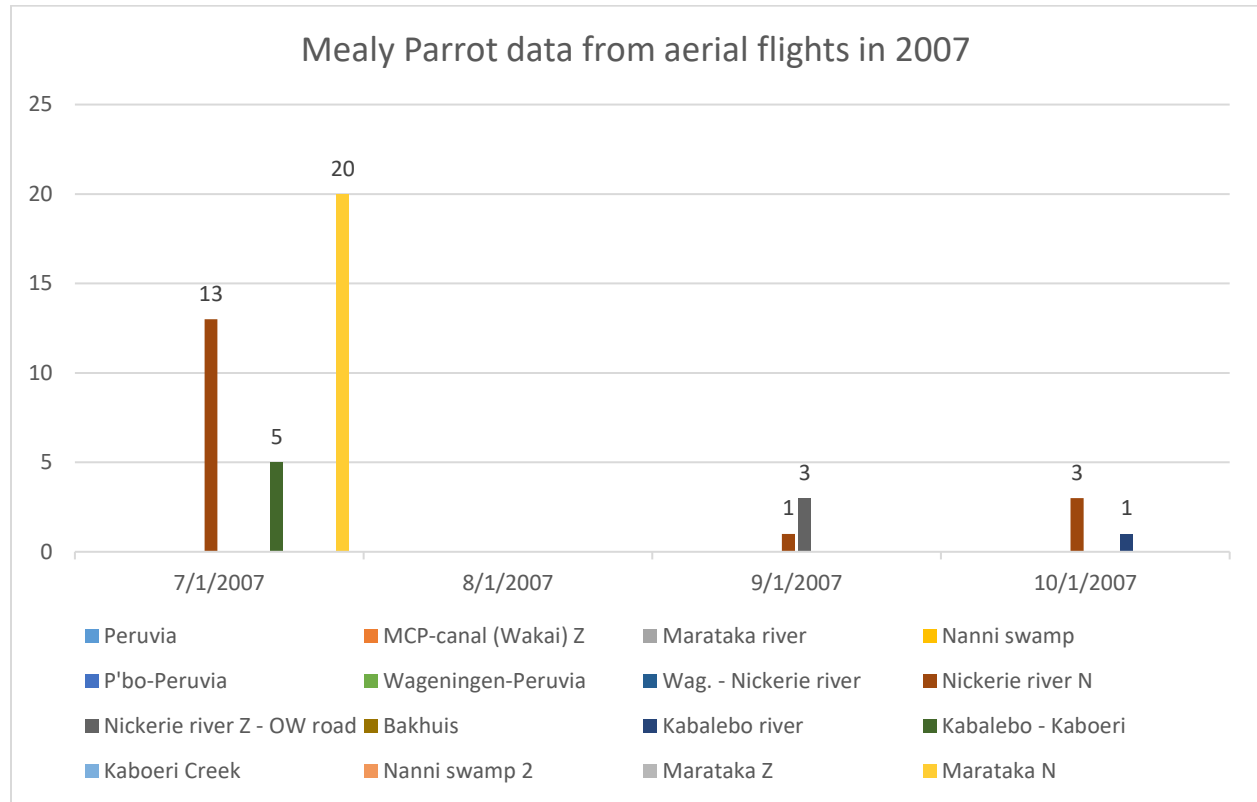


Chart 3, indicates that the highest count was observed in the Maratakka with a total of 20 individuals.

According to Spaans et al., 2018 & Spaans et al., 2009, the Mealy Parrot is common found in Lowland Forest and in the Northern Savanna area of Suriname. Haverschmidt & Mees (1994), support this occurrence, and have stated that not only is this parrot species mostly found in forests along rivers and Savanna forests, but it will likely occur on forested sand-ridges in July and August as well.

Findings during the 2021-2022 field surveys (based on river transect data and one point count data set)

Below charts indicate numbers of species encountered per 500 m stretch per location.

Location Karani

Chart 4. Transect Karani (17-8-'21)

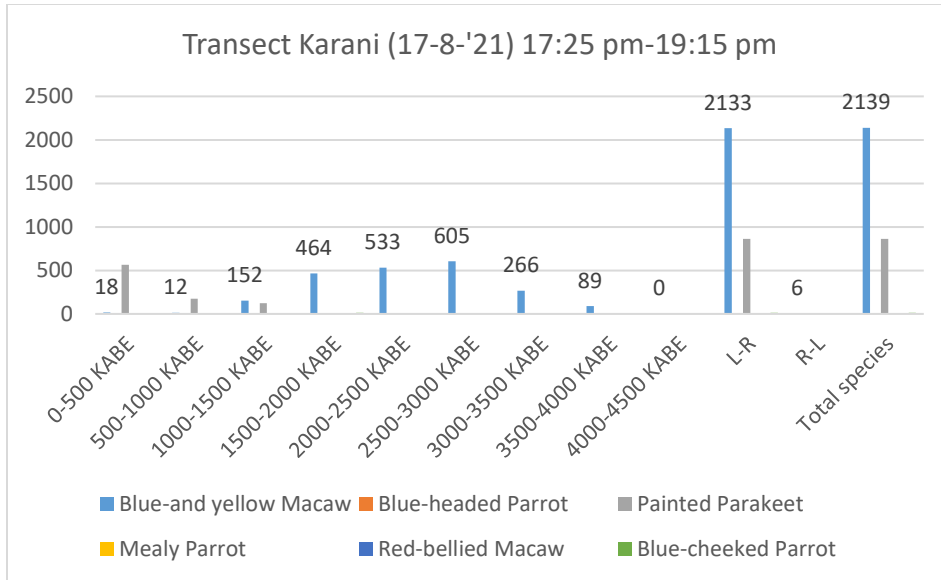


Chart 5. Transect Karani (18-8-'21)

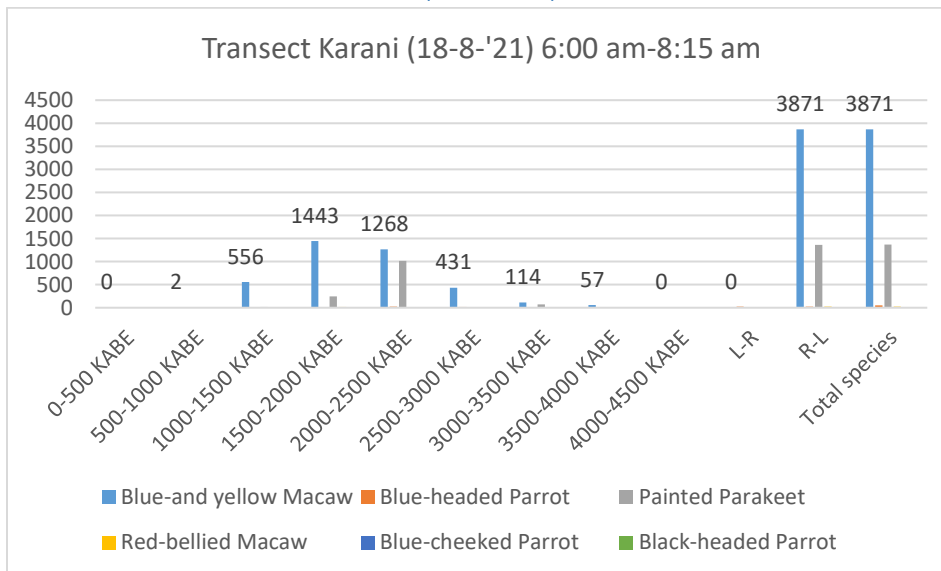


Chart 6. Transect Karani (19-8-'21)

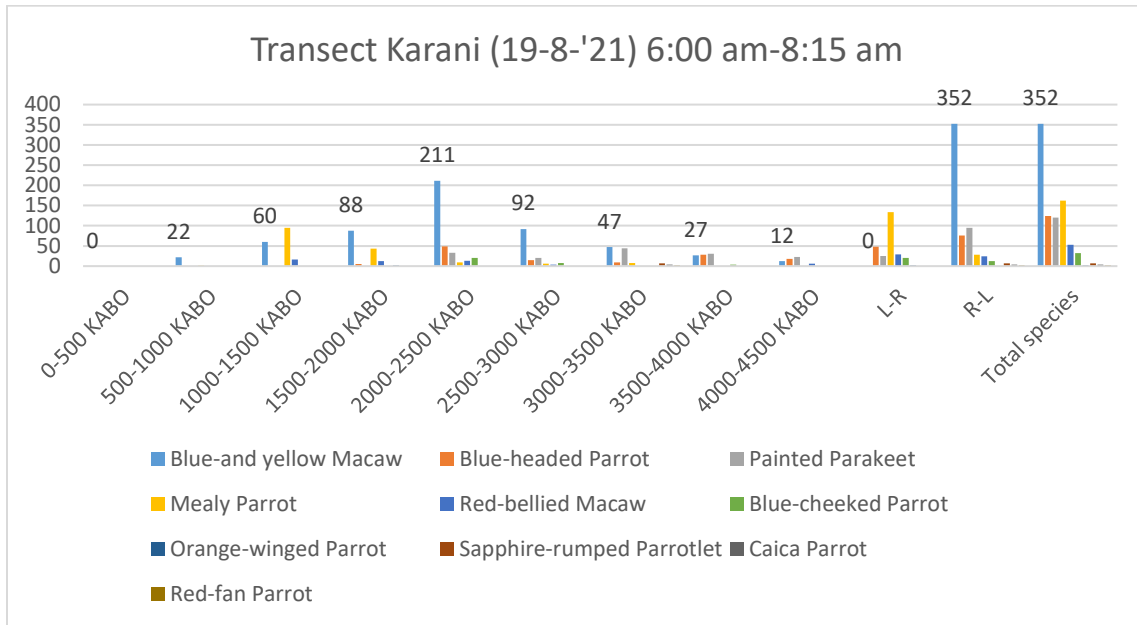


Chart 7. Transect Karani (6-1-'22)

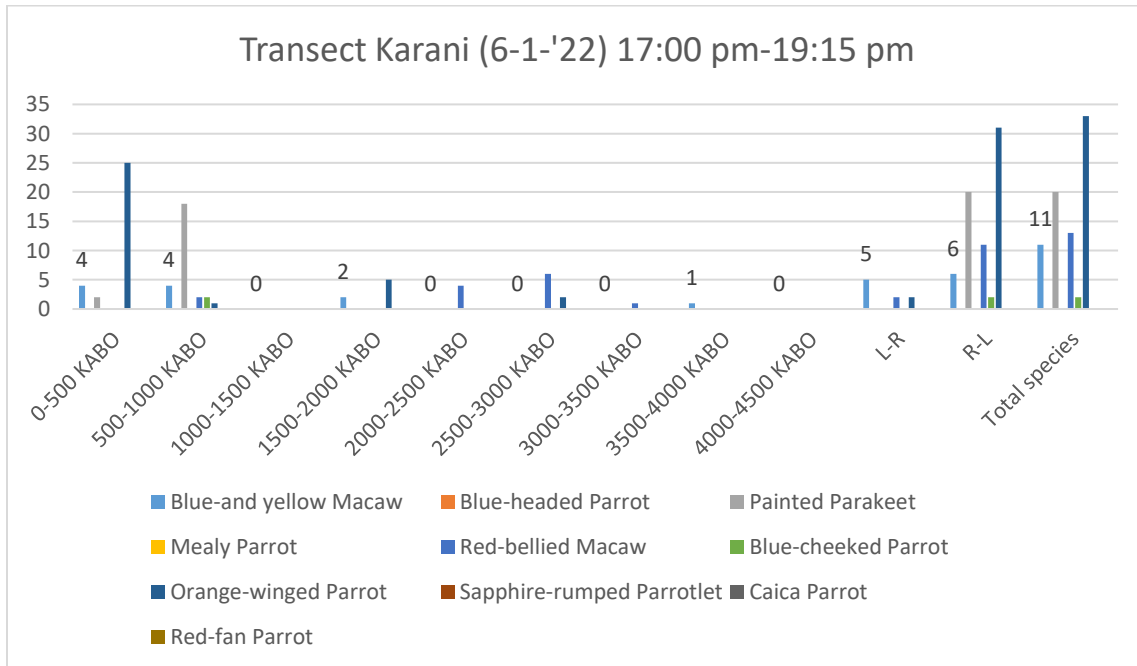
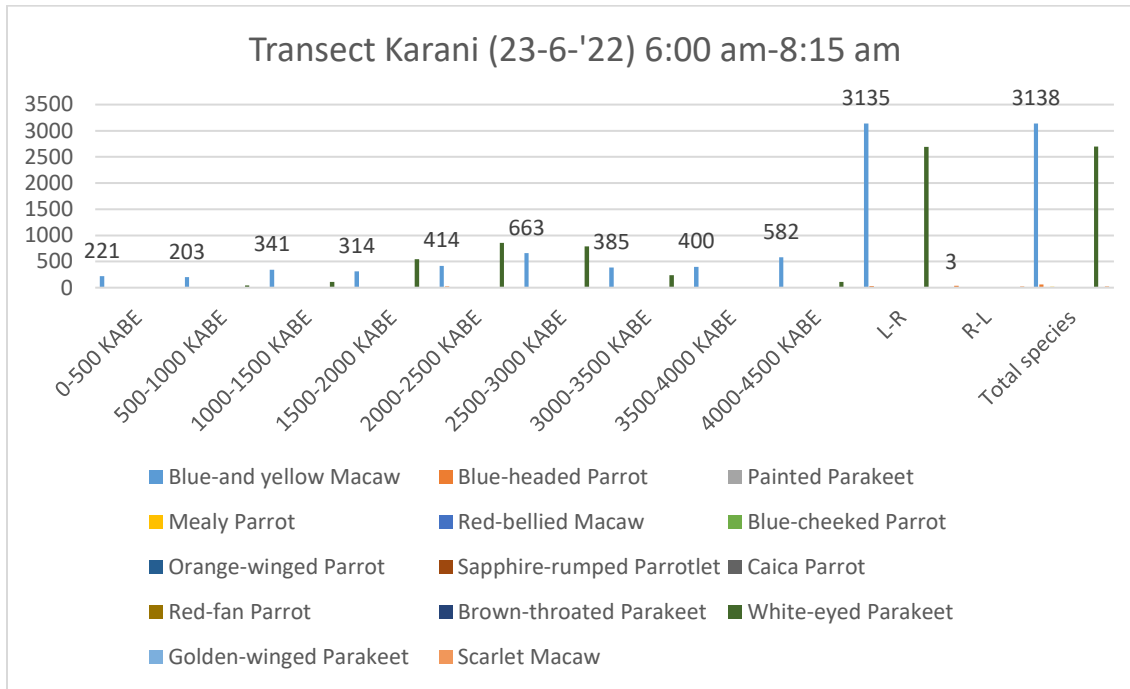


Chart 14. Transect Karani (23-6-'22)



A total of fourteen parrot species have been observed at Karani. The Ara species that was encountered was the Blue-and yellow Macaw, which was most of the time in the majority of parrot species. The highest number at the downstream transect was a total of 3871 individuals. A total of 162 Mealy Parrots were observed on the upstream transect. Red-and green Macaws, were absent.

Location Corneliskondre

Chart 15. Transect Corneliskondre (21-8-'21)

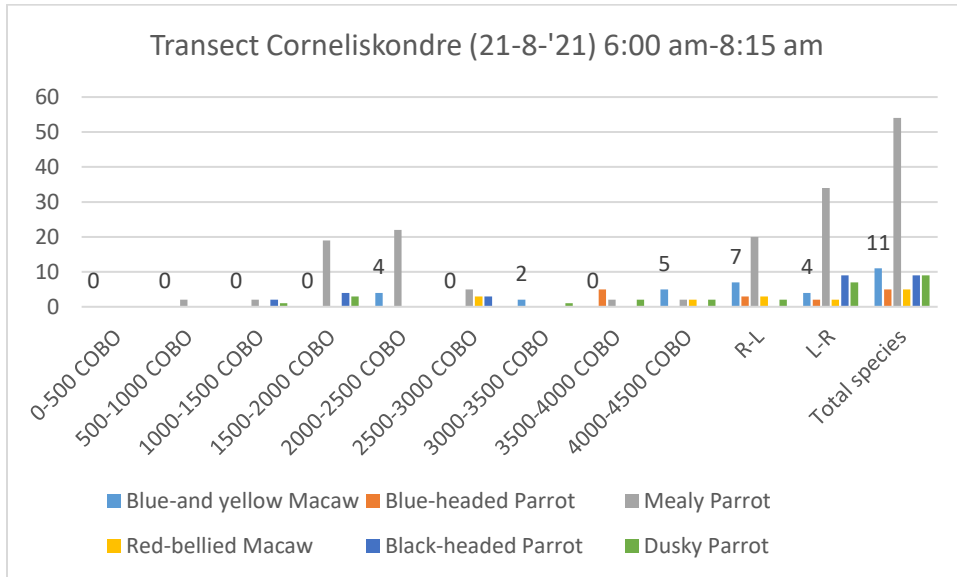


Chart 16. Transect Corneliskondre (21-8-'21)

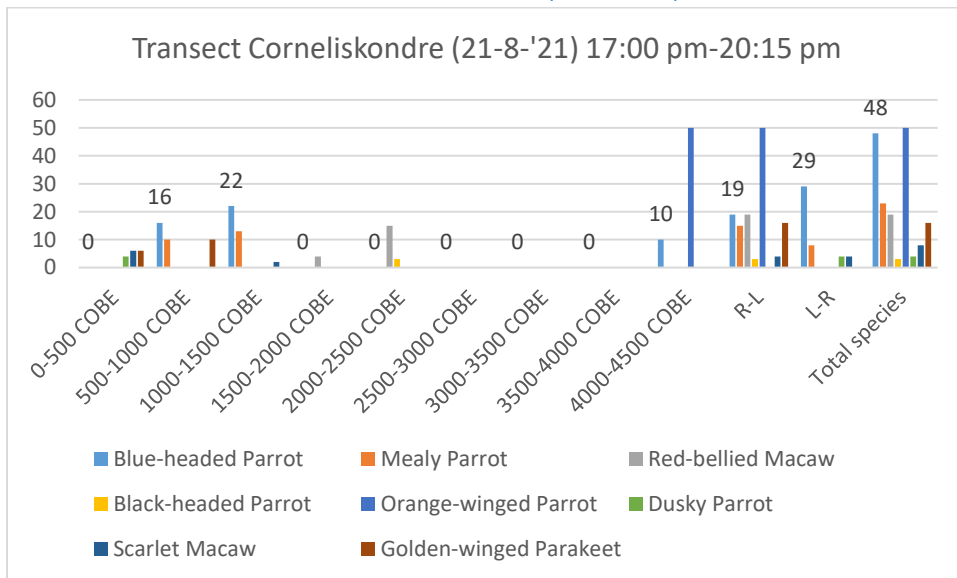
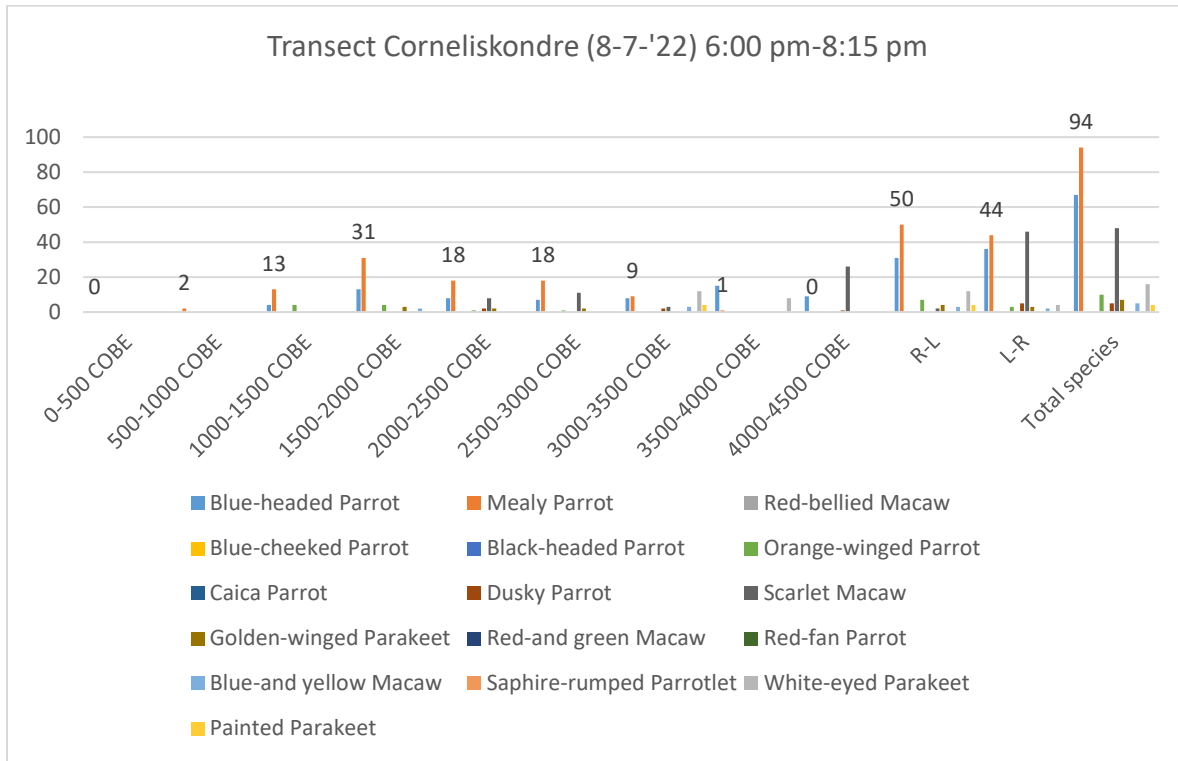


Chart 23. Transect Corneliskondre (8-7-'22)



A total of fifteen species of parrots have been identified and encountered at Corneliskondre. Both Blue-and yellow Macaw and Mealy Parrot are present and are sometimes in the majority of the observed parrot species. The highest number for Blue-and yellow Macaws was reached with a total number of 117 on the upstream transect. The highest number for Mealy Parrot with a total number of 94, was reached on the downstream transect. A total of four Red-and green Macaws were observed on the downstream transect.

Chart 26. Transect Bigibere (25-8-'21)

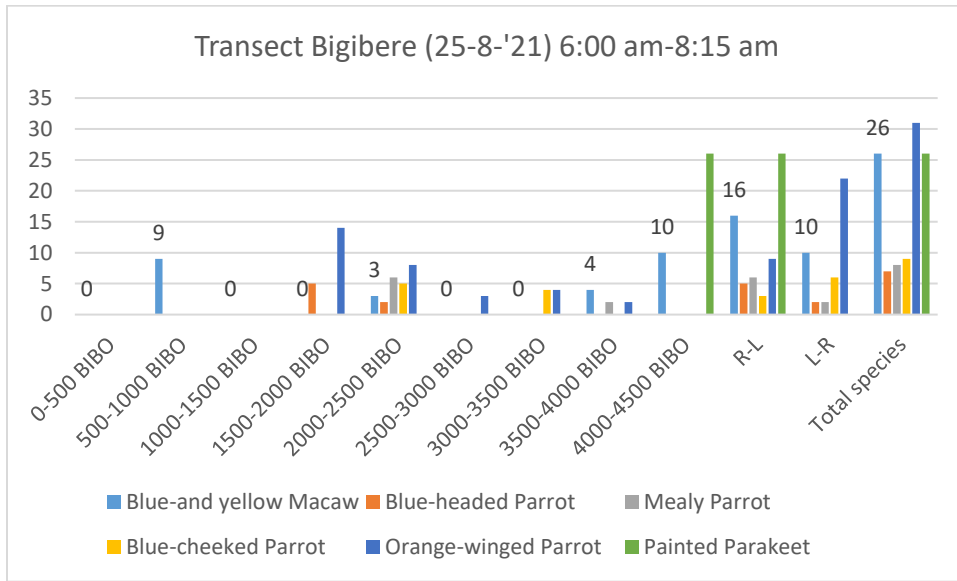


Chart 27. Transect Bigibere (8-1-'22)

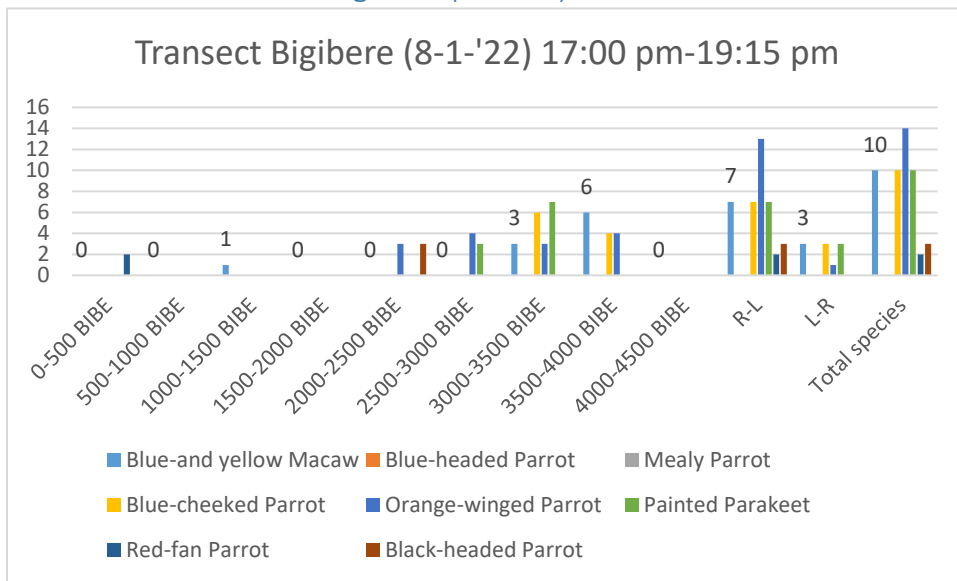


Chart 28. Transect Bigibere (9-1-'22)

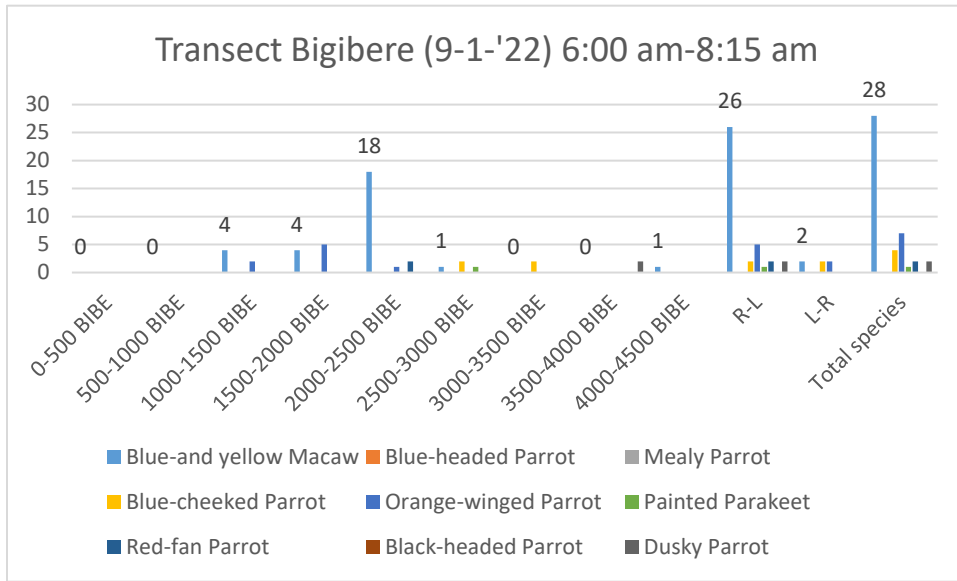


Chart 29. Transect Bigibere (9-1-'22)

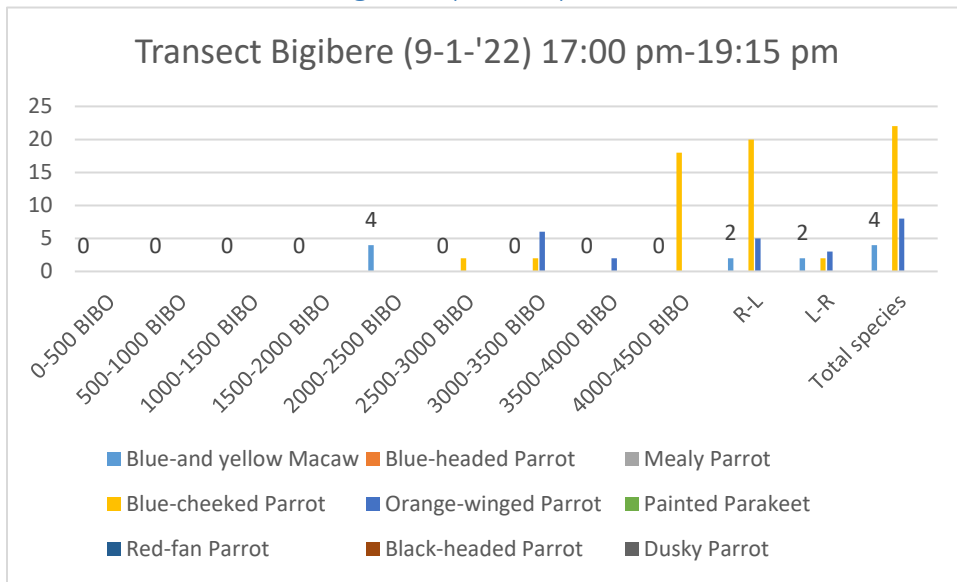


Chart 30. Transect Bigibere (10-1-'22)

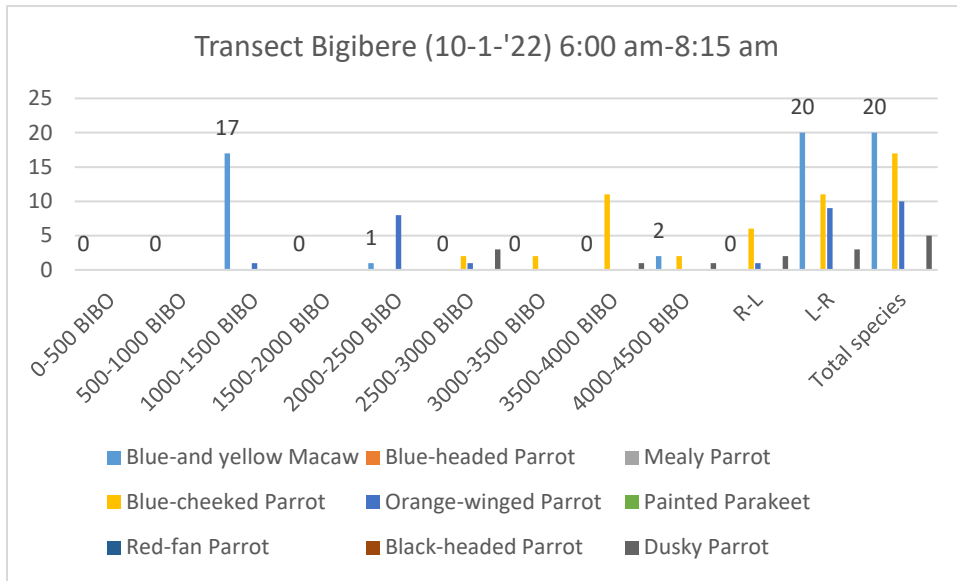
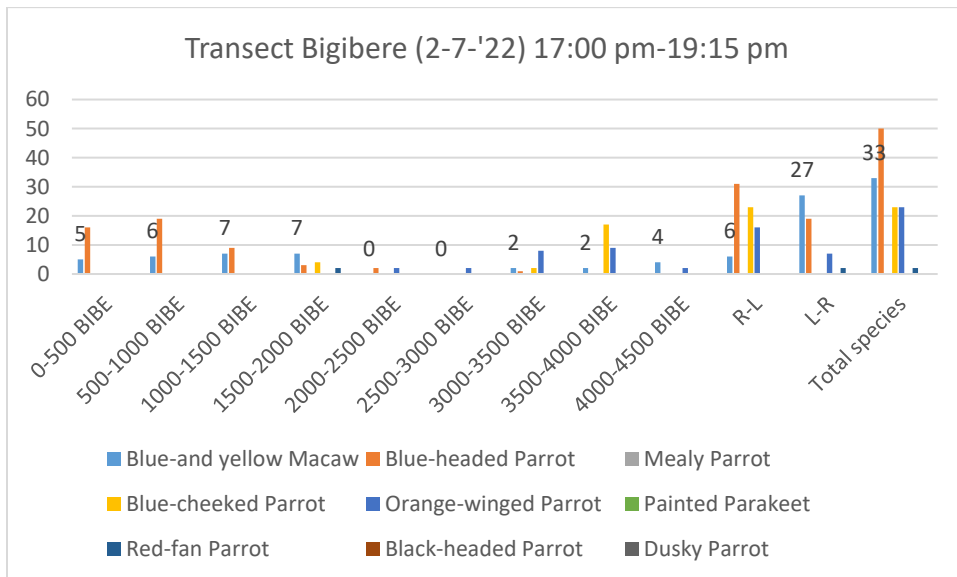


Chart 31. Transect Bigibere (2-7-'22)



A total of twelve parrot species were encountered at Bigibere. The highest number for Blue-and yellow Macaw was 128 and was observed on the downstream transect. With a total of eight, the highest number for Mealy Parrots were observed on the upstream transect. No Red-and green Macaws were observed.

Location Morotokko

Chart 34. Transect Morotokko (25-8-'21)

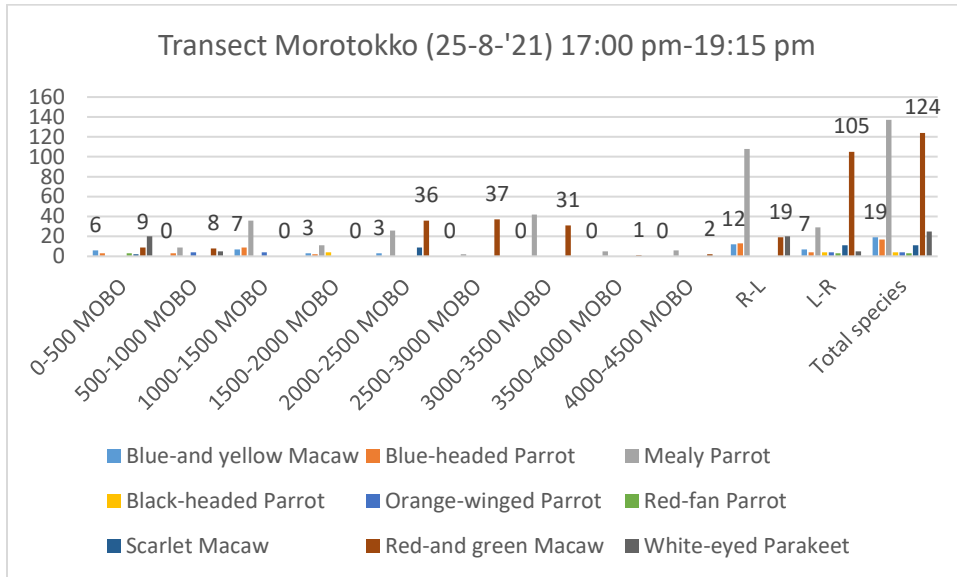
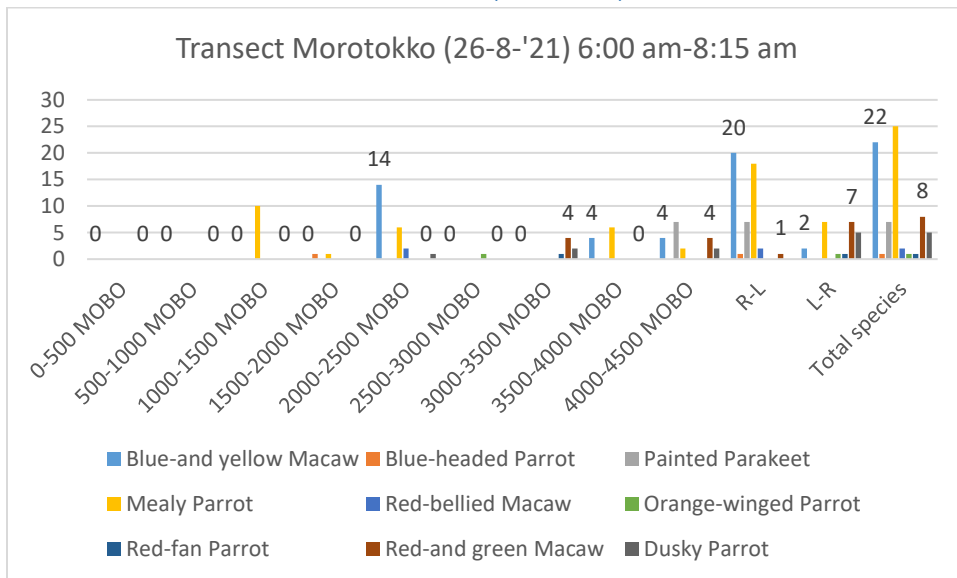


Chart 35. Transect Morotokko (26-8-'21)



A total of fourteen parrot species were encountered on both transects at Morotokko (both downstream and upstream). The highest number observed for Blue-and yellow Macaws, was reached on the downstream transect with a total of 42. Red-and green Macaws were observed as well, and the highest number was reached on the upstream transect, with a total of 124 individuals. The upstream transect also yield with highest Mealy Parrot numbers. A total of 137 Mealy Parrots were observed.

Location Barbacoeba

Chart 44. Transect Barbacoeba (28-8-'21)

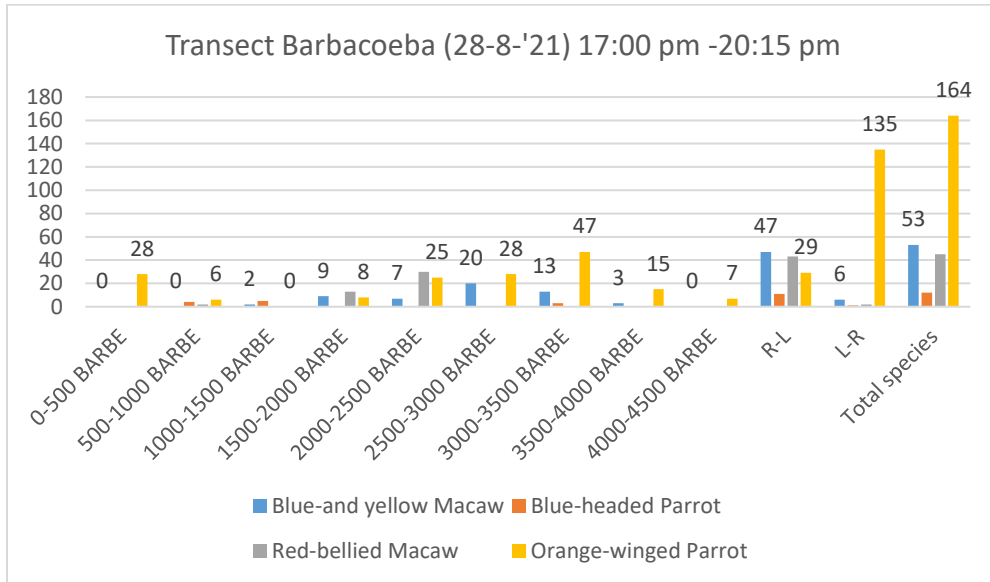


Chart 45. Transect Barbacoeba (29-8-'21)

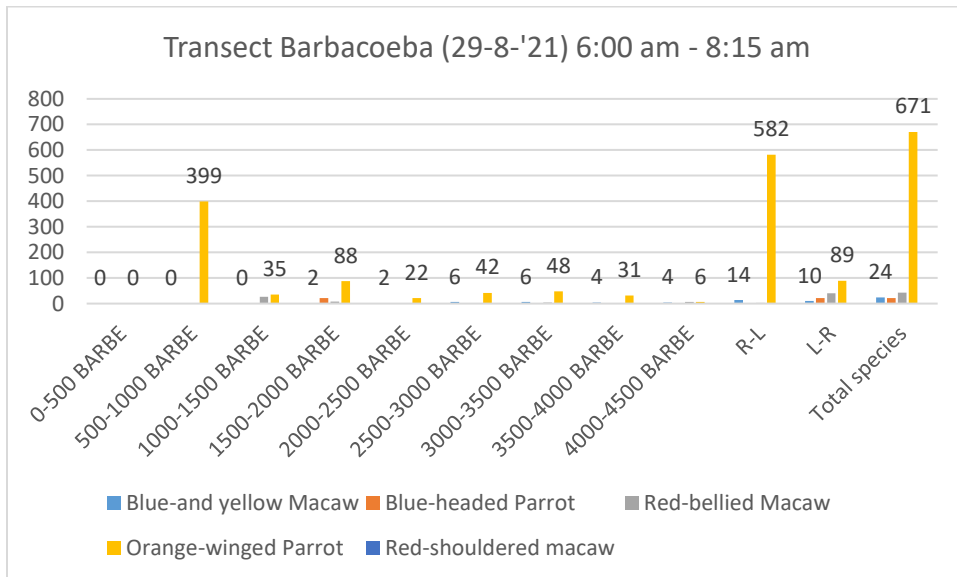


Chart 46. Transect Barbacoeba (28-1-'22)

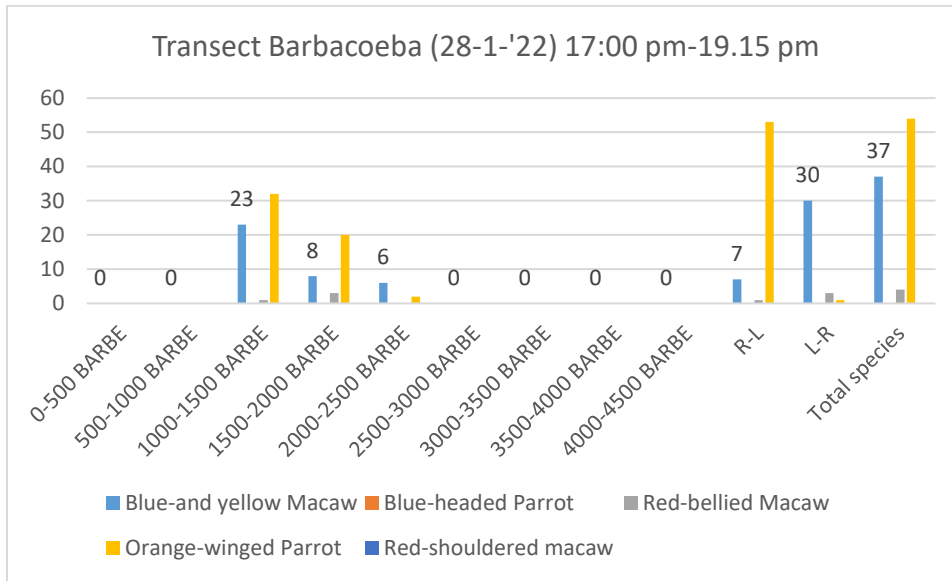


Chart 47. Transect Barbacoeba (29-1-'22)

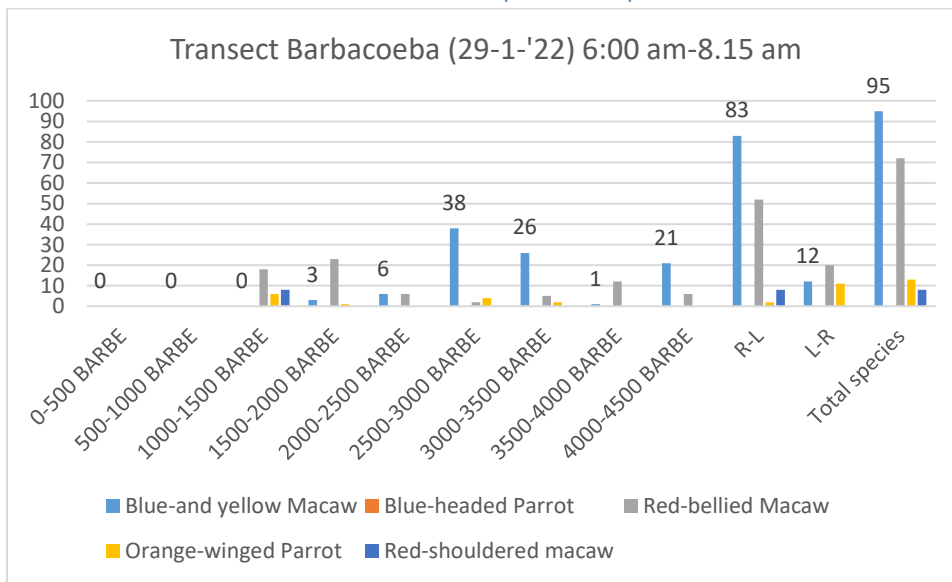


Chart 48. Transect Barbacoeba (15-7-'22)

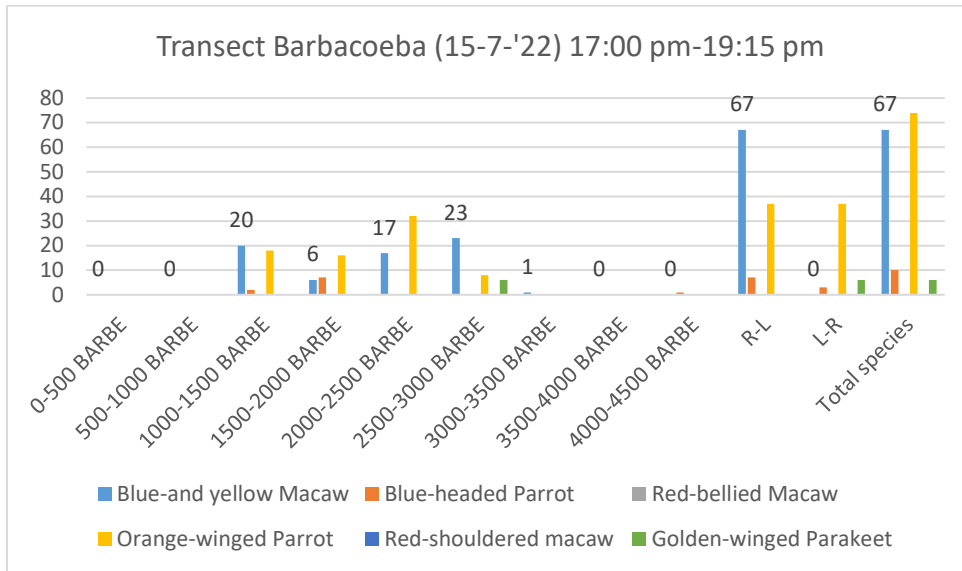
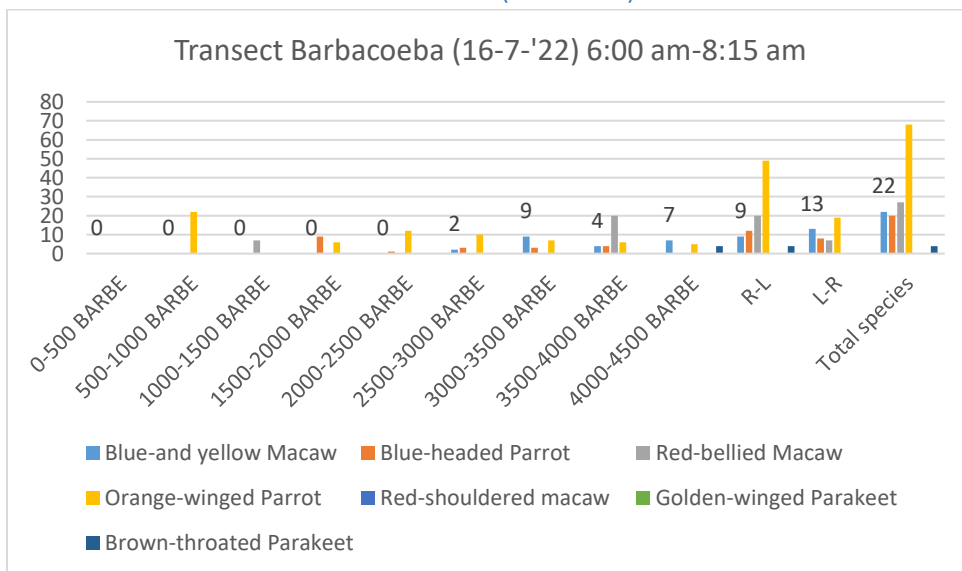


Chart 49. Transect Barbacoeba (16-7-'22)



A total of six parrot species were encountered at Barbacoeba. The highest number for Blue-and yellow Macaw was reached on the downstream transect, with a total number of 95 individuals. No Mealy Parrots and Red-and green Macaws were observed (Which are likely absent).

Location Cottica

Chart 50. Transect Cottica (30-8-'21)

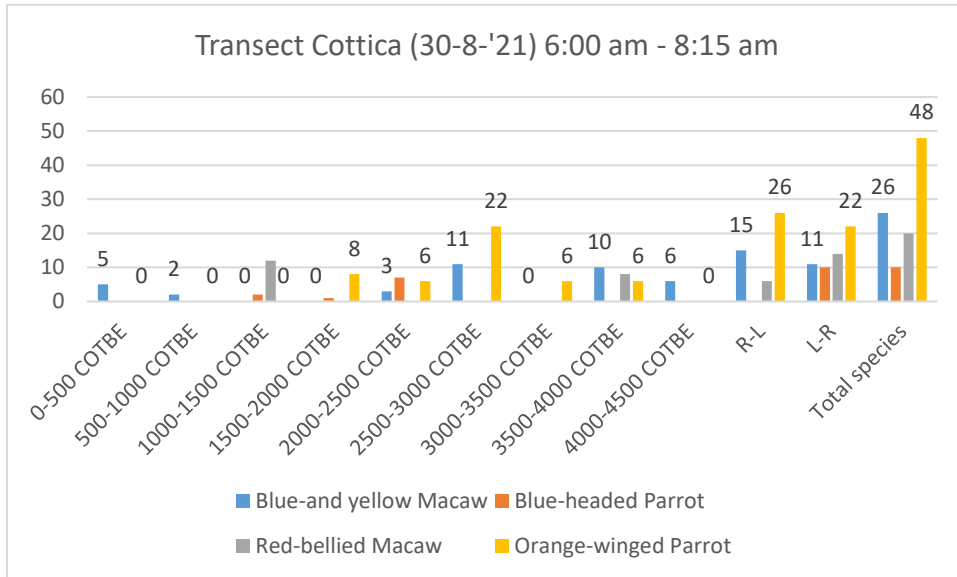


Chart 51. Transect Cottica (30-8-'21)

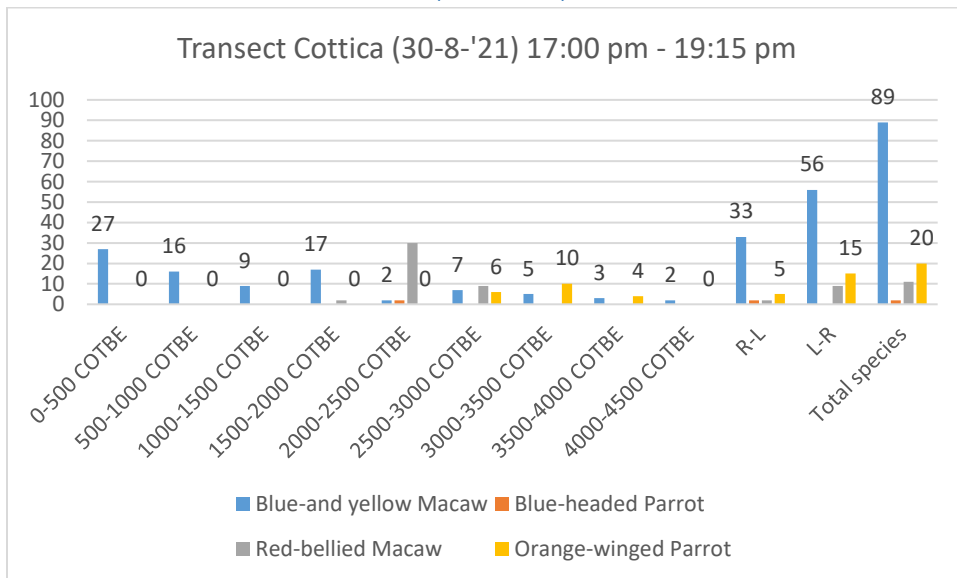


Chart 52. Transect Cottica (31-8-'21)

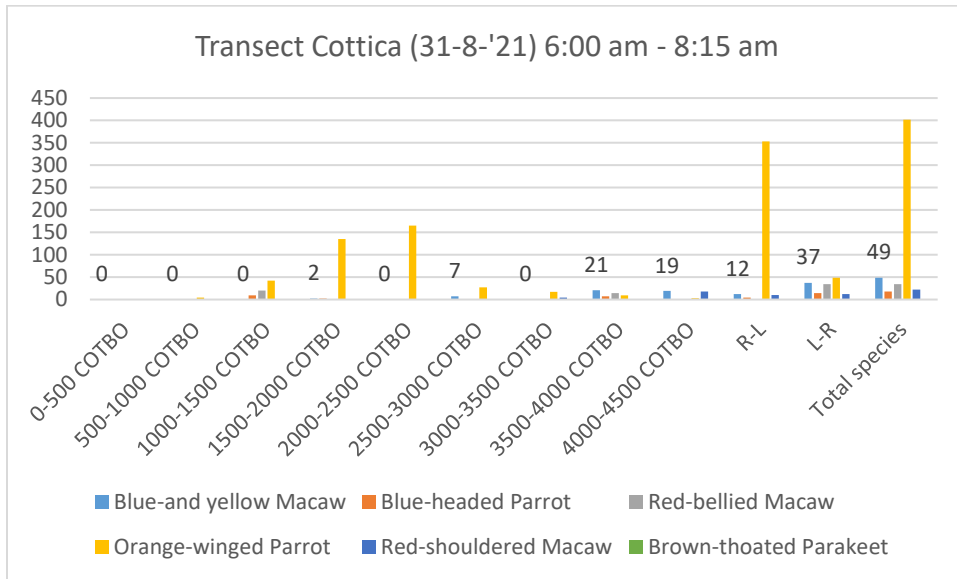


Chart 53. Transect Cottica (29-1-'22)

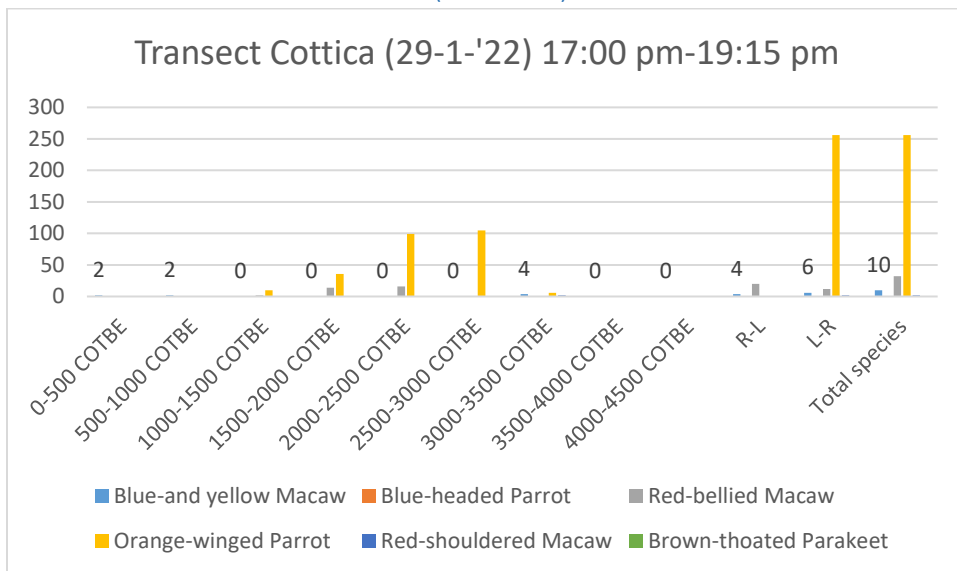


Chart 54. Transect Cottica (30-1-'22)

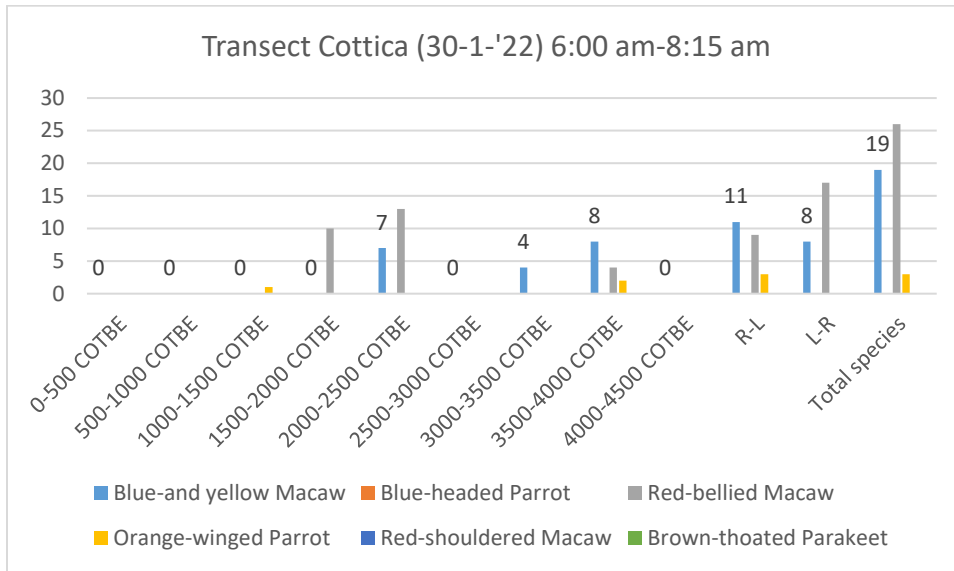


Chart 55. Transect Cottica (30-1-'22)

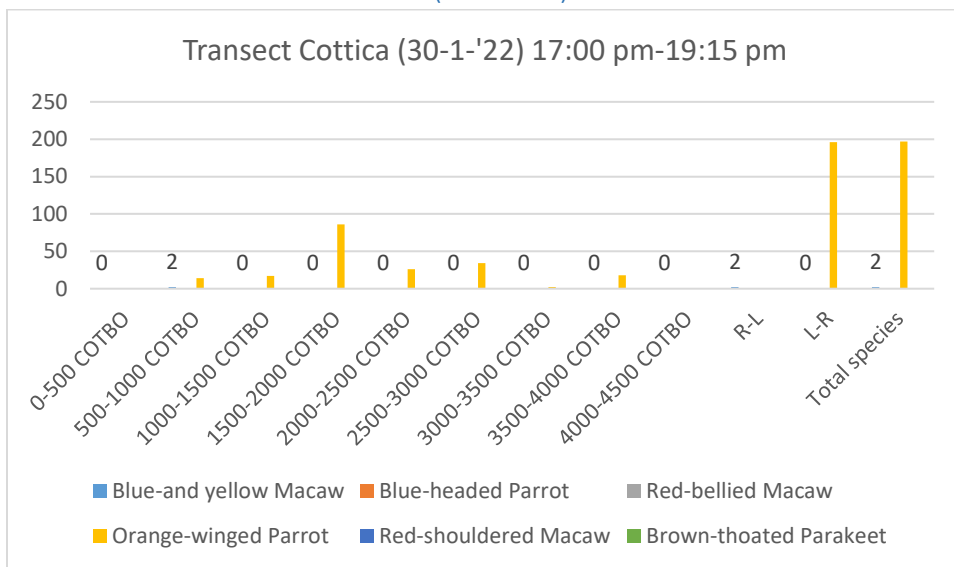


Chart 56. Transect Cottica (31-1-'22)

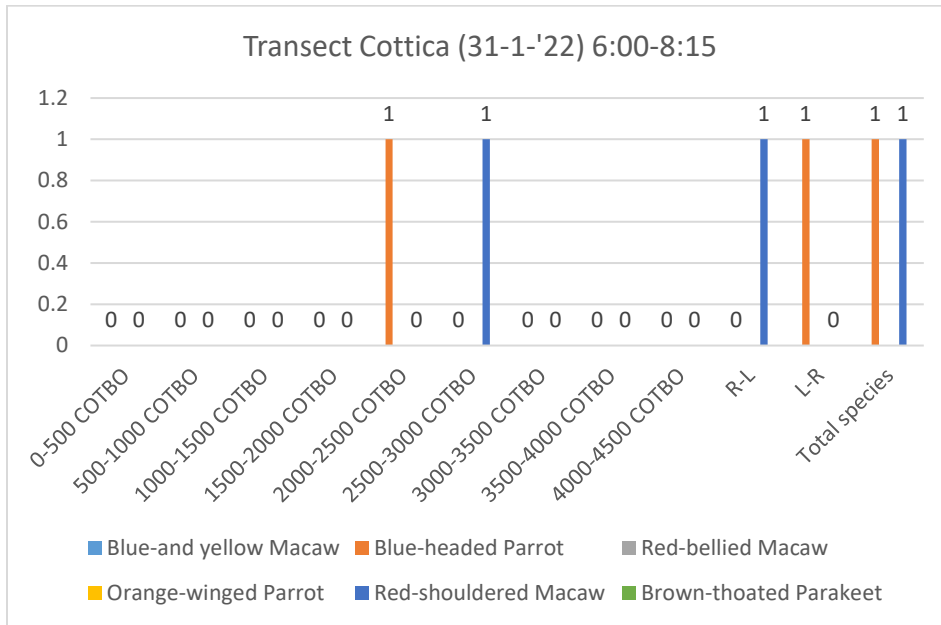


Chart 57. Transect Cottica (17-7-'22)

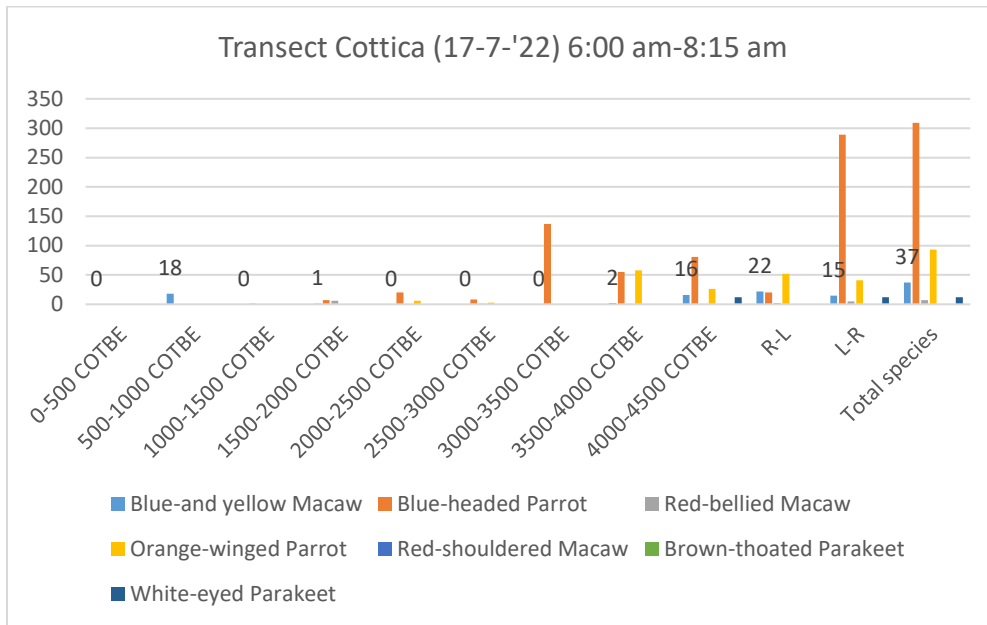


Chart 58. Transect Cottica (17-7-'22)

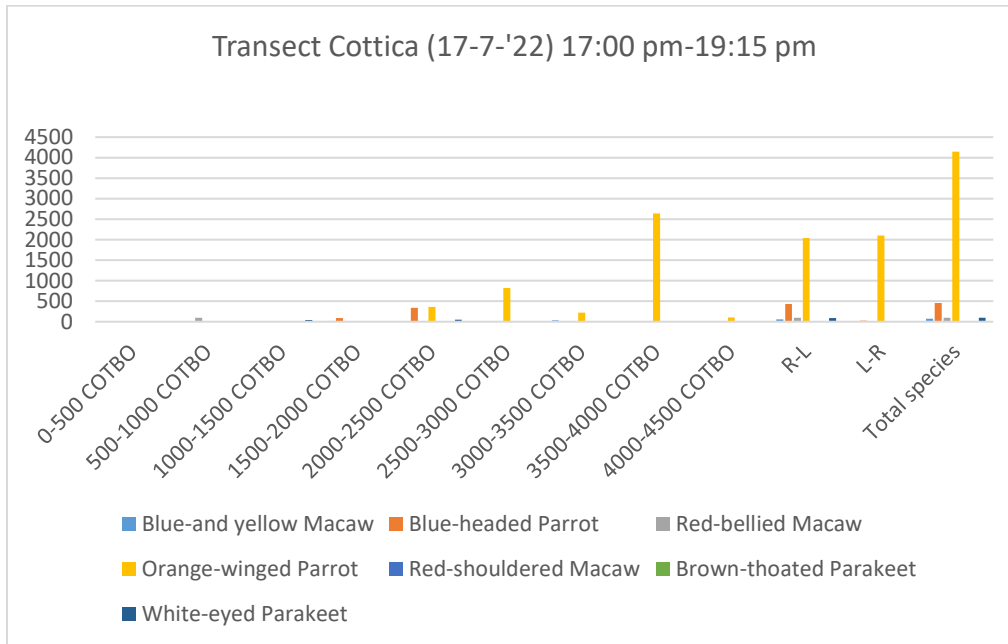
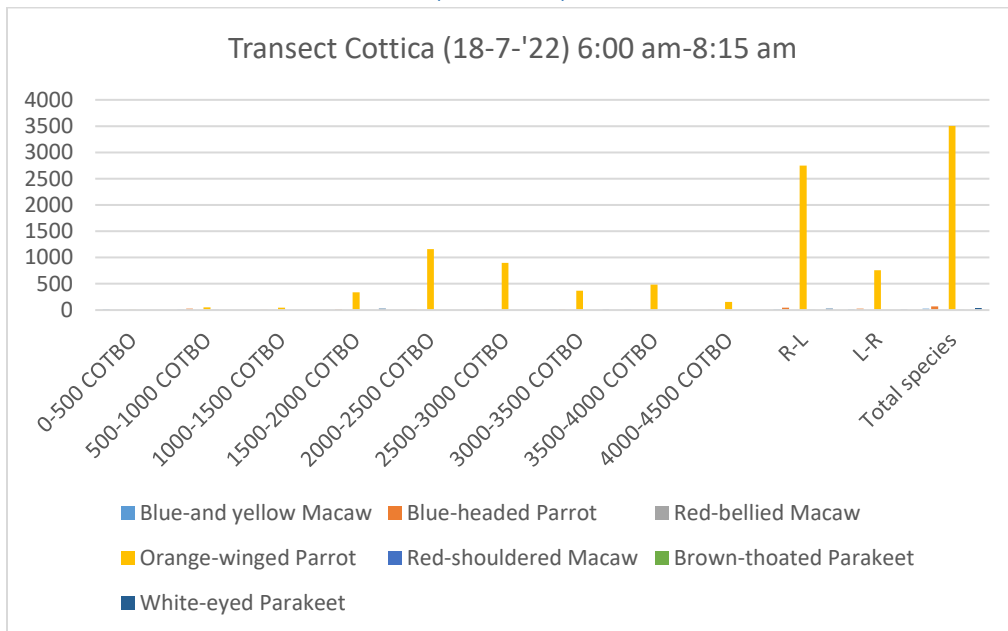


Chart 59. Transect Cottica (18-7-'22)



A total of seven parrot species were encountered at Cottica. The highest number for Blue-and yellow Macaws was reached with a total of 89 individuals at the downstream transect. No Mealy Parrots and Red-and green Macaws were observed.

Location Kaburi

Chart 60. Transect Kaburi (26-1-'22)

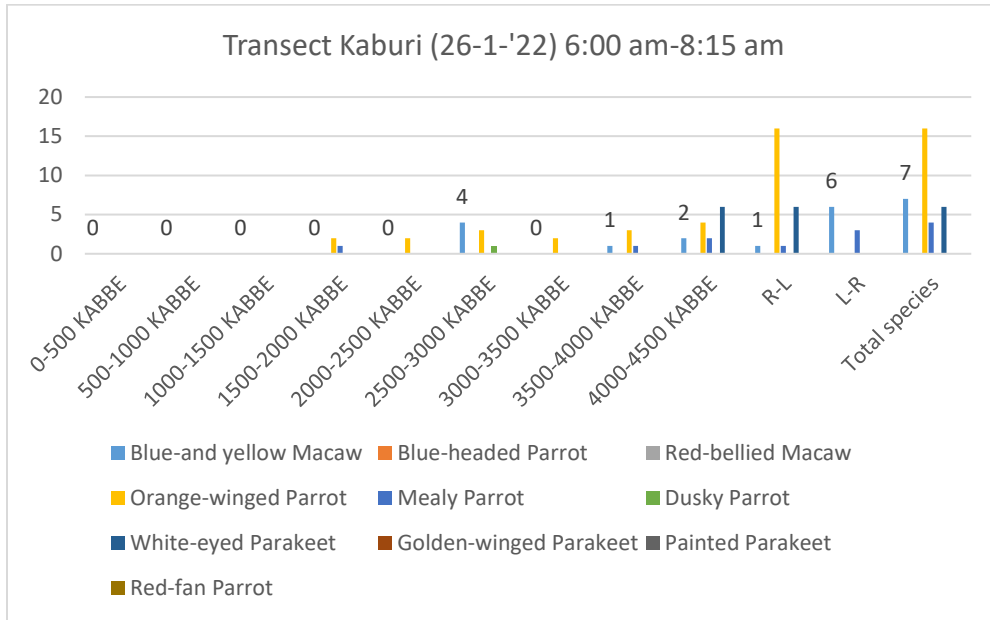


Chart 61. Transect Kaburi (26-1-'22)

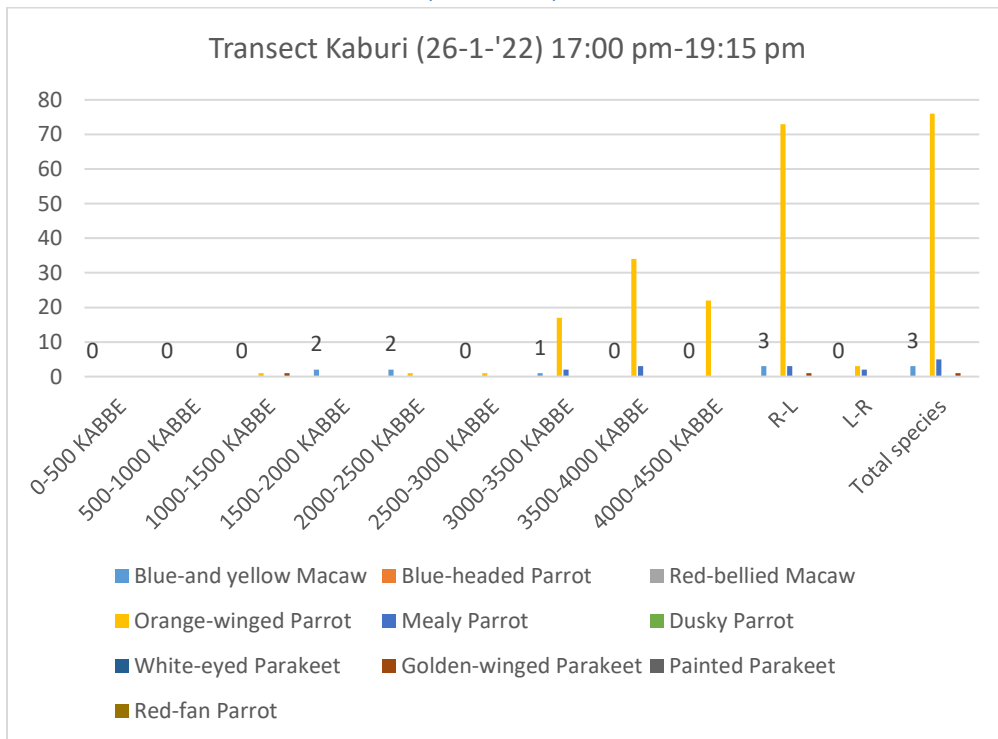


Chart 62. Transect Kaburi (27-1-'22)

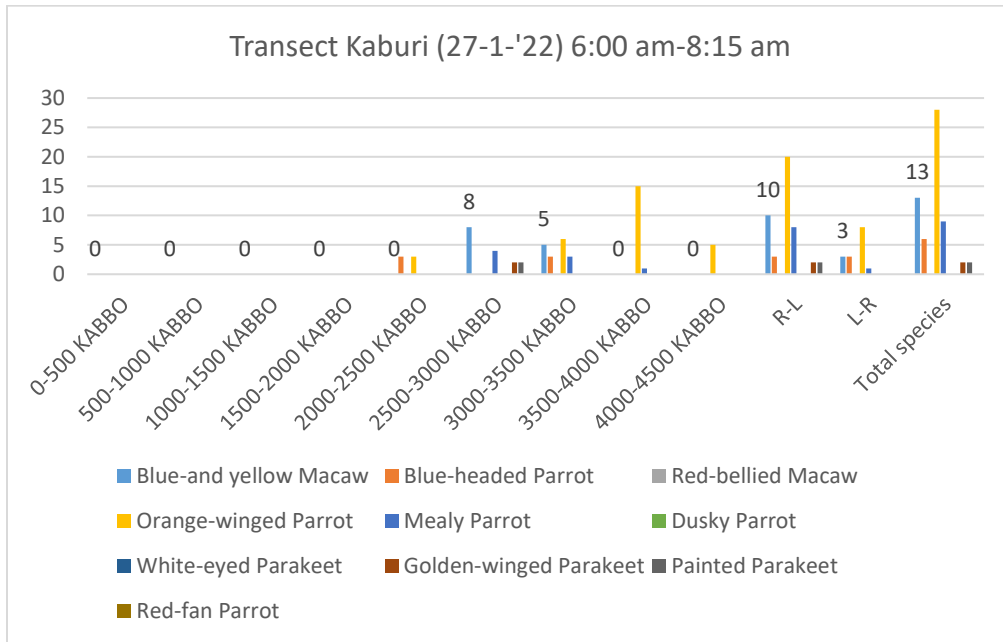
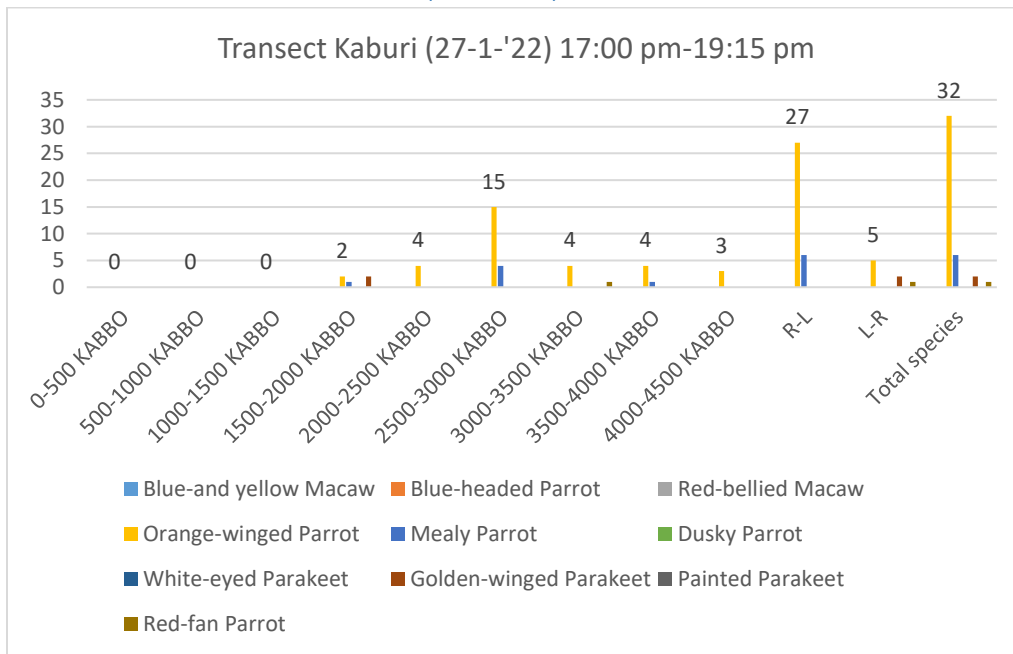


Chart 63. Transect Kaburi (27-1-'22)



A total of eleven species have been encountered for the Kaburi transects. The highest number of Blue-and yellow Macaws, have been observed on the downstream transect, with a total of 59 individuals. With a total number of 19 individuals, the highest number for Mealy Parrots was observed on the downstream transect. No Red-and green Macaws were observed.

Chart 72. Transect Tarzan (19-6-'22)

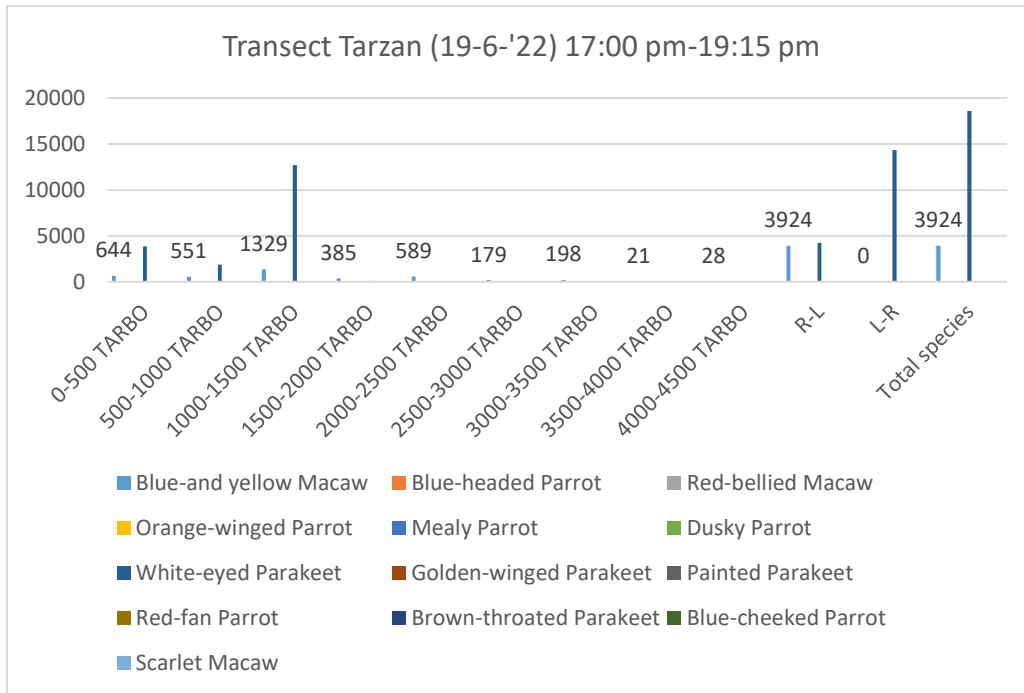
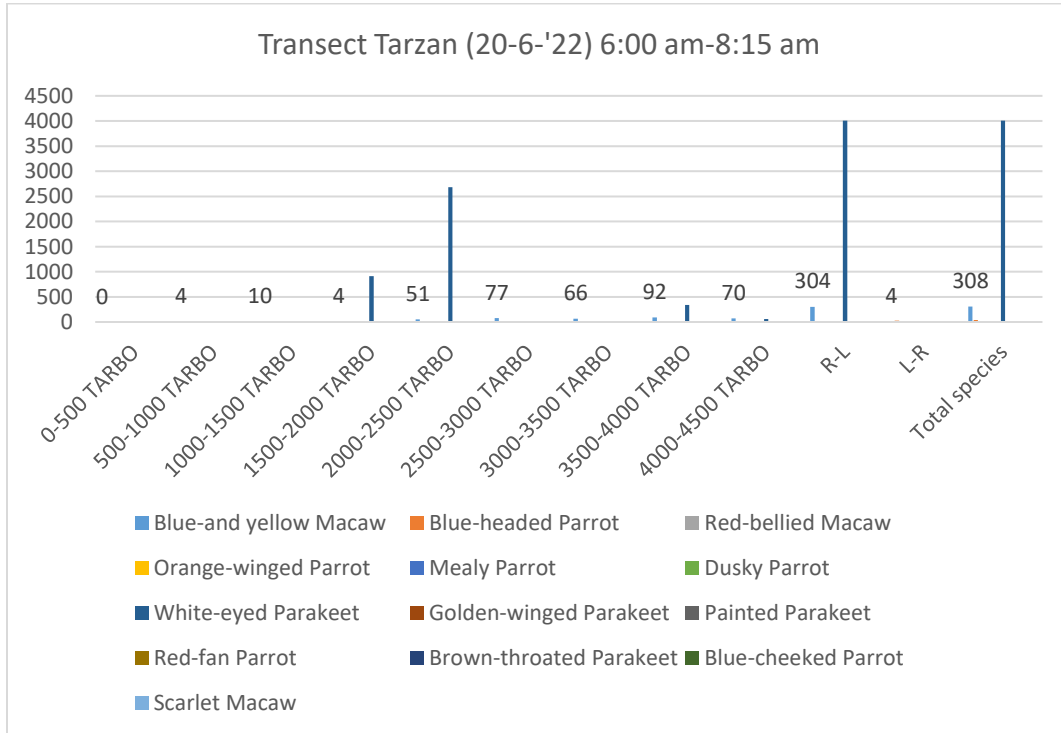


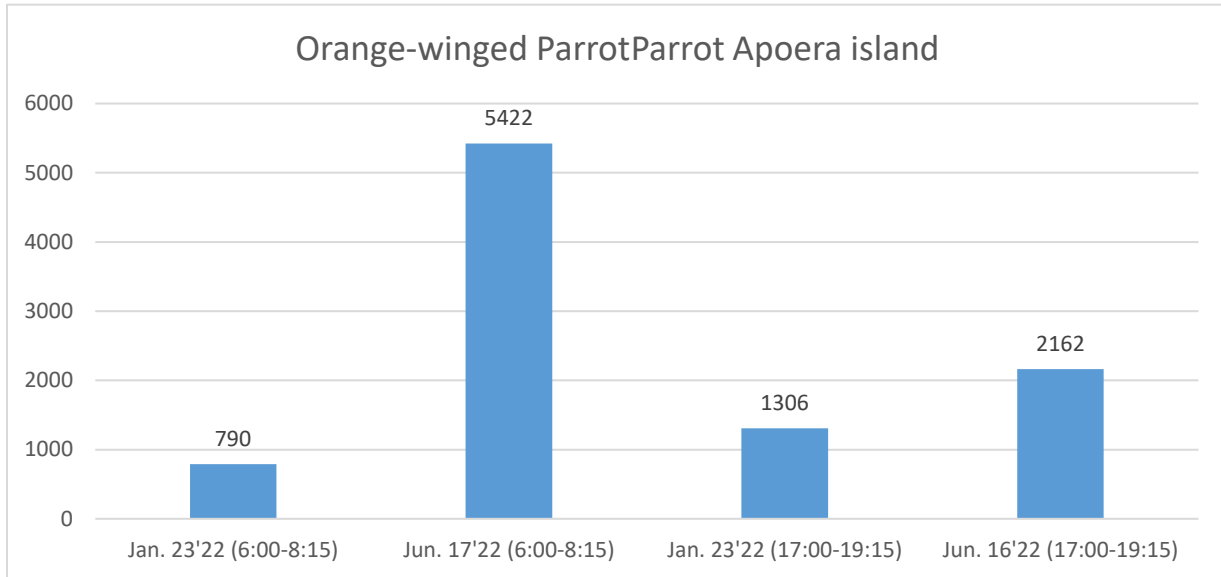
Chart 73. Transect Tarzan (20-6-'22)



A total of fourteen parrot species have been observed on the Tarzan transects. The highest numbers for Blue-and yellow Macaws were observed on the downstream transect with a total of 4958 individuals. Mealy Parrots were observed as well, with the highest number of 11 individuals. No Red-and green Macaws have been observed.

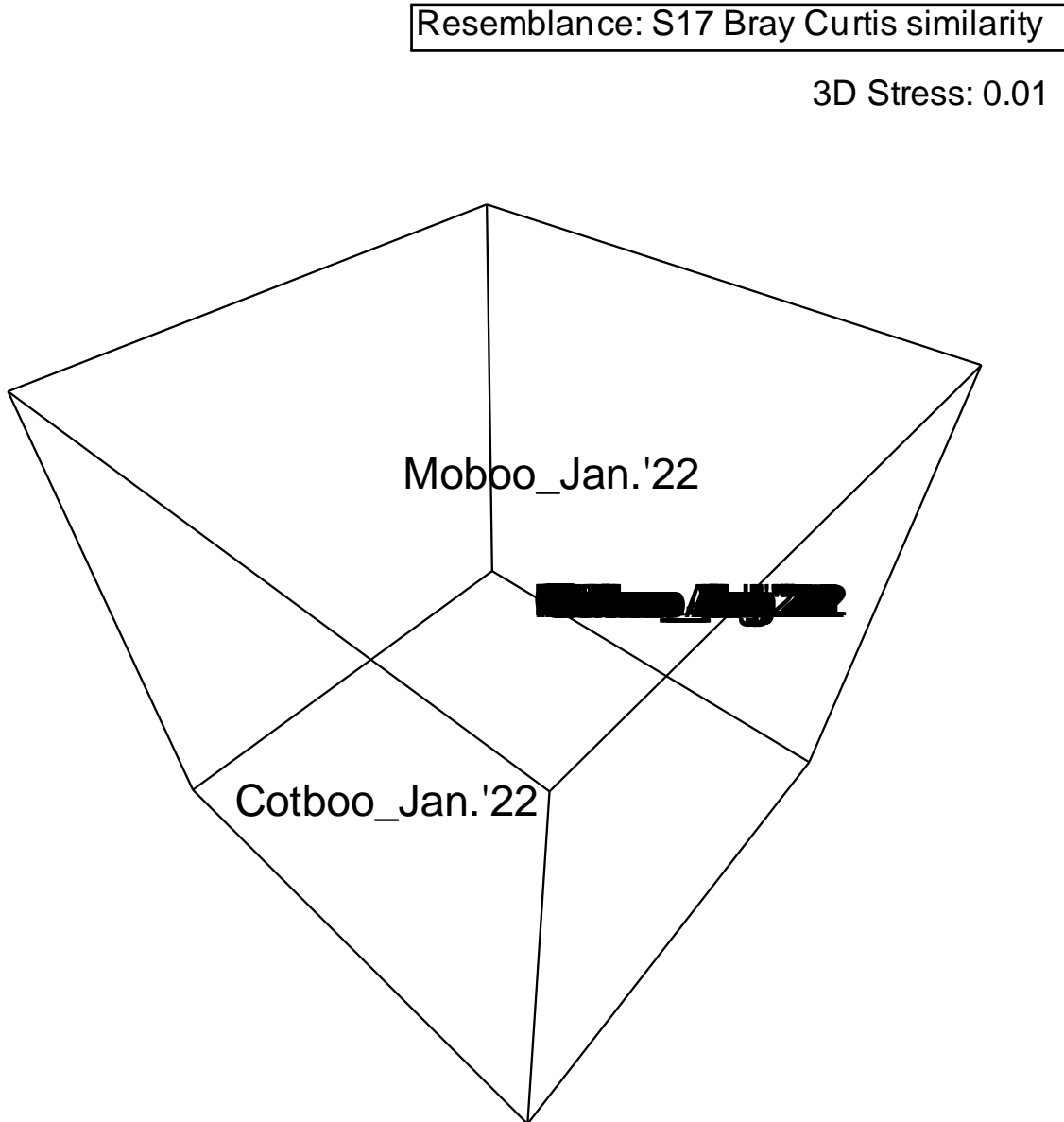
Location Apoera island

Chart 76. Parrot data from the island across Apoera



As can be derived from Chart 72, the Apoera Island consisted of only Orange-winged Parrots. The highest number was reached during a morning count with a total of 5422 individuals.

Figure 1. A Resemblance Graph of all morning downstream and upstream transects (Based on data of the three research objects)



As can be derived from figure 1, the majority of both down-and upstream transects are quite close in resemblance, and are therefore clustered. The few outside transects do differ in species composition and numbers.

Figure 3. An overview of the species diversity for each transect (Based on presence of the three research objects)

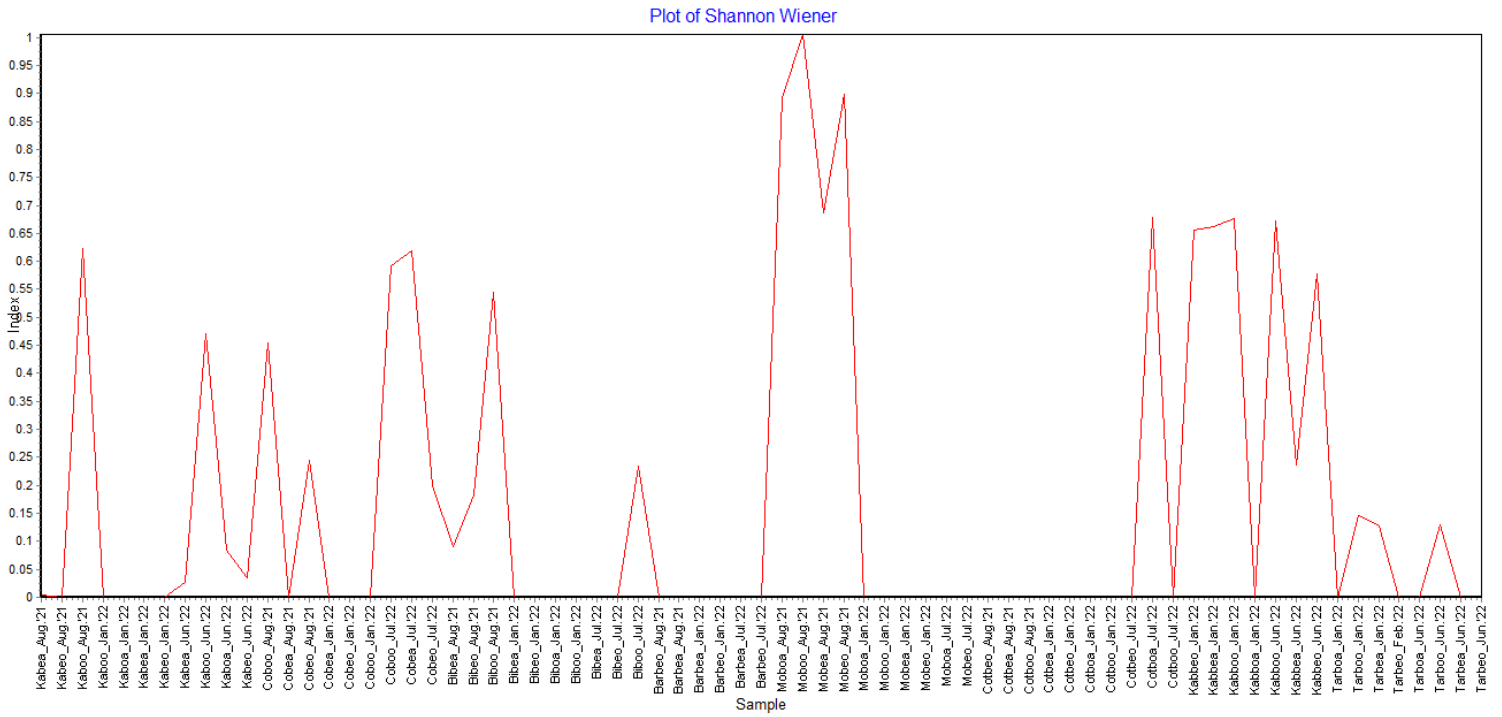


Figure 3, indicates difference in species diversity among transects. Some resemblance is seen with the graph from figure 2.

Table 3. Species diversity, evenness and species number per transect

Transect	Shannon Wiener H'	Pielou J (Each sample)	Species number
Kabea_Aug.'21	0.004051	0.005844	2
Kabeo_Aug.'21	0	0	1
Kaboo_Aug.'21	0.6232	0.8991	2
Kaboo_Jan.'22	0	0	1
Kaboa_Jan.'22	0	0	1
Kabea_Jan.'22	0	0	1
Kabeo_Jan.'22	0	0	1
Kabea_Jun.'22	0.02727	0.03934	2
Kaboo_Jun.'22	0.4707	0.679	2
Kaboa_Jun.'22	0.08402	0.1212	2
Kabeo_Jun.'22	0.03515	0.05072	2
Coboo_Aug.'21	0.4547	0.6559	2
Cobea_Aug.'21	0	0	1
Cobeo_Aug.'21	0.2449	0.3534	2
Cobea_Jan.'22	0	0	1
Cobeo_Jan.'22	0	0	1
Coboo_Jan.'22	0	0	1
Coboo_Jul.'22	0.5924	0.8546	2
Cobea_Jul.'22	0.6194	0.8936	2
Cobeo_Jul.'22	0.2	0.2885	2
Bibea_Aug.'21	0.09088	0.1311	2
Bibeo_Aug.'21	0.1828	0.2638	2
Biboo_Aug.'21	0.5456	0.7871	2
Bibea_Jan.'22	0	0	1
Bibeo_Jan.'22	0	0	1
Biboa_Jan.'22	0	0	1
Biboo_Jan.'22	0	0	1
Bibea_Jul.'22	0	0	1
Bibeo_Jul.'22	0	0	1
Biboo_Jul.'22	0.2338	0.3373	2
Barbeo_Aug.'21	0	0	1
Barbea_Aug.'21	0	0	1
Barbea_Jan.'22	0	0	1
Barbeo_Jan.'22	0	0	1
Barbea_Jul.'22	0	0	1
Barbeo_Jul.'22	0	0	1
Moboa_Aug.'21	0.893	0.8129	3
Moboo_Aug.'21	1.005	0.9151	3
Mobea_Aug.'21	0.6858	0.9894	2
Mobeo_Aug.'21	0.8982	0.8176	3
Moboa_Jan.'22	0	0	1

Moboo_Jan.'22	0	0	0
Mobea_Jan.'22	0	0	1
Mobeo_Jan.'22	0	0	1
Moboa_Jul.'22	0	0	1
Mobeo_Jul.'22	0	0	1
Cotbeo_Aug.'21	0	0	1
Cotbea_Aug.'21	0	0	1
Cotboo_Aug.'21	0	0	1
Cotbea_Jan.'22	0	0	1
Cotbeo_Jan.'22	0	0	1
Cotboa_Jan.'22	0	0	1
Cotboo_Jan.'22	0	0	0
Cotbeo_Jul.'22	0	0	1
Cotboa_Jul.'22	0.6787	0.9792	2
Cotboo_Jul.'22	0	0	1
Kabbeo_Jan.'22	0.6555	0.9457	2
Kabbea_Jan.'22	0.6616	0.9544	2
Kabboo_Jan.'22	0.6765	0.976	2
Kabboa_Jan.'22	0	0	1
Kabboo_Jun.'22	0.673	0.971	2
Kabbea_Jun.'22	0.2365	0.3412	2
Kabbeo_Jun.'22	0.5771	0.8326	2
Tarboa_Jan.'22	0	0	1
Tarboo_Jan.'22	0.1461	0.2108	2
Tarbea_Jan.'22	0.1267	0.1828	2
Tarbeo_Feb.'22	0	0	1
Tarboa_Jun.'22	0	0	1
Tarboo_Jun.'22	0.1291	0.1863	2
Tarbea_Jun.'22	0	0	1
Tarbeo_Jun.'22	0	0	1

Table 3 is in support to figure 2 and 3, indicating that the species diversity and evenness based on data on the three species of interest, is not always equal among transects. It is obvious that the highest species diversity and evenness is reached for transects during August '21 and June/July '22.

Conclusion and Recommendations

General findings and conclusions on the research study

Field data was collected during August 2021, January 2022 and during June-July 2022. During the field visits data on other parrot species except for the research objects, were counted as well. A total of nine locations were surveyed. Eight of these locations, were river transects and one was an island. Data on the latter, was collected via point count. With this data, baseline have been established for any future intended study as well.

With regard to species observed along the eight river transects, the highest species richness was reached for Corneliskondre with a species number of 15 species. Second highest in terms of species richness was obtained for both Morotokko and Karani (both had a species richness of 14).

The Apoera island only sustain one parrot species, which is the Orange-winged Parrot.

When analyzing for occurrence of the research objects, Blue-and yellow Macaw have been present at all eight river transects. The highest number was reached at Tarzan, with a total of 4958 individuals. The second highest number for Blue-and yellow Macaw was observed at Karani with a total of 3871 individuals.

Mealy Parrots were found on six river transects and were absent at Bigibere and Cottica. The highest number for Mealy parrots was reached at Karani with a total of 162 individuals. The second highest count was found at Morotokko with a total of 137 individuals.

Red-and green Macaws were only found at Corneliskondre and at Morotokko. Only four individuals have been observed at Corneliskondre and 124 individuals at Morotokko. Since, it is known that these parrot species are more often seen in upper river areas in the hinterland, it is recommended to not only cover other regions in Suriname for this species, but to consider the southern part of Suriname as well.

When comparing species diversity based on the presence of the research objects, it is obvious that during January less is observed. The species diversity values and evenness values are therefore highest over August and June-July.

It should be noted that *Euterpe oleracea* fruits are ripe between June-August and it is priced by Ara and parrot species. Given this factual, species presence might be impacted with the availability of ripe fruits of this palm species. Given the fact fruiting trees have an important role in the diet of parrots, it is recommended to learn about the phylogeny of fruiting trees along the river transects.

Historical versus the most recent collected data set and how to proceed further

Based on results from historical data sets and data that have been collected during this project the following statements and recommendations can be make:

Aerial flights:

1. do not represent habitat in depth data.
2. can be used to quick scan a vast area of interest to conclude absent present data of parrot species.

3. do not cover much parrot species since most parrots will and are mostly hidden within the canopy or in the mid-story of trees.

River count transects or point count data sets, are therefore not only easily repeatable and statistically comparable over time, but these data collecting protocols will also yield more data within an ecosystem of interest.

It is proofed that data sets from river transects and point count have therefore yield much more data. Species identification is also best done via these methods.

It is therefore recommended to include river transect counts into a monitoring program in order to learn and collect data within a certain area of interest over time.

Furthermore, it is also recommended to learn more about the phylogeny of fruiting trees within an area of interest (preferable within the transect area), to learn about parrot absence and presence based on fruit availability. This has been observed with ripening of *Euterpe oleracea* fruits.

Only by knowing of fruiting tree species and number/abundance and how their fruits fit into parrot's diets, will we be able to learn and understand more of parrot species and numbers. This study has provided baseline data on transects and via a point count on an island and should be continued. It should be continued to learn of trends in parrot species absence and presence against availability of fruit/food.

Trapping and export of parrots

According to Ramcharan (2021), animal exporters work with local catchers, to obtain parrots. According to local people and catchers (2021), the number of what is being trapped for sale, is sometimes higher per area of interest than the quota number itself for a species (Ramcharan, 2021). It is recommended to be consistent on conservation efforts and if quota numbers are brought to zero, it should be in line with the local Game Calendar as well. If local regulation allows for trapping for local use (via the Game Calendar e.g.), it might be miss-used and parrots might still find their way through smuggling. The latter was not observed, but in communication with local people it is claimed. According to Ramcharan (2021), trappers are not always local Surinamese citizens and therefore enforcement via local check-in locations is recommended. During 2021 and 2022 parrots that were trapped along the Coppename-, Wayambo- and Nickerie River, would find their way to Boskamp. At Boskamp no Game warden Check in location was observed, which was the case in the pass. The same applies for parrot species caught along the MCP and Corantijn River. No Game warden Check-in location/facility is present which makes enforcement impossible and parrots can therefore easily be trapped and smuggled for trade in Guyana. No game warden Check-in facility was present at Wageningen, which might be the trading point for parrots that are trapped along Nickerie and Maratakka River. At Cottica and Barbacoeba, trapping was not observed at all, but check-in facilities with Game wardens are lacking as well.

According to the Nature Conservation Division (NCD), in 2020 a total 52 trappers were registered and a total of 51 in 2021. According to NCD these trappers are representatives of all districts in Suriname. During field visits in 2022, trappers that were not registered were observed. It is therefore recommended that trappers are registered and enforced. Also should it be enforced not to buy parrots from none registered trappers.

As could be learned from this study, being on-site and doing counts rather than an aerial flight, provides more insights of actual numbers and reasoning of their presence (Due to the fact, it is observable if fruiting trees are available and if the ripening of fruit does influence parrot species presence). It is therefore recommended to continue to learn about these numbers and how these fluctuates over at least 2 years from now, in order to know of parrot actual numbers within an area of interest. Using aerial flight data from pass years is not supportive enough to base quota numbers of parrots for the pet trade and export. In a personal communication with the NCD, it was claimed that quota numbers for parrot's species have been based on data collected by Schouten (1995), Ottema (2005) and Ottema (2008). Also was the NCD advised by the Natuur Bescherming Commissie (NBC) on this regard.

According to NCD, there is no data available of specific known trapping areas (there are intends to initiate inspections on this regard in 2022). Also are there no protocols and regulations in place with regard to animal handling and healthcare.

Recommendations in general

1. Data should be collected for at least another two years to learn of trends in numbers per studied area. It is recommended to use the river transects and have data collected on these throughout the seasons.
2. The NCD or a third party should study and therefore learn/describe the so called chain of activities which includes the process of trapping birds till the birds reached their end destinations. This activity chain will learn the NCD, if contracts are met and where improvements/gaps are. It is recommended to enforce contracts and regulations as much as possible.

To determine a reasonable quota in order to manage the conservation of this species, it is recommended take the following into account:

- A. Continue to collect species number on the established river transects at least after every two years, to learn of the actual species numbers and the species number trend throughout the seasons.
 - B. Initiate counts on river transects based on periods that are known fruiting periods and outside these periods as well. This will teach us more of the actual number and how food availability influence parrot presence and number.
 - C. Establish the trapping number per species after two more years of research from now on, based on species abundance curves. If species abundance is increasing and the ecosystem is sustaining, without any threat, the number can be kept stable by trapping for the additional number.
3. Trappers, should administer their trapped numbers, and this should be monitored by the Nature Conservation Division. It is advisable to give each trappers a fixed trapping quota. This number can be calculated against the quota number that is set for Suriname divided against the total number of trappers.
 4. Trappers should administer how many birds are damaged and died during the trapping/handling process and how many will be eligible for trading. This should also be monitored by the NCD.

5. Trappers should be trained to properly handle and process parrots to reduce harm and stress to the bird.
6. Animal exporters should train their trappers and keep them up to date with best handling techniques. Also should animal exporters make sure their trappers are registered at NCD.
7. Animal exporters should administer the numbers of birds per species, which should not exceed their set quota number. Animal exporters should also administer how many of their birds have died or got illegible for export.
8. Understand how fruits do influence parrot species presence (the forested areas along the river transects should become subject to a phenology study). This study will yield data on fruit availability for parrot species over a year. This study will answer questions on whether or not parrots are reliable and susceptible to a certain fruit and how abundant these fruiting trees are.
9. Enforce trappers not to collect outside the appointed areas for trapping and their trapping numbers should be set as well, based on research (see point 2).
10. Animal handling and health care should be regulated and enforced (Refer to Joyner, Ramcharan & Linaard, 2021).
11. Enforcing check in points with Game Wardens should be visible and well established. During the research project Game Wardens were not only not physically seen, but no facilities or strategic check in locations are present.
12. Animal trappers should not only be registered but enforced as well.
13. Animal exporters should work only with registered trappers and inspections to exporters to assure they do not exceed any quota per parrot species, should be initiated consistently.
14. Suriname should have a rescue and liberation center so authorities can confiscate illegal birds.
15. If conservation efforts are undertaken, in order to stop export of a species of interest, it should be in line with local regulations as well (e.g. Game Calendar).
16. Quota numbers should be reviewed against above mentioned points and data from aerial flights alone are not suitable enough, to have quota numbers based on what have been gathered during these flights. Furthermore, the Natuur Bescherming Commissie (NBC) and the CITES Scientific Authority, should advice NCD, only if their data is based on scientific. The objective point of view can be used as a basic for future research with the possibility for expansion of the area of interest.
17. The NCD should have a trained team of employees that are capable to identify all parrot species that are subject to export. Also should this particular team be taught to look for proper animal

handling and care. This particular team can be trained as well, to initiate river transect counts over time. The latter should always be done under supervision of a scientist (An ornithologist, in order to keep an eye on the consistency of the data that should be gathered).

18. Understanding the period of breeding and how successful nesting is. Breeding success can be partly measured, by looking and the percentage of the population that is comprised of juveniles.

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Appendix I. Pictures of the different river transects
(Photos were taken by Serano Ramcharan)

Karani



Corneliskondre



Bigibere



Morotokko



Barbacoeba



Cottica



Apoera Island



Kaburi



Tarzan



Appendix II. Pictures of some encountered parrot species
(Photos were taken by Serano Ramcharan)

Red-and green Macaw (*Ara Chloroptera*)



Scarlet Macaw (*Ara macaw*)



Blue-and yellow Macaw (*Ara ararauna*)



Mealy Parrot (*Amazona farinosa*)



Orange-winged Parrot (*Amazona amazonica*)



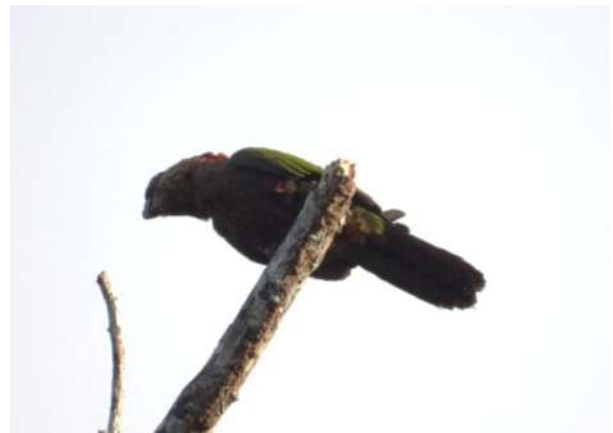
Blue-headed Parrot (*Pionus menstruus*)



Dusky Parrot (*Pionus fuscus*)



Red-fan Parrot (*Deroptryus accipitrinus*)



Barbacoeba

Species	Barbeo_Aug.'21	Barbea_Aug.'21	Barbea_Jan.'22	Barbeo_Jan.'22	Barbea_Jul.'22	Barbeo_Jul.'22
Blue-and yellow Macaw	24	53	37	35	67	22
Blue-headed Parrot	22	12	0	0	10	20
Painted Parakeet	0	0	0	0	0	0
Mealy Parrot	0	0	0	0	0	0
Red-bellied Macaw	43	45	4	72	0	27
Blue-cheeked Parrot	0	0	0	0	0	0
Black-headed Parrot	0	0	0	0	0	0
Orange-winged Parrot	671	164	54	13	74	68
Sapphire-rumped Parrotlet	0	0	0	0	0	0
Caica Parrot	0	0	0	0	0	0
Red-fan Parrot	0	0	0	0	0	0
Dusky parrot	0	0	0	0	0	0
Scarlet Macaw	0	0	0	0	0	0
Golden-winged Parakeet	0	0	0	0	6	0
Red-and green Macaw	0	0	0	0	0	0
Red-shouldered Macaw	1	0	0	8	0	0
White-eyed Parakeet	0	0	0	0	0	0
Brown-throated Parakeet	0	0	0	0	0	4

Morotokko

Species	Moboa_Aug.'21	Moboo_Aug.'21	Mobea_Aug.'21	Mobeo_Aug.'21	Moboa_Jan.'22	Moboo_Jan.'22	Mobea_Jan.'22	Mobeo_Jan.'22	Moboa_Jul.'22	Moboo_Jul.'22
Blue-and yellow Macaw	19	22	40	42	3	0	13	11	40	0
Blue-headed Parrot	17	1	6	18	0	0	0	0	24	40
Painted Parakeet	0	7	0	0	0	2	0	30	0	6
Mealy Parrot	137	25	0	7	0	0	0	0	0	3
Red-bellied Macaw	0	2	0	0	0	0	0	0	0	0
Blue-cheeked Parrot	0	0	8	5	7	4	0	0	0	0
Black-headed Parrot	4	0	0	5	0	3	0	2	0	2
Orange-winged Parrot	4	1	2	6	15	7	9	10	0	7
Sapphire-rumped Parrotlet	0	0	5	0	0	0	0	0	0	0
Caica Parrot	0	0	0	0	0	0	0	0	0	10
Red-fan Parrot	3	1	3	0	10	4	3	0	0	0
Dusky parrot	0	5	0	13	1	0	4	4	4	4
Scarlet Macaw	11	0	27	11	0	0	0	0	19	6
Golden-winged Parakeet	0	0	0	0	0	0	0	0	19	0
Red-and green Macaw	124	8	51	49	0	0	0	0	0	0
Red-shouldered Macaw	0	0	0	13	0	0	0	0	0	0
White-eyed Parakeet	25	0	0	0	0	0	0	0	0	0
Brown-throated Parakeet	0	0	0	0	0	0	0	0	0	0

Cottica

Species	Cotbeo_Aug.'21	Cotbea_Aug.'21	Cotboo_Aug.'21	Cotbea_Jan.'22	Cotbeo_Jan.'22	Cotboa_Jan.'22	Cotboo_Jan.'22	Cotbeo_Jul.'22	Cotboa_Jul.'22	Cotboo_Jul.'22
Blue-and yellow Macaw	26	89	49	10	19	2	0	37	71	29
Blue-headed Parrot	10	2	18	0	0	0	1	309	459	73
Painted Parakeet	0	0	0	0	0	0	0	0	0	0
Mealy Parrot	0	0	0	0	0	0	0	0	100	0
Red-bellied Macaw	20	11	34	32	26	0	0	7	0	0
Blue-cheeked Parrot	0	0	0	0	0	0	0	0	0	0
Black-headed Parrot	0	0	0	0	0	0	0	0	0	0
Orange-winged Parrot	48	20	402	256	3	197	0	93	4143	3503
Sapphire-rumped Parrotlet	0	0	0	0	0	0	0	0	0	0
Caica Parrot	0	0	0	0	0	0	0	0	0	0
Red-fan Parrot	0	0	0	0	0	0	0	0	0	0
Dusky parrot	0	0	0	0	0	0	0	0	0	0
Scarlet Macaw	0	0	0	0	0	0	0	0	0	0
Golden-winged Parakeet	0	0	0	0	0	0	0	0	0	0
Red-and green Macaw	0	0	0	0	0	0	0	0	0	0
Red-shouldered Macaw	0	0	22	2	0	0	1	0	0	1
White-eyed Parakeet	0	0	0	0	0	0	0	12	96	40
Brown-throated Parakeet	0	0	1	0	0	0	0	0	0	0

Kaburi

Species	Kabbeo_Jan.'22	Kabbea_Jan.'22	Kabboo_Jan.'22	Kabboa_Jan.'22	Kabboo_Jun.'22	Kabboa_Jun.'22	Kabbea_Jun.'22	Kabbeo_Jun.'22
Blue-and yellow Macaw	7	3	13	0	9	0	59	53
Blue-headed Parrot	0	0	6	38	199	38	80	207
Painted Parakeet	0	0	2	2	0	2	0	0
Mealy Parrot	4	5	9	2	6	2	4	19
Red-bellied Macaw	0	0	0	44	16	44	13	0
Blue-cheeked Parrot	0	0	0	0	0	0	0	0
Black-headed Parrot	0	0	0	0	0	0	0	0
Orange-winged Parrot	16	76	28	162	69	162	2	4
Sapphire-rumped Parrotlet	0	0	0	0	0	0	0	0
Caica Parrot	0	0	0	0	0	0	0	0
Red-fan Parrot	0	0	0	0	0	0	0	0
Dusky Parrot	0	0	0	0	0	8	0	0
Scarlet Macaw	0	0	0	33	60	33	0	31
Golden-winged Parakeet	0	1	2	0	15	0	0	19
Red-and green Macaw	0	0	0	0	0	0	0	0
Red-shouldered Macaw	0	0	0	0	0	0	0	0
White-eyed Parakeet	6	0	0	8	0	0	0	0
Brown-throated Parakeet	0	0	0	0	0	0	0	0

Tarzan

Species	Tarboa_Jan.'22	Tarboo_Jan.'22	Tarbea_Jan.'22	Tarbeo_Feb.'22	Tarboa_Jun.'22	Tarboo_Jun.'22	Tarbea_Jun.'22	Tarbeo_Jun.'22
Blue-and yellow Macaw	169	29	386	138	3924	308	4958	2101
Blue-headed Parrot	4	0	0	0	67	37	48	395
Painted Parakeet	13	2	3	1	0	0	0	50
Mealy Parrot	0	1	11	0	0	9	0	0
Red-bellied Macaw	0	0	0	0	0	0	20	0
Blue-cheeked Parrot	0	0	2	2	0	0	0	0
Black-headed Parrot	0	0	0	0	0	0	9	7
Orange-winged Parrot	17	15	70	5	2	14	1369	396
Sapphire-rumped Parrotlet	0	0	0	0	0	0	0	0
Caica Parrot	0	0	0	0	0	0	0	0
Red-fan Parrot	2	1	0	0	0	0	0	10
Dusky parrot	0	0	1	0	0	0	0	0
Scarlet Macaw	0	0	0	0	2	4	31	24
Golden-winged Parakeet	0	0	0	0	0	0	0	2
Red-and green Macaw	0	0	0	0	0	0	0	0
Red-shouldered Macaw	0	0	0	0	0	0	0	0
White-eyed Parakeet	0	0	15	0	18599	4006	2948	1313
Brown-throated Parakeet	0	2	0	0	0	0	0	0



Non-detriment Findings for *Amazona farinosa* from Suriname



CITES WETENSCHAPPELIJKE AUTORITEIT SURINAME

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August 2023

ACKNOWLEDGEMENTS

CITES Scientific Authority of Suriname (SA) is established by Ministerial Decree of April 15th 2016 no. 0567A-16/MinRGB, S.B. 2016 No. 101. The members of the CITES SA were formally appointed by Ministerial Decree of 2nd of March 2022 no. 0699-22/MinGBB and is registered with the CITES Secretariat during the CoP19 in Panama. The CITES Scientific Authority of Suriname has started implementing its task after the installation of its members in 2022.

The CITES Management Authority of Suriname (MA) has requested the SA to do a non-detriment findings on three species (*Amazona farinosa*; *Ara ararauna* and *Ara chloropterus*), that are on the review of significant trade, in order to be in compliant with Article II and IV of the CITES convention.

With the guidance from Mrs. Kaminie Tajib - Rakimoen, National CITES Focal Point, who finished her CITES Master course in Baeza in 2023, the results of the Cancun workshop on Non-detriment Findings (NDF) and the IUCN NDF checklist the CITES Scientific Authority of Suriname conducted a baseline NDF on these species in Suriname.

It is the first time that the SA has conducted a NDF, which has been a learning process for the Scientific Authority. We hope to gain more knowledge and experience on how to make proper NDF for other species in the future. There is always room for improvement and we thank all who have supported us in making this NDF and we very much welcome any feedback and/or suggestions on ways to improve this in the future.

Kiran Somaroe BSc.
Chair CITES Scientific Authority of Suriname

LIST OF ACRONYMS

AC	Animals Committee
ACTO	Amazon Cooperation Treaty Organization
BBS	National Herbarium of Suriname
CELOS	Centre for Agricultural Research in Suriname
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CSNR	Central Suriname Nature Reserve
GBB	Ministry of Land Policy and Forest Management
HFLD	High Forest, Low Deforestation country
IUCN	International Union for Conservation of Nature
LBB	Suriname Forest Service
LVV	Ministry of Agriculture, Animal Husbandry and Fisheries
MA	Management Authority
No.	Number
NR	Nature Reserve
NZCS	National Zoological Collection of Suriname
S.B.	State Gazette
SA	Scientific Authority
SBB	Foundation for Forest Management and Production Control
SC	Standing Committee
UNEP-WCMC	UN Environment Programme World Conservation Monitoring Centre
UNESCO	United Nations Educational, Scientific and Cultural Organization

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INTRODUCTION

Suriname is located in the northeast of South America between latitudes 1° and 6° N and longitudes 54° and 58° W, bordering the Atlantic Ocean in the North, the Republic of Guyana in the West, French-Guiana in the East and Brazil in the South (see figure 1). The Republic of Suriname has been independent from The Netherlands since November 25, 1975 and populated by approximately 567,291 inhabitants (mid-year population estimation in 2015). Suriname encompasses 93% of forest and an Exclusive Economic Zone of 345 sea miles (Maritime Zones Act S.B. 2017 no. 41). Suriname exhibits a low deforestation rate and is characterized as a country with high forest cover and low deforestation (HFLD).

Suriname has approximately 3.5 inhabitants per km², making Suriname a low populated country. According to a mid-year population estimation in 2015, the largest ethnic groups are Hindustani (30%), followed by Creoles (20.6%), Javanese (19.6%), mixed race (14.4%), Maroons (10.5%) and others (including Chinese, Indigenous people, Lebanese and European) (4.9%). The sex distribution of the population remained stable, with females accounting for 50.1% of the population and males 49.9%.

With a land surface of 163,800 km², Suriname is divided into two main geographic regions: the Northern coastal area, with the majority of the population residing here; and the Southern area, mainly consisting of tropical rainforest and a sparsely populated savannah along the Brazilian border. Seven types of ecosystems have been distinguished, namely (i) marine ecosystems, (ii) coastal ecosystems, (iii) brackish water ecosystems, (iv) freshwater ecosystems, (v) savannah ecosystems, (vi) marsh ecosystems and (vii) tropical rainforest and inselbergs.

As part of the Guiana Shield, Suriname's tropical rainforest has a rich biodiversity. In 2012, 192 mammal species were reported, along with 102 amphibian species, 175 reptile species, 730 bird species, 450 freshwater fish species, and in 2016, 6044 vascular (higher) plants.

The long history of protecting Suriname's biodiversity dates back to 1954. Eighteen protected areas have been established since then, consisting of 11 Nature Reserves, 4 Multiple Use Management Areas, 1 Nature Park and two special reserve forests. Together they make up 2,293,200 hectares or 14% of the country's land surface. Of the 11 Nature Reserves, the Central Suriname Nature Reserve in the district of Sipaliwini is the largest and is placed on the World Heritage list of UNESCO.

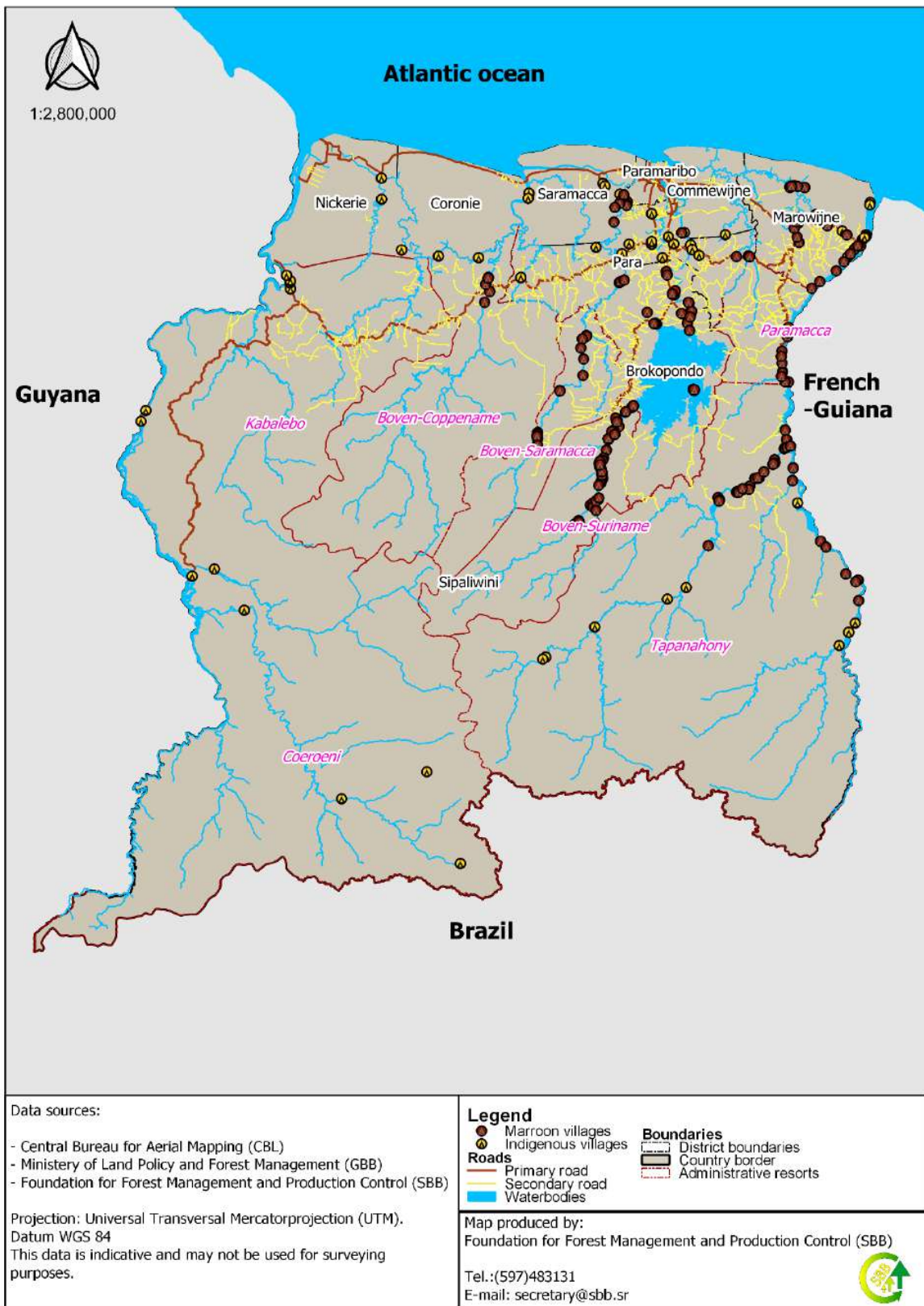


Figure 1. Map of Suriname
Source: Foundation for Forest Management and Production Control (SBB)

Suriname acceded to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in February 1981. The Ministry of Land Policy and Forest Management (GBB) is responsible for nature conservation in Suriname and is therefore currently responsible for implementation of CITES at the national level. The Head of Suriname Forest Service (LBB), which is resorted under the Ministry of GBB is according to the Game Law of 1954 and the State Order on Game 2002, the Wildlife Management Authority in Suriname.

The Suriname Forest Service (LBB) was established in 1947 (G.B. 1947 No. 108) and because of its tasks and powers it now resorts under the Ministry of Land Policy and Forest Management. The LBB has two major tasks, namely:

1. management of protected areas and,
2. wildlife management.

The duties and mandates of the Head of LBB are specifically outlined in the Nature Conservation Act 1954, the Forest Management Act 1992, and the Game Law. The Game Law of 1954 regulates the Wildlife Management in Suriname, including the CITES species.

The service divisions of LBB are currently Nature Conservation Division (NCD) and Forest Research. In a letter from the Head of LBB dated January 24, 2000, the mandate regarding the Forestry section of LBB was transferred to the Foundation for Forest Management and Production Control (SBB), which is a government foundation that directly resorts under the Minister of Land Policy and Forest Management. SBB is responsible for promoting Sustainable Forest Management among others by enforcing the Forest Management Act 1992, which includes monitoring the logging activities and the exports of timber.

By Ministerial Decree of April 15th, 2016, no. 0567B-16/Min RGB, S.B. 2016 No. 102, the Head of LBB is also designated as the CITES Management Authority in Suriname.

One of the requirements established in the text of the convention for the regulation of trade in specimen of species included in Appendix II, is that a Scientific Authority from the exporting member country declares that an export, import and/or re-export will not harm the CITES-regulated species survival in the wild. This analysis and evaluation mechanism is known as 'non-detriment findings' (NDF).

The proposal for the inclusion of the Order of Psittaciformes spp., in CITES Appendix II, except for the species included in Appendix I and *Agapornis roseicollis*, *Melopsittacus undulatus*, *Nymphicus hollandicus* and *Psittacula krameri*, which is not included in the Appendices, was adopted at the thirteenth meeting of the Conference of Parties to the CITES (CoP13) held in 2004 in Bangkok, Thailand and entered into force on January 12, 2005.

The CITES Animals and Plants Committees are reviewing the biological and trade information of Appendix II species subject to significant levels of trade, in order to identify problems and solutions concerning the implementation of Article IV, paragraphs 2 (a), 3 and 6 (a), of the Convention. These provisions require that a Scientific Authority makes a scientific assessment that international trade will not be detrimental to the survival of the species concerned.

At its 29th meeting (Geneva, July 2017), the Animals Committee examined the recorded levels of direct exports for Appendix II species of the five most recent years, as recorded in the CITES Trade Database, as well as an extended analysis of this trade prepared by the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC). On the basis of this and other information available, the Animals Committee selected a number of species/country combinations for review, including *Amazona farinosa*, *Ara ararauna* and *Ara chloropterus* of Suriname.

The CITES Secretariat sent a letter dated September 20, 2017, to the Head of LBB (CITES Management Authority) with the request to Suriname to provide the scientific basis by which Suriname states that exports of *Amazona farinosa*, *Ara ararauna* and *Ara chloropterus* from Suriname are not detrimental for the survival of the species concerned and are compliant with Article IV of the CITES convention.

The CITES Management Authority (MA) of Suriname has communicated with the CITES Secretariat on this matter and the Secretariat gave recommendations to Suriname in this regard. However, according to the report from the Secretariat to the Standing Committee, Suriname did not comply with any of the recommendations. The Secretariat is determined regarding implementation of the recommendations and requested the Standing Committee to adopt the following recommendations from the CITES Secretariat:

- a) request the Secretariat to publish a zero-export quota for *A. farinosa* until Suriname provides information to justify a higher quota to be agreed with the AC Chair; and
- b) urge Suriname to provide an update on the implementation of recommendations d) to m) by three months before the documentation deadline for SC77.

The Standing Committee meeting (SC74 doc. 30.1) has adopted the recommendations of the CITES Secretariat on this matter.

In view of the above and being a range state for the population and export of the species *Amazona farinosa*, a NDF of this species from Suriname is required in order to export this species and to ensure overall traceability, sustainability and legality of the export of this species.

Suriname, through the Nature Conservation Division (NCD), has carried out a pre-study to learn and better understand the locations and habitats of at least three parrot species (*Amazona farinosa*, *Ara ararauna* and *Ara chloropterus*). This work was supported by the Amazon Cooperation Treaty Organization (ACTO) - Bioamazon Project, and was undertaken in March 2021. To understand the population size of at least the three above mentioned parrot species, a population size study was initiated as well in 2021. The reports from these studies are titled:

- “A pre-study conducted on Psittacine species presence and numbers with the emphasis on the *Ara ararauna*, *Ara chloropterus* and *Amazona farinosa*”. An assessment on the habitat and occurrence of at least three parrot species in Suriname, and;
- “Population size status of parrot species”, a focus on population size of parrot species in known harvest areas.

With the available data the CITES Scientific Authority of Suriname conducted a baseline NDF on this species in Suriname.

1. BIOLOGICAL DATA

1.1 Scientific, common and local names

Scientific name:	<i>Amazona farinosa</i>
Common names:	Southern mealy amazon, Mealy Amazon, Mealy Parrot
Local names:	Mason, Mealy-amazon

1.2 Taxonomy

Order:	Psittaciformes
Family:	Psittacidae
Genus:	Amazona
Species:	<i>Amazona farinosa</i>

1.3 Distribution

1.3.1 Global distribution

Amazona farinosa is widespread from eastern Panama, south and east through Colombia, Venezuela, Guyana, Suriname, French Guiana, Ecuador, Peru, Bolivia and Brazil (see figure 2). Large populations are said to persist in the less disturbed parts of its range.



Figure 2. World distribution map of *Amazona farinosa*
Source: www.iucnredlist.org

1.3.2 National distribution

Widespread with a continuous distribution at the national level (see figure 3). Each small square indicates the observation of at least one (group) of these birds, the medium ones at least four observations on different days and the largest ones ten or more. The color of each square indicates: blue for coastal areas, yellow for savanna and red for rainforest.

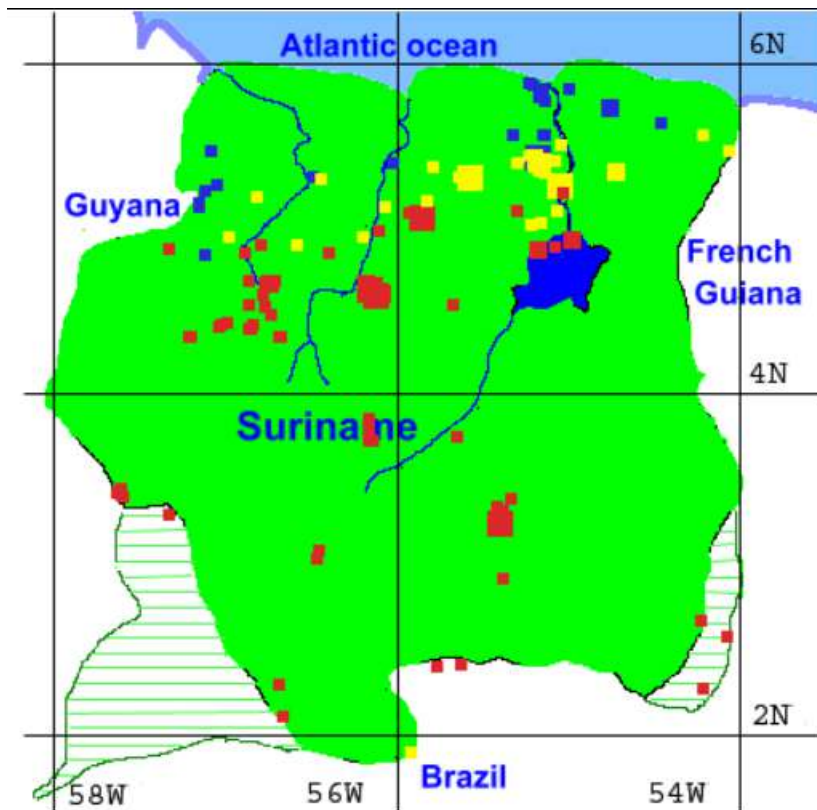


Figure 3. Distribution map of *Amazona farinosa* in Suriname
Source: www.surinamebirds.nl

1.4 Biological characteristics

1.4.1 General biological and life history characteristics of the species

1.4.1.1 Physical description

One of the largest of the Amazon parrots. The *Amazona farinosa* species measure approximately 38 to 40 cm in length and have an average weight of 540 to 700g. They are considerably less vibrant than other closely related parrots. These species are mainly green with a crown of blue and violet feathers on the head, as well as a powdery appearance given by the dull, bluish feathers on the head, neck, and shoulders. A few spots of red, yellow, or blue can be seen on the feathers underneath the wings, which are mainly dull green with lighter green tips. Around each eye is a white, featherless ring. The iris is a reddish-orange color. The beak is a gray, brown color. One way to discern this species from other *Amazona* species is the tail, which consists of two distinct tones: green and yellowish green. The feet are a grayish color. Males and females are monomorphic. A distinguishing feature between adults and juveniles is a brown iris in juveniles.

1.4.1.2 Sexual dimorphism

Sexual dimorphism is the differences in appearance between males and females of the same species, such as in colour, shape, size, and structure, that are caused by the inheritance of one or the other sexual pattern in the genetic material. In the case of *Amazona farinosa* the sexes are alike.

1.4.1.3 Reproduction

This species has a monogamous mating system. Mating occurs once a year and normally begins in the spring. Once sexually mature, this species parrots will choose one partner for life.

Breeding normally ranges from November to March. Nesting takes place in the tree-cavity. Female parrots usually lay one clutch per year of three eggs. Eggs are incubated for about four weeks, after hatching male parrots assist females in raising the young by regurgitating food for the female to eat. The offspring are ready to leave the nest after a period of about eight weeks. See table 1 for an overview of the reproductive features of the *Amazona farinosa*.

Table 1. Overview reproductive features of *Amazona farinosa*

Breeding interval	This species breeds for a span of a few months once a year
Breeding season	Breeding occurs from November to March
Range eggs per season	3 eggs
Range time to hatching	4 weeks
Range time to independence	2 months
Range age at sexual or reproductive maturity (female)	4 to 5 years
Range age at sexual or reproductive maturity (male)	4 to 5 years

During the incubation period, the male parrot will assist the female by regurgitating food for the female to eat. The female will protect and feed the hatched offspring until they are ready to leave the nest.

1.4.1.4 Lifespan/Longevity

The *Amazona farinosa* species has a lifespan in captivity typically between 50 and 100 years. Information on the lifespan of this species in the wild is unavailable.

1.4.1.5 Behavior

These species are social animals, often seen flying in pairs or small flocks of up to 20. They will also form larger groups of several hundred birds near the breeding season. They are very active and are often seen interacting with other species of parrots, such as macaws (*Ara*).

The *Amazona farinosa* can be very noisy, with a variety of different calls, including chattering, squawking, and whistling. The calls can be heard at a distance, as their voice usually has a deeper tone than that of other Amazona parrots.

1.4.1.6 Food habits

These species are frugivores and granivores. They feed mostly on plant parts, including seeds, fruits, nuts, blossoms, and leaf buds.

1.4.1.7 Predation

These species are prey to various predators, such as hawks and monkeys. Snakes may steal eggs or young offspring. Also humans hunt these birds for consumption, (pet) trade and feathers.

1.4.2 Habitat types

This species inhabits extensive tracts of lowland tropical evergreen forest, also occurring in palm stands, deciduous and gallery woodland and secondary growth near forest. In Suriname this species is mostly found in forests along rivers and savanna forests throughout the country. In July and August flocks come on forested sand-ridges in the coastal region. See figure 4 for the vegetation map of Suriname.

1.4.3 Role of the species in its ecosystem

Although their importance to the environment has not been extensively researched, this species are speculated to play a role in seed dispersal as well as act as a pollinator of the flowers they feed on. Furthermore as prey for predators.

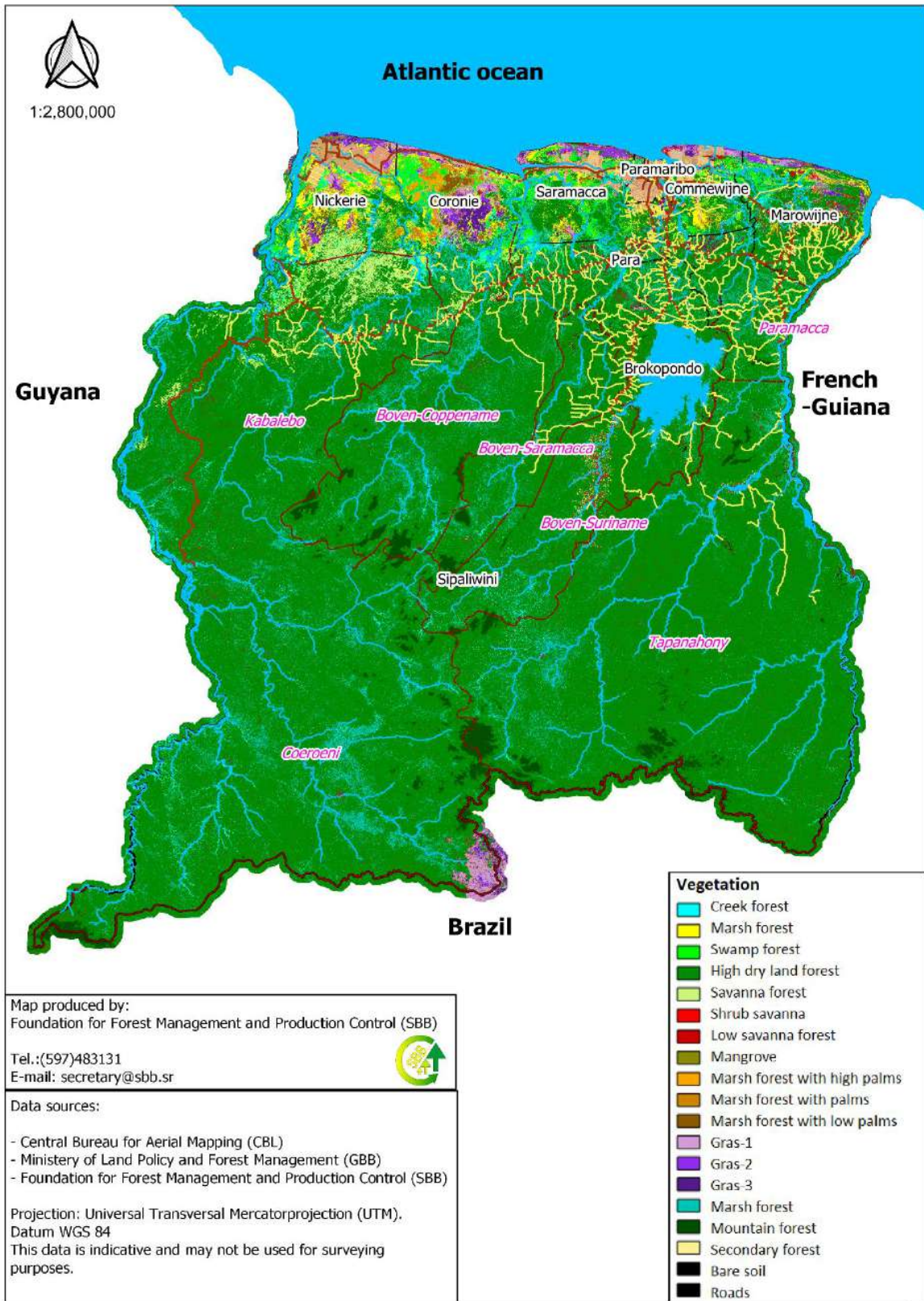


Figure 4. Vegetation map of Suriname
 Source: Foundation for Forest Management and Production Control (SBB)

1.5 Population

1.5.1 Global population size

The global population size has not been quantified. The species can be locally common in parts of its range, both in primary and mature secondary forest. The estimation of this species can be challenging due to their wide distribution, remote habitats, and sometimes elusive behavior. Population assessments may rely on various methods, including field surveys, local observations, and data from research studies and conservation organizations.

1.5.2 Current global population trends

The population is undergoing a decline caused by habitat loss and the impacts of hunting and trapping. Since 2000, tree cover within the range has been lost at a rate equivalent to roughly 13% over three generations. Rates of deforestation vary between the range; forest loss is historically more severe in the Atlantic Forest of Brazil, while forests in parts of the Amazon Basin and Guiana Shield remain largely pristine. The species appears to tolerate some habitat degradation, but it is susceptible to hunting and trapping. Based on this evidence, population declines are placed in the band 10-19% over three generations (28.8 years).

1.5.3 National abundance

Generally very abundant and occur at high densities.

Suriname, through the Nature Conservation Division (NCD), has carried out a pre-study to learn and better understand the locations and habitats of at least three parrot species (*Amazona farinosa*, *Ara ararauna* and *Ara chloropterus*). This work was supported by the ACTO's Bioamazon Project and was undertaken in March 2021. To understand population size of at least the three above mentioned parrot species, a population size study was initiated as well in 2021.

During the pre-study, all research areas were assessed via waterways. The North Commewijne swamp was assessed via accessible routes in the swamp. All other areas were assessed via main waterways (Rivers and a canal). The North Commewijne swamp consists mainly of Black mangrove forest patches and the habitats of most other research areas were all riverine consisting of elements of secondary vegetation and high dryland forest. During the pre-study only two parrot species of interest have been found: *Amazon farinosa* and *Ara ararauna*¹ (see annex 1).

There are several known harvest areas that are mostly in the coastal area of Suriname. A population study was conducted in August 2021, January 2022 and during June and July 2022 by Ramcharan in eight of these locations (see figure 5). The aim was to collect data seasonally to understand species numbers throughout certain times of the year in known harvest areas.

Field data was collected during August 2021, January 2022 and during June-July 2022. During the field visits data on other parrot species except for the research objects, were counted as well. Nine locations were surveyed. Eight of these locations were river transects and one was an island. Data on the latter was collected via point count. With this data, a baseline has been established for any future intended study as well. See table 2 for along which river these known harvest areas were surveyed.

¹ Ramcharan S. and Lingaard M. (2022, August 5). Population size status of parrot species, A focus on population size of parrot species in known harvest areas, Suriname.

Table 2. Location of the known harvest areas

River/tributary	Known harvest areas
Coppename	Karani
Wayambo	Corneliskondre
Maratakka	Bigibere, Morotokko
Cottica	Cottica
Barbacoeba	Barbacoeba
MCP	Tarzan
Corantijn	Kaburi, Island Apoera

With regard to species observed along the eight river transects, the highest species richness was reached for Corneliskondre with a species number of 15 species. Second highest in terms of species richness was obtained for both Morotokko and Karani (both had a species richness of 14). The Apoera Island only sustained one parrot species, which is the Orange-winged Parrot. When analyzing the occurrence of the research objects, the *Amazona farinosa* were found on six river transects and were absent at Bigibere and Cottica. The highest number for the *Amazona farinosa* was reached at Karani with 162 individuals. The second highest count was found at Morotokko with 137 individuals. When comparing species diversity based on the presence of the research objects, it is obvious that during January less is observed. The species diversity values and evenness values are therefore highest over August and June-July². In order to have a good population estimation it is advisable to do a population study at least after each two years and include more study areas. The above-mentioned population study covers only the coastal areas known harvesting sites. See table 3 for an overview of observed *Amazona farinosa* species during this population study.

The population study has been done using the transect method (see figure 6) and point count method (see figure 7). Details on the method used for the population study is described in the population study report (Ramcharan, 2022) that is included in this NDF as Annex II.

² Ramcharan S. and Lingaard M. (2022, August 5). Population size status of parrot species, a focus on population size of parrot species in known harvest areas, Suriname.

Table 3. Overview of observed *Amazona farinosa* per location and date during the population study (Ramcharan, 2022)

Location	Date of observation	<i>Amazona farinosa</i>	Location	Date of observation	<i>Amazona farinosa</i>	
1 Karani	17/8/21	1	4	11/1/22	0	
	18/8/21	0		12/1/22	0	
	19/8/21	162		4/7/22	0	
	6/1/22	0		6/7/22	3	
	7/1/22	0	5 Barbacoeba	28/8/21	0	
	7/1/22	0		29/8/21	0	
	8/1/22	0		28/1/22	0	
	21/6/22	12		29/1/22	0	
	22/6/22	121		15/7/22	0	
	22/6/22	30		16/7/22	0	
23/6/22	18	30/8/21		0		
2 Corneliskondre	21/8/21	54		6 Cottica	30/8/21	0
	21/8/21	23			31/8/21	0
	22/8/21	56			29/1/22	0
	13/1/22	6	30/1/22		0	
	14/1/22	18	30/1/22		0	
	15/1/22	6	31/1/22		0	
	7/7/22	49	17/7/22		0	
	7/7/22	9	17/7/22		100	
	8/7/22	94	18/7/22		0	
	3 Bigibere	23/8/21	2		7 Kaburi	26/1/22
24/8/21		6	26/1/22	5		
25/8/21		8	27/1/22	9		
8/1/22		0	27/1/22	2		
9/1/22		0	17/6/22	2		
9/1/22		0	18/6/22	6		
10/1/22		0	18/6/22	4		
2/7/22		0	19/6/22	19		
3/7/22		0	8 Tarzan	30/1/22		0
4/7/22		2		31/1/22		1
4 Morotokko	25/8/21	137		31/1/22	11	
	26/8/21	25		1/2/22	0	
	26/8/21	0		19/6/22	0	
	27/8/21	7		20/6/22	9	
	10/1/22	0		20/6/22	0	
	11/1/22	0		21/6/22	0	

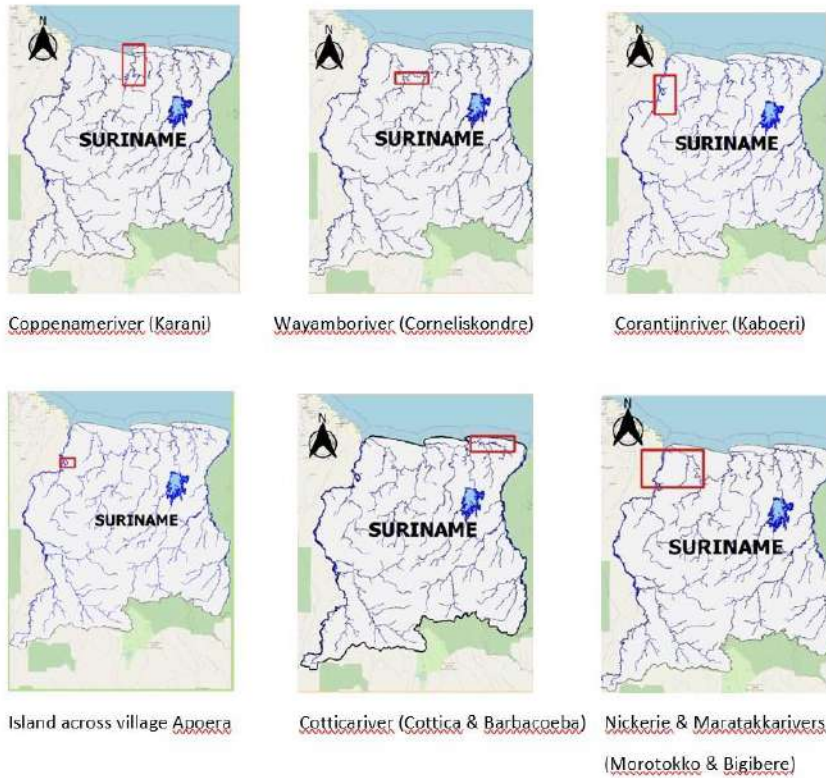


Figure 5. Overview of the area of interest population study. Known harvest areas of *Amazona farinosa* in Suriname.
Source: S. Ramcharan, 2022.

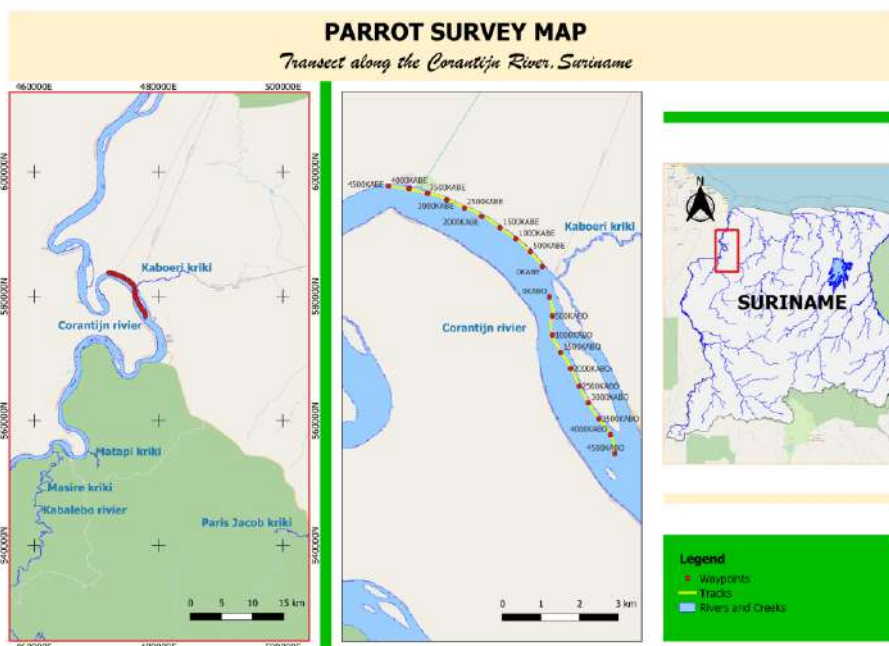


Figure 6. Map showing transect method used to do the parrot population survey.
Source: S. Ramcharan, 2022.

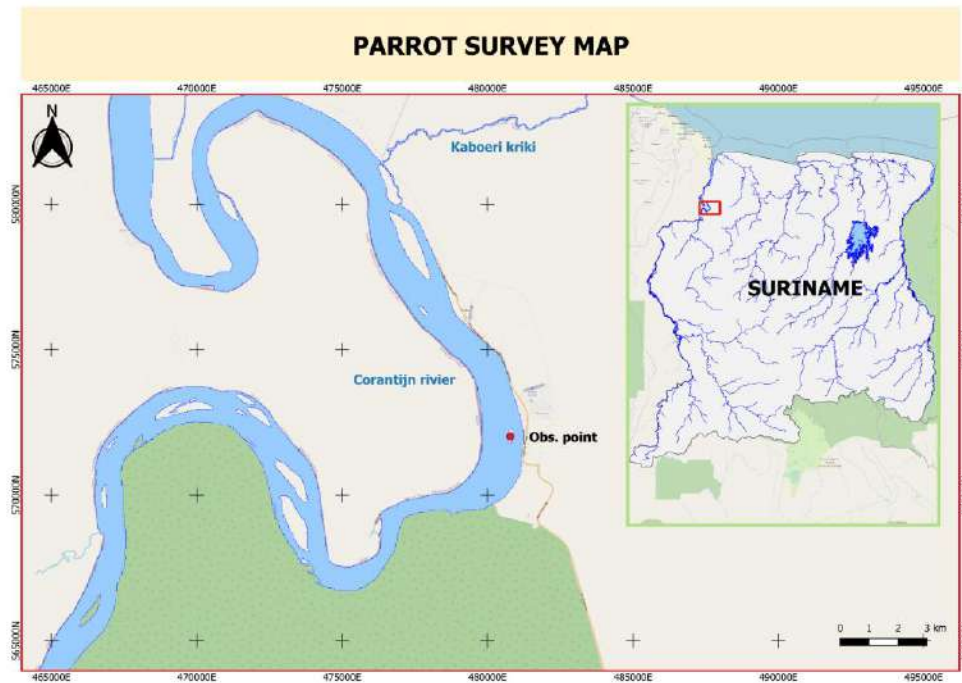


Figure 7. Map showing point count method used to do the parrot population survey.
Source: S. Ramcharan, 2022.

1.5.4 National population trend

Currently there is insufficient data available for the population trend of this species. The population study by Ramcharan is a baseline study for this species. In order to estimate the population trend several studies over time (typically years) will be required. The number of years of data, sampling frequency, degree of measurement error and population variability all affect the reliability of the derived trend.

1.6 Conservation status

1.6.1 Global conservation status (according to IUCN Red List)

The *Amazona farinosa* species are currently not identified as a species in crisis. They do not meet the criteria for a population decline, meaning a thirty percent loss of the population in ten years or three generations, as defined by the IUCN Red List. They are considered a species of Least Concern. This, however, does not suggest that the species is completely free from danger. Both the large amount of trading and the loss of habitat from deforestation have a significant impact on population declines of this species in certain areas. This species is listed on CITES as an Appendix II species and international trade is only allowed with a CITES permit.

1.6.2 National conservation status

According to the Game Act of 1954 No. 25 as amended S.B. 1997 no. 33 and the Hunting Decree S.B. 2002 no. 116 and the Hunting decree S.B. 2009 no. 16, the *Amazona farinosa* belongs to the Cage species category and is therefore, not a totally protected species in Suriname. Hunting is regulated through the hunting calendar for the northern zone for: HUNTING GAME with open respectively closed hunting and gathering seasons based on the Hunting Act 1954 no. 25 has a closed season from December till June (mating and breeding season) and an open season from July to November. Each hunter with a hunting license is

permitted with a “bag limit” (take off) of 5 pieces of this species each hunting trip. Harvest for export is governed by permit. Capture is only allowed under catchers permit by specific trappers. Hunting and trapping are not permitted in protected areas. No permit is needed for domestic use.

1.6.3 Main threats in Suriname

Illegal wildlife trade: This species is a popular bird in the exotic pet trade due to its stunning appearance and intelligence. Illegal capture and trade can significantly impact wild populations, as well as disrupt social structures and reproductive success.

2. SPECIES MANAGEMENT IN SURINAME

2.1 Management measures

The Game Act of 1954 regulates the wildlife management in Suriname. A game calendar has been established as an integrated part of the Game State order to regulate hunting and trapping of game species through open and closed seasons. Although legislation is in place to protect the species from overexploitation there are still some concerns such as overharvesting and illegal harvesting by local and non-registered trappers. Due to lack of monitoring and enforcement activities by the authorities, illegal harvesting and trade might occur. Across the species distribution there is little evidence of active management.

2.2 Methods used to monitor harvest

The method used to monitor the effects of the harvest is through the monitoring of export and export quota. The CITES Management Authority has developed an e-permitting system with funding from the Bioamazon project. This e-permitting system has a few issues that still needs to be solved before it can be fully functional. With this system, the management of wildlife export can be easy, transparent and traceable. Suriname has a system of voluntary export quotas for wildlife fauna species, which was in place 1987 after revision of the Game Law 1954 and has been revised in 1995 and is up till date being used. Before the latest decision of the Standing Committee (SC74 doc. 30.1), the quota for the *Amazona farinosa* was 450. Suriname implemented a zero-export quota for *Amazona farinosa* after the publication regarding this matter by the CITES Secretariat in 2022.

The harvesting quotas are 25% higher than the established export quotas to take into account the mortality rate. For all bird species, the general export quotas are much higher than the actual numbers exported.

There is a general quota and individual quotas for each trader. If a trader is not exporting a species for two consecutive years, the quota of that trader for that species will automatically be zero the next year – but the general quota is not amended. A “free quota system” applies to other traders that might want to start trading the species. In some cases, this “free” quota represents half the total quota.

Until now, there has been limited or no involvement of the SA in establishing quotas and limited understanding of how to develop an NDF. While quotas exist for a large number of species (50-75), only about 15 species are regularly traded.

According to the general conditions, the harvesting quotas are 25% higher than the established export quotas. For all bird species, the general export quotas are much higher than the actual numbers exported. Sometimes the quota is three times higher in comparison with the actual numbers exported.

2.3 Institutional and Legal framework

2.3.1 Institutional Framework

The CITES MA in Suriname is located in the Ministry of Land Policy and Forest Management. The policy and planning part of the MA sits in the LBB, which falls under the Sub-Directorate Forest Management, while the permitting and enforcement is in the NCD, which reports to LBB (see figure 8 for more details). The Permits section has two subsections namely Breeding in Captivity and Trade in Wild Flora and Fauna, which are not illustrated in the organogram. SBB is in charge of forest management, while the LBB/NCD is in charge of wildlife management. SBB is a government foundation that reports directly to the Minister of GBB.

SBB deals with all forestry (timber) permits. However, SBB only prepares the Legal Acquisition Findings (LAF) and the relevant documents for the CITES listed species for the MA (LBB) and SA. If approved by the MA, the CITES permits are being issued. Without the CITES permit from the MA, no CITES listed species (fauna and flora) can be exported. The CITES SA is a committee consisting of representatives from the following agencies:

1. National Zoological Collection of Suriname (NZCS),
2. National Herbarium of Suriname (BBS),
3. Centre for Agricultural Research in Suriname (CELOS),
4. Import, export and foreign exchange control Division of the Ministry of Trade and Industry (IUD),
5. Plant protection and quality inspections of the Ministry of Agriculture, Animal Husbandry and Fisheries (LVV) with expertise in plant diseases and pests,
6. Directorate of Fisheries of the Ministry of Agriculture, Animal Husbandry and Fisheries (LVV) with expertise on fisheries,
7. Veterinary service of the Ministry of Agriculture, Animal Husbandry and Fisheries (LVV) with expertise in animal welfare and animal diseases,
8. Suriname Forest Service (LBB),
9. Nature Conservation Division (NCD) and
10. Foundation for Forest Management and Production Control (SBB).

While the SA was formally established several years ago, the members of the committee were only appointed in 2022. The Chair of the SA is part of the Research Section of the NCD (alongside the permit section and the Nature Conservation Section, responsible for game wardens and inspection of captive breeding facilities).

2.3.2 Legal Framework and enforcement

Amazona farinosa is listed as a CITES Appendix II species. The legal framework and enforcement for wildlife in Suriname are based on various national and international laws and regulations.

The Ministry of GBB, is in accordance with the Decree Task Description Departments 1991 (S.B. 1991 no. 58), as it reads after the amendments made therein by S.B. 2002 no. 16, S.B. 2005 no. 94, S.B. 2010 no. 124 and S.B. 2020 No. 141) in charge of the nature management and conservation, and control of compliance with rules and regulations with regard to the production of wood and wood products, flora and fauna. In accordance with the Game Act 1954 and its implementing Decrees, LBB is in charge of wildlife management in Suriname. This task is implemented by the Nature Conservation Division. The Head of LBB has also been appointed by ministerial order dated 15 April 2016 No. 0567B-16/Min RGB (S.B. 2016 No. 102) as the CITES Management Authority in Suriname.

Organogram Ministry Land Policy and Forest Management in relation to CITES

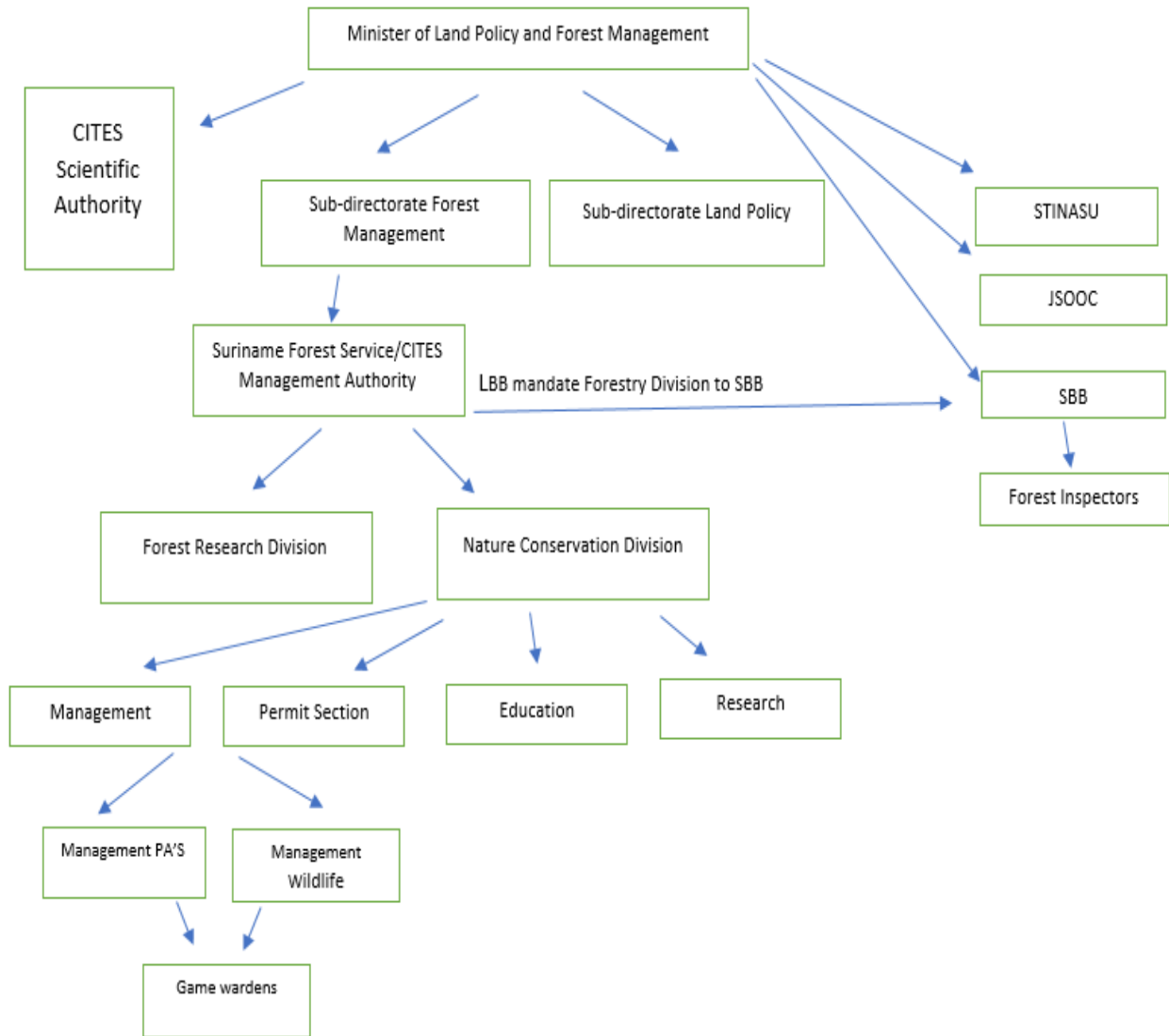


Figure 8. Organogram Ministry of Land Policy and Forest Management in relation to CITES
 Source: Tajib K. (from the Sub-Directorate Forest Management)

3. UTILIZATION AND TRADE IN SURINAME

3.1 Type of use

The species is trapped for trade, albeit at a generally moderate or even low rate; trapping pressure can however be locally higher. In some regions, these species are also hunted for food and their feathers, which are used in traditional crafts and ceremonies.

3.2 Harvest

3.2.1 Harvesting regime

Although the *Amazona farinosa* is listed as a cage species on the game calendar of Suriname, it is also being hunted for food by some people. Therefore, this species can only be trapped during the open season (July to November). Outside the open season hunting, trapping, transport and trade of this species is prohibited and classified as a criminal offence by the Game Act and the Economic Crimes law. The maximum penalty for illegal trade is six years and if it involves organized crime, it is 8 years. The Prosecutor's Office has established a special desk for environmental and economic crime with four dedicated prosecutors. Any seizures by the game wardens are to be directly communicated to the Prosecutor's Office who leads the investigations.

Suriname has four categories of Protected Areas in total covering about 14% of its land surface. In the eleven (11) nature reserves (Coppename Monding NR, Galibi NR, Wia-wia NR, Brinckheuvel NR, Wanekreek NR, Peruvia NR, Copi NR, Boven Coesewijne NR, Hertenrits NR, Sipaliwini NR and Central Suriname Nature Reserve (CSNR), which covers a total of 1,889,1000 ha.) no activities are allowed without permission from the Head of LBB (see figure 9). It is strictly protected. No hunting or trapping of species is allowed in protected areas (nature reserve).

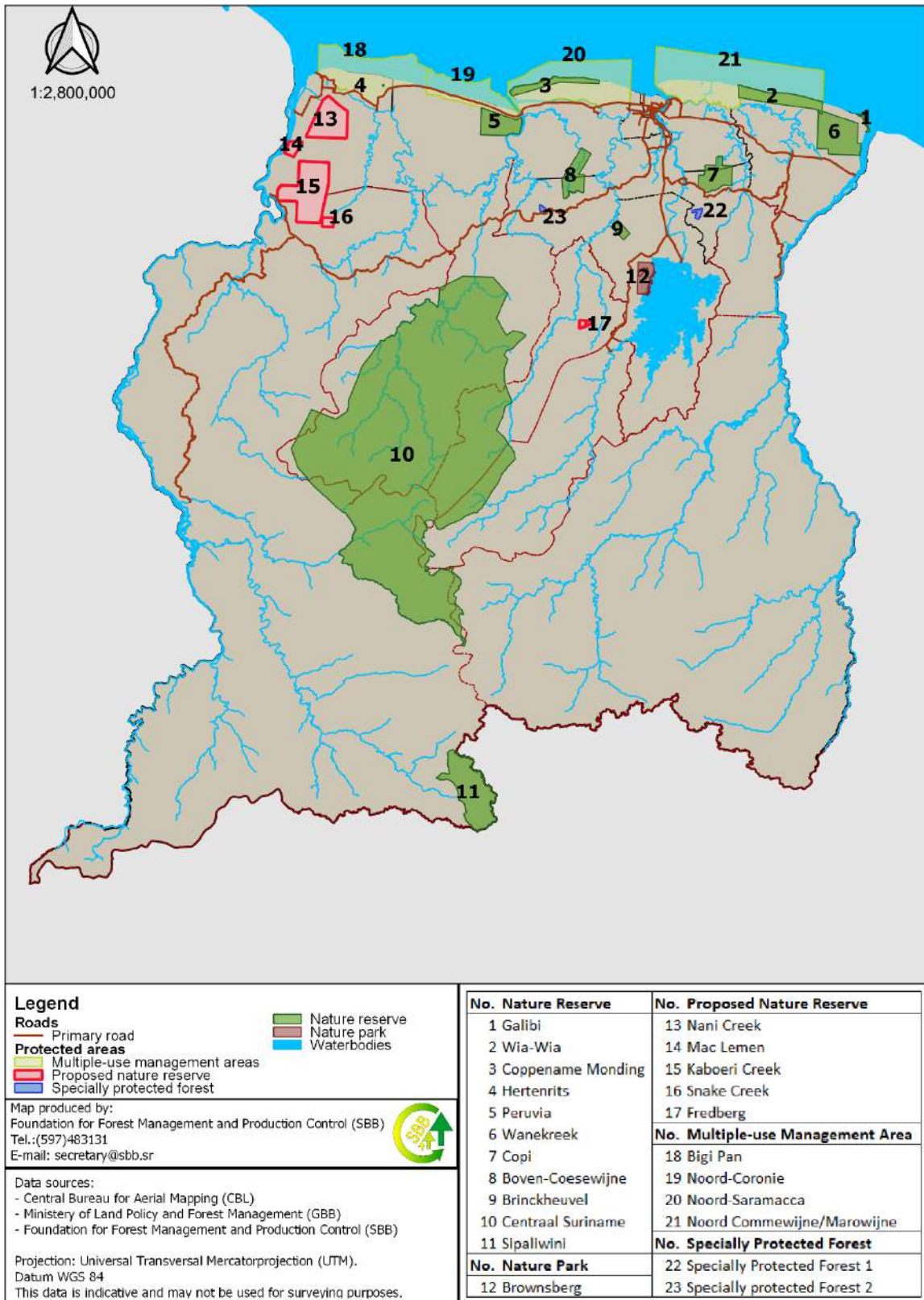


Figure 9. Overview of the protected areas in Suriname
 Source: Foundation for Forest Management and Production Control (SBB)

3.2.2 Harvest management

Animal exporters register their trappers at the permit section of the NCD. All registered trappers receive a trapper's pass and are allowed to trap species within the quota of an individual exporter. Trapping, transporting and trading of *Amazona farinosa* is not allowed during the closed season (December to June). Harvest in nature reserves is prohibited. All exporters must make and submit to the NCD an annual inventory of all trapped species with the off-take from the wild, the area of harvest and export data including the mortality data. The Head of LBB/CITES MA issues CITES and non-CITES permits.

The Wildlife Management section of the NCD is responsible for inspecting all shipments and endorsing the CITES permits before export, undertaking patrolling in the field, based on a number of checkpoints. A team inspects the captive breeding facilities (two big ones and a couple of smaller ones). The enforcement of wildlife protection laws and regulations in Suriname is done by the game wardens of the Nature Conservation Division. There are currently about 35 active game wardens and 35 more in training. They are extraordinary police officers and operate within their task throughout the territory of Suriname. They collaborate with various governmental agencies, including the Police Department, Customs, Military Police, Public Prosecutors Office. They also collaborate with local authorities and non-governmental organizations to monitor and combat illegal activities related to wildlife, such as poaching, illegal trade etc. There are concerns about smuggling of *Amazona farinosa* and other species between Guyana and Suriname, but there is no formalized collaboration with Guyana on these issues.

3.3 Legal and illegal trade levels

3.3.1 Trade data

In terms of international trade, Suriname is a significant exporter of live *Amazona farinosa*. Suriname's wildlife trade sector is contributing to its economy, especially bird species, including *Amazona farinosa*, account for a significant portion of its exports.

To analyze the export of *Amazona farinosa*, data for the period 2013-2020 has been extracted from the CITES Trade Database maintained at UNEP-WCMC (see table 4 and figure 10). Suriname has yet to submit its annual CITES report of 2021 and 2022. For this analysis only the data where the trade term code was 'live' is included.

The following is observed:

In 2013 a total of 347 live *Amazona farinosa* from the wild were exported to Netherlands Antilles (3), China (7), Curaçao (12), Dominican Republic (65), Hong Kong (15), Kuwait (12), Malaysia (39), Nepal (8), Pakistan (14), Russia (107), Singapore (21), Sint Maarten (2), Thailand (40) and United States of America (2) for commercial trade, breeding and Scientific purposes. The import records for this year shows that a total of 97 live *Amazona farinosa* has been imported by Dominican Republic (35), Malaysia (32) and Thailand (30) for commercial trade as purpose. Records show that the exports did not exceed the national quota of 450 for this year and a discrepancy of 250 species in the export and import data.

In 2014, 172 live *Amazona farinosa* from the wild were exported to Kuwait (48), Saint Martin (2), Panama (2), Pakistan (10), Russia (60), Thailand (30) and Turkey (20) for commercial trade and breeding purposes. The import records for this year shows that a total of 35 live *Amazona farinosa* has been imported by Thailand (15) and Turkey (20) for commercial trade

as a purpose. Records show that the exports did not exceed the national quota of 450 for this year and a discrepancy of 137 species in the export and import data.

In 2015, 131 live *Amazona farinosa* from the wild were exported to Dominican Republic (13), Egypt (10), Russia (50), Singapore (104), Thailand (43) and Turkey (15) for commercial trade and breeding purposes. The import records for this year shows that 90 live *Amazona farinosa* have been imported by Dominican Republic (13), Hong Kong (16) Oman (4), Thailand (37) and Turkey (20) for commercial trade and breeding purposes. Records show that the exports did not exceed the national quota of 450 for this year and a discrepancy of 41 species in the export and import data.

In 2016, 184 live *Amazona farinosa* from the wild were exported to Netherlands Antilles (5), Egypt (18), Hong Kong (70), Oman (76) and Thailand (15) for commercial trade and breeding purposes. The import records for this year shows that a total of 161 live *Amazona farinosa* has been imported by Hong Kong (70), Oman (76) and Thailand (15) for commercial trade as purposes. Records show that the exports did not exceed the national quota of 450 for this year and a discrepancy of 23 species in the export and import data.

In 2017, 203 live *Amazona farinosa* from the wild were exported to Netherlands Antilles (7), China (34), Oman (14), Saudi Arabia (73) and Thailand (75) for commercial trade and breeding purposes. The import records for this year shows that 213 live *Amazona farinosa* have been imported by China (34), Kuwait (20), Oman (84) and Thailand (75) for commercial trade, zoo and breeding purposes. Records show that the exports did not exceed the national quota of 450 for this year and a discrepancy of 10 species in the export and import data.

In 2018, 237 live *Amazona farinosa* from the wild were exported to China (58), Curaçao (33), Georgia (5), Kuwait (16), Oman (14), Pakistan (38), Saudi Arabia (16), Singapore (22), Sint Maarten (2) and Thailand (33) for commercial trade and breeding purposes. The import records for this year shows that a total of 135 live *Amazona farinosa* has been imported by China (10), Oman (66), Singapore (26) and Thailand (33) for commercial trade and zoo purposes. Records show that the exports did not exceed the national quota of 450 for this year and a discrepancy of 102 species in the export and import data.

In 2019, 99 live *Amazona farinosa* from the wild were exported to Curaçao (11), Kuwait (18), Oman (42) and Russia (28) for commercial trade as purpose. The import records for this year shows that 60 live *Amazona farinosa* have been imported by Kuwait (18) and Oman (42) for commercial trade as purpose. Records show that the exports did not exceed the national quota of 450 for this year and a discrepancy of 39 species in the export and import data.

In 2020, 77 live *Amazona farinosa* from the wild were exported to the United Arab Emirates (38), Afghanistan (24) and Bangladesh (15) for commercial trade as purpose. The import records for this year shows that a total of 32 live *Amazona farinosa* has been imported by the United Arab Emirates (18) and Bangladesh (14) for commercial trade as a purpose. Records show that the exports did not exceed the national quota of 450 for this year and a discrepancy of 45 species in the export and import data.

According to the CITES trade database in the years from 2013 till 2020 the exports of *Amazona farinosa* did not exceed the quota of 450. The highest number of exports, still below the quota, is seen in the year 2013 of 347 exported live species followed by 237 live species exported in

2018 and 203 live species exported in 2017. A significant decrease of export of this species is observed for the years 2019 and 2020. This might be caused by the Covid-pandemic situation.

Analysis of the CITES export trade data shows that most of the *Amazona farinosa* species that are exported came from the wild except in 2017 (twenty species came from breeding) and 2020 (fourteen species came from breeding). The SA is aware of one permit for breeding in captivity for his species in Suriname but there is no data available to support the export of this source. Most of the *Amazona farinosa* from 2013 till 2020 are exported to Russia with the highest score of 245 species, followed by Thailand with a score of 236 species.

The analyses of the CITES import trade data shows that from 2013 till 2020 most of the species are imported in Oman with a score of 272 live species, followed by Thailand with a score of 205 live species (see table 5 and figure 11).

Furthermore, it is observed that there are discrepancies in the export and import records. The export data from 2013-2020 shows a total of 1450 live species exports reported by Suriname and a total of 823 live species imports of *Amazona farinosa* from Suriname reported by the importing countries. The discrepancy is probably the result of an administrative error. A proper data entry and submission of the CITES annual report is necessary to eliminate any discrepancy in the future.

3.3.2 Illegal trade

Due to the lack of data, it is difficult to quantify the extent of illegal trade of this species.

Table 4. Exports of live *Amazona farinosa* from Suriname 2013-2020. Data has been extracted from the CITES Trade Database maintained at UNEP-WCMC.

Country	2013	2014	2015	2016	2017	2018	2019	2020	Total
United Arab Emirates	0	0	0	0	0	0	0	38	38
Afghanistan	0	0	0	0	0	0	0	24	24
Netherlands Antilles	3	0	0	5	7	0	0	0	15
Bangladesh	0	0	0	0	0	0	0	15	15
China	7	0	0	0	34	58	0	0	99
Curaçao	12	0	0	0	0	33	11	0	56
Dominican Republic	65	0	13	0	0	0	0	0	78
Egypt	0	0	10	18	0	0	0	0	28
Georgia	0	0	0	0	0	5	0	0	5
Hong Kong	15	0	0	70	0	0	0	0	85
Kuwait	12	48	0	0	0	16	18	0	94
Sri Lanka	0	0	0	0	0	0	0	0	0
Saint Martin	0	2	0	0	0	0	0	0	2
Malaysia	39	0	0	0	0	0	0	0	39
Nepal	8	0	0	0	0	0	0	0	8
Oman	0	0	0	76	14	14	42	0	146
Panama	0	2	0	0	0	0	0	0	2
Pakistan	14	10	0	0	0	38	0	0	62
Russian Federation	107	60	50	0	0	0	28	0	245
Saudi Arabia	0	0	0	0	73	16	0	0	89
Singapore	21	0	0	0	0	22	0	0	43
Sint Maarten	2	0	0	0	0	2	0	0	4
Thailand	40	30	43	15	75	33	0	0	236
Turkey	0	20	15	0	0	0	0	0	35

United States of America	2	0	0	0	0	0	0	0	2
Total	347	127	131	184	203	237	99	77	1450

Table 5. Import of live *Amazona farinosa* from Suriname 2013-2020. Data has been extracted from the CITES Trade Database maintained at UNEP-WCMC.

Country	2013	2014	2015	2016	2017	2018	2019	2020	Total
United Arab Emirates	0	0	0	0	0	0	0	18	18
Bahrain	0	0	0	0	0	0	0	14	14
China	0	0	0	0	34	10	0	0	44
Dominican Republic	35	0	13	0	0	0	0	0	48
Hong Kong	0	0	16	70	0	0	0	0	86
Kuwait	0	0	0	0	20	0	18	0	38
Malaysia	32	0	0	0	0	0	0	0	32
Oman	0	0	4	76	84	66	42	0	272
Singapore	0	0	0	0	0	26	0	0	26
Thailand	30	15	37	15	75	33	0	0	205
Turkey	0	20	20	0	0	0	0	0	40
Total	97	35	90	161	213	135	60	32	823

3.3.2 Illegal trade

Due to the lack of data it is difficult to quantify the extent of illegal trade of this species.

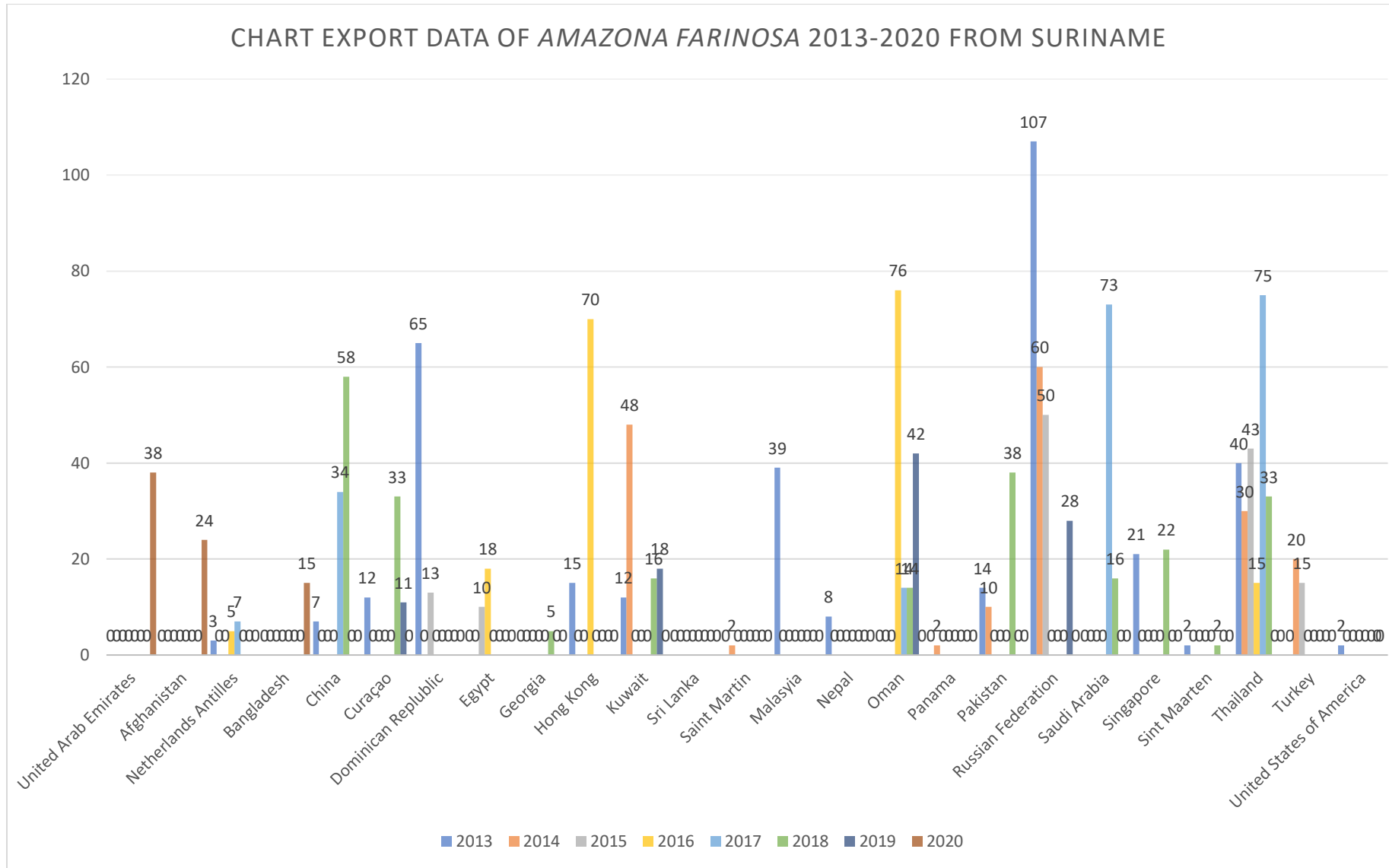


Figure 10. Chart export data of *Amazona farinosa* 2013-2020 from Suriname

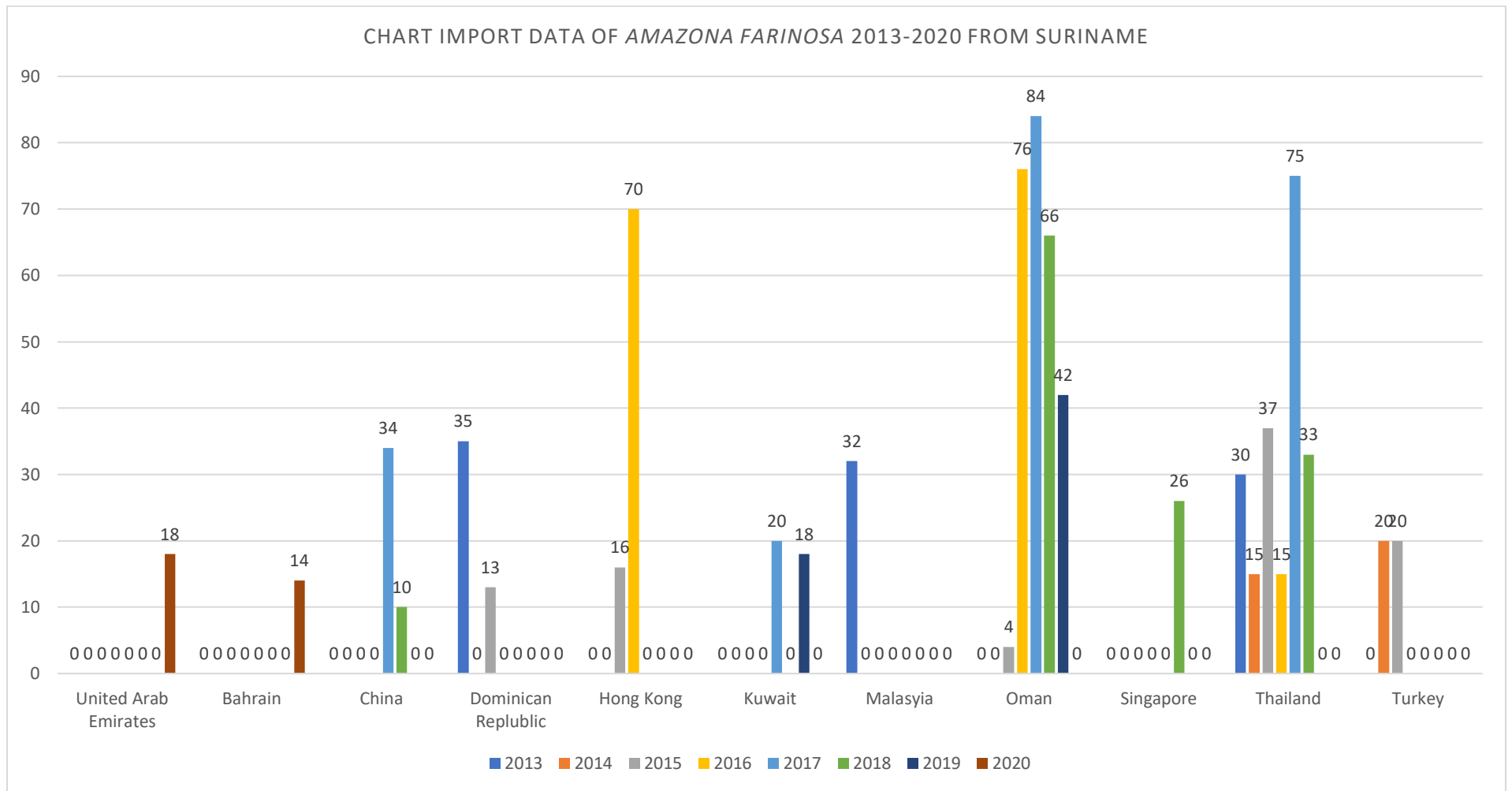


Figure 11. Chart import data of *Amazona farinosa* 2013-2020 from Suriname

4. NON-DETRIMENT FINDING

4.1 IUCN-NDF checklist analyses

The Scientific Authority conducted this NDF using the guidance of the IUCN-NDF checklist as presented below in table 6. The result of this checklist is presented in the following paragraph in the form of a radar chart in figure 12.

Analyses of the result show that in terms of biological characteristics the *Amazona farinosa* has a low reproductive rate and a long life history. This species is a highly adaptive bird species when it comes to environmental tolerance. They inhabit a diverse range of habitats, displaying their ability to adapt to different environmental conditions. Some of the key factors that contribute to this species adaptability are as follows:

- **Habitat Variety:** This species is found in a wide range of habitats, from tropical rainforests and savannas to grasslands and palm groves. This adaptability to various environments allows them to cope with changes in their natural surroundings.
- **Feeding Behavior:** They have an omnivorous diet that includes fruits, seeds, nuts, and various plant materials. This broad diet allows them to exploit different food sources, which is essential for surviving in diverse habitats.
- **Nesting Habitats:** They often utilize tree cavities or cliffs for nesting, demonstrating their ability to adapt their nesting habits to available resources in different locations.
- **Flight and Mobility:** Being strong flyers, they can cover vast distances and relocate to new areas if necessary. This mobility enhances their ability to cope with environmental changes or find suitable habitats.
- **Social Structure:** They are highly social birds and often form large flocks. This social behavior can provide advantages in adapting to changing environments as they can share information about food sources and potential threats.
- **Breeding Flexibility:** They are known for their adaptability in breeding, and they can adjust their breeding patterns according to the availability of resources and favorable conditions.

The national distribution of *Amazona farinosa* in Suriname is widespread and contiguous. Recent population study on known harvest sites shows that this species is still in abundance in the wild, however like many other parrot species, they are facing challenges due to illegal harvesting and trade. These factors can significantly affect their populations and their ability to adapt to changing environments in the long term.

There is no existing harvest plan for this species or any other species. The harvest is managed based on the existing regulations for game species taking into consideration the open and closed seasons of the game calendar for this species. The aim of harvest is to exploit maximum economic yield.

Suriname has a system of voluntary export quotas for wildlife fauna species, which was in place 1987 after revision of the Game Law 1954 and has been revised in 1995 and is up till date used. Before the latest decision of the Standing Committee (SC74 doc. 30.1), the quota for the *Amazona farinosa* was 450. Suriname implemented a zero-export quota for this species after the publication regarding this matter by the CITES Secretariat in 2022.

Considering mortality rate during harvest and transport the harvest quota is set 25% higher than the national export quota, which in terms of conservation is considered a high risk.

Most of the legal national harvest occurs in the coastal areas and areas where there is no strong local control.

Considering the above and due to lack of budgetary and other factors the confidence in effective implementation of harvest management is medium.

The principal used to monitor the effect of the harvest is through national monitoring of exports. The CITES MA has developed an e-permitting system, which can be used as a tool to monitor and manage exports of this species. The system has yet to be operational. The confidence level in the effective harvest monitoring is medium.

At the national level, the conservation benefit to this species accrues from harvesting is low. All profits from the game trade go to the state's treasury and very little goes back into the national budget for nature conservation.

Harvest in Protected Areas (Nature Reserves) are strictly prohibited. Considering that Suriname has 11 Nature Reserves, with a total of 1,889,1000 ha, the percentage of the species' natural range or population legally excluded from harvest is between 5-15% (11.5%).

It is uncertain how effective restriction on harvest in harvest areas can help to prevent overharvesting. Study on this matter has never been conducted.

Table 6. Harvest regime checklist

Biological characteristics: <i>Amazona farinosa</i>		
2.1. Life history: What is the species' life history?	High reproductive rate, long-lived	
	High reproductive rate, short-lived	
	Low reproductive rate, long-lived	X
	Low reproductive rate, short-lived	
	Uncertain	
2.2. Ecological adaptability: To what extent Is the species adaptable (habitat, diet, environmental tolerance etc.)?	Extreme generalist	
	Generalist	X
	Specialist	
	Extreme specialist	
	Uncertain	
2.3 Dispersal efficiency: How efficient is the species' dispersal mechanism at key life stages?	Very Good	
	Good	X
	Medium	
	Poor	
	Uncertain	
2.4. Interaction with humans: Is the species tolerant to human activity other than harvest?	No interaction	
	Pest /Commensal	
	Tolerant	X
	Sensitive	
	Uncertain	
National status: Animals and plants		
2.5. National distribution: How is the species distributed nationally?	Widespread, contiguous in country	
	Widespread, fragmented in country	X
	Restricted and fragmented	

	Localized	
	Uncertain	
2.6. National abundance: What is the abundance nationally?	Very abundant	
	Common	X
	Uncommon	
	Rare	
	Uncertain	
2.7. National population trend: What is the recent national population trend?	Increasing	
	Stable	
	Reduced, but stable	
	Reduced and still decreasing	
	Uncertain	X
2.8. Quality of information: What type of information is available to describe abundance and trend in the national population?	Quantitative data, recent	X
	Good local knowledge	
	Quantitative data, outdated	
	Anecdotal information	
	None	
2.9 Major threats: What major threat is the species facing (underline following: overuse/ habitat loss and alteration/ invasive species/ other: and how severe is it?	None	
	Limited/Reversible	X
	Substantial	
	Severe/Irreversible	
	Uncertain	
Harvest management: Animals and plants		
2.10. Illegal off-take or trade: How significant is the national problem of illegal or unmanaged off-take or trade?	None	
	Small	
	Medium	
	Large	
	Uncertain	X
2.11. Management history: What is the history of harvest?	Managed harvest: ongoing with adaptive framework	X
	Managed harvest: ongoing but informal	
	Managed harvest: new	
	Unmanaged harvest: ongoing or new	
	Uncertain	
2.12. Management plan or equivalent: Is there a management plan related to the harvest of the species?	Approved and coordinated local and national management plans	
	Approved national/state/provincial management plan(s)	
	Approved local management plan	
	No approved plan: informal unplanned management	X
	Uncertain	
2.13. Aim of harvest regime in management planning: What is harvest aiming to achieve?	Generate conservation benefit	
	Population management/control	
	Maximize economic yield	X
	Opportunistic, unselective harvest, or none	
	Uncertain	
	Ongoing national quota: based on biologically derived local quotas	X

2.14 Quotas: Is the harvest based on a system of quotas?	Ongoing quotas: “cautious” national or local	
	Untried quota: recent and based on biologically derived local quotas	
	Market-driven quota(s), arbitrary quota(s), or no quotas	
	Uncertain	
Control of harvest: Animals and plants		
2.15. Harvesting in Protected Areas: What percentage of the legal national harvest occurs in State-controlled Protected Areas?	High	
	Medium	
	Low	
	None	X
	Uncertain	
2.16. Harvesting in areas with strong resource tenure or ownership: What percentage of the legal national harvest occurs outside Protected Areas, in areas with strong local control over resource use?	High	
	Medium	X
	Low	
	None	
	Uncertain	
2.17. Harvesting in areas with open access: What percentage of the legal national harvest occurs in areas where there is no strong local control, giving <i>de facto</i> or actual open access?	None	
	Low	
	Medium	X
	High	
	Uncertain	
2.18. Confidence in harvest management: Do budgetary and other factors allow effective implementation of management plan(s) and harvest controls?	High confidence	
	Medium confidence	X
	Low confidence	
	No confidence	
	Uncertain	
Monitoring of harvest: Animals and plants		
2.19. Methods used to monitor the harvest: What is the principal method used to monitor the effects of the harvest?	Direct population estimates	
	Quantitative indices	
	Qualitative indices	
	National monitoring of exports	X
	No monitoring or uncertain	
2.20. Confidence in harvest monitoring: Do budgetary and other factors allow effective harvest monitoring?	High confidence	
	Medium confidence	
	Low confidence	X
	No confidence	
	Uncertain	
Incentives and benefits from harvesting: Animals and plants		
2.21. Utilization compared to other threats: What is the effect of the harvest when taken together with the major threat that has been identified for this species?	Beneficial	
	Neutral	X
	Harmful	
	Highly negative	
	Uncertain	
2.22. Incentives for species conservation:	High	
	Medium	X

At the national level, how much conservation benefit to this species accrues from harvesting?	Low	
	None	
	Uncertain	
2.23. Incentives for habitat conservation: At the national level, how much habitat conservation benefit is derived from harvesting?	High	
	Medium	
	Low	X
	None	
	Uncertain	
Protection from harvest: Animals and plants		
2.24. Proportion strictly protected: What percentage of the species' natural range or population is legally excluded from harvest?	>15%	
	5-15%	X
	<5%	
	None	
	Uncertain	
2.25. Effectiveness of strict protection measures: Do budgetary and other factors give confidence in the effectiveness of measures taken to afford strict protection?	High confidence	
	Medium confidence	
	Low confidence	
	No confidence	
	Uncertain	X
2.26. Regulation of harvest effort: How effective are any restrictions on harvesting (such as age or size, season or equipment) for preventing overuse)?	Very effective	
	Effective	
	Ineffective	
	None	
	Uncertain	X

4.2 Result in radar chart IUCN-NDF checklist

For ease of reference, a graphical evaluation was carried out. As regards the figures, it must be considered that the assignment of numerical values is partly subjective and leads to simplifications on account of the categories used. Thus, the figures are useful to obtain an overview; yet for the purpose of assessment, exact data are required. For the graphical evaluation of *Amazona farinosa*, the following indicators are particularly striking: the lack of national population trend, the lack of active management (illegal off-take), the lack of protection (effectiveness of protection and regulation of harvest). The other indicators are within a positive range.

Amazona farinosa

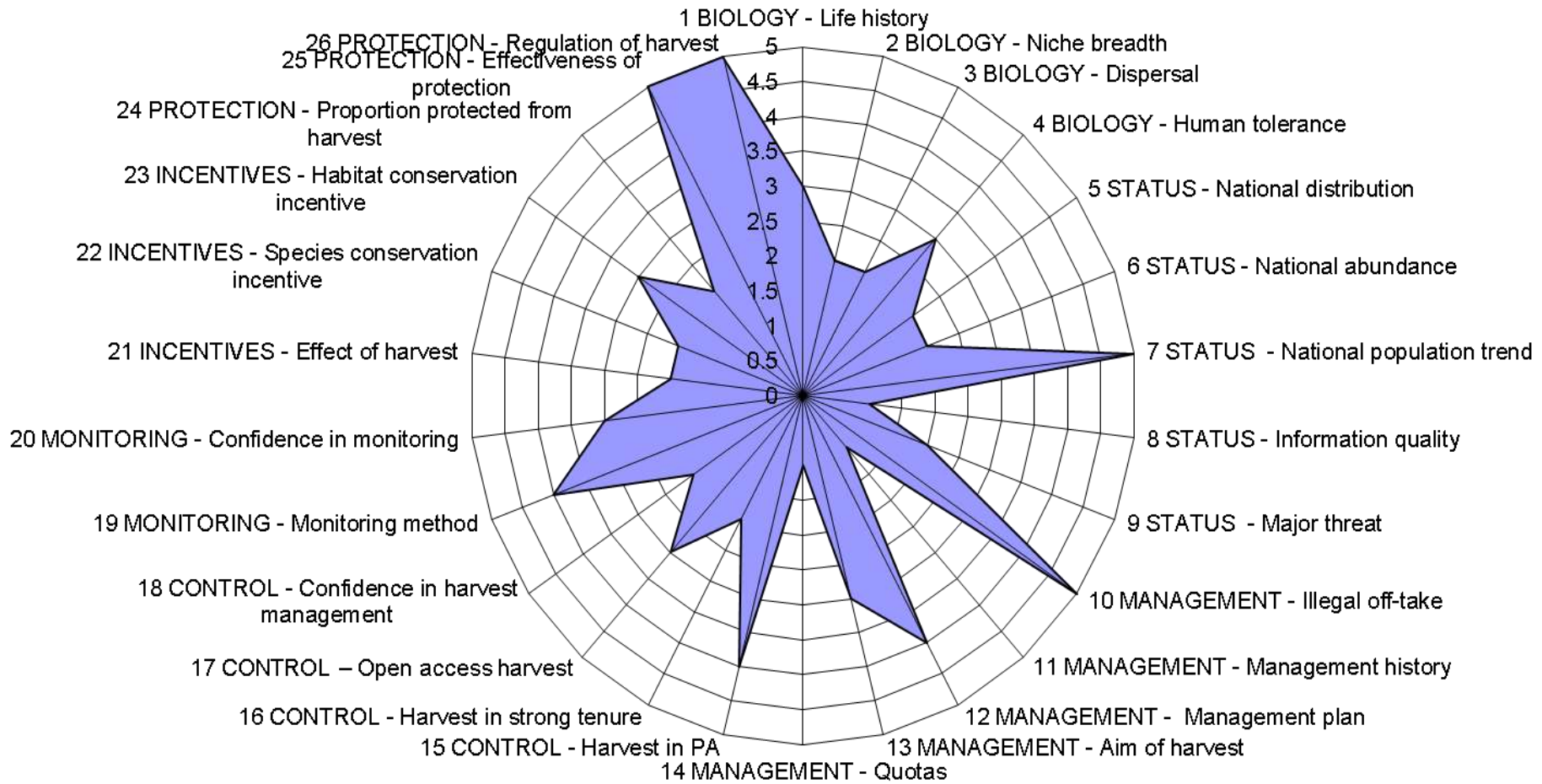


Figure 12. Graphical NDF evaluation of Amazona farinosa

4.3 Conclusion and recommendations

Amazona farinosa is widespread with a continuous distribution at the national level. According to the latest population study (Ramcharan 2022) the national population status of the *Amazona farinosa* is stable and generally very abundant and occurs at high densities. However, illegal harvest from local and registered trappers may have an impact on the population of this species in the wild. During this study it has been observed that there is a lack of monitoring and enforcement activities by the authorities. Across the species distribution there is little evidence of active management. The Scientific Authority recommends stepping up control and enforcement activities in strategic posts in order to stop possible illegal activities. The Scientific Authority advises the Management Authority to keep record of all illegal harvest and trade of this species and other CITES listed species in order to be able to produce an illegal trade report for CITES listed species of Suriname.

There is no harvest plan for *Amazona farinosa* in Suriname. Although this species is a CITES Appendix II listed species, it is not a fully protected species in Suriname as it is nationally listed as a cage species. The hunting, capture, transport and the Game Act of 1954, the Game State Decree and the Game Calendar regulate trade of this species. Hunting, capture, transport and trade of *Amazona farinosa* is prohibited during the closed season from December until June (mating and breeding season). Each hunter with a hunting license is permitted a “bag limit” (take off) of 5 pieces of this species each hunting trip. Harvest for export is governed by permit. Hunting, capture, transport and trade of *Amazona farinosa* is only allowed under catcher's permit by specific trappers during open season from July to November. Hunting and trapping of species is not permitted in protected areas. Most known harvest areas are in the coast of Suriname. Due to the remoteness of the interior of Suriname, very limited harvest of this species comes from the interior. The Scientific Authority recommends the development of a harvest plan for all wildlife species on the export list.

There is no data of bred in captivity for this species although a permit was given to an exporter for breeding this species. The success rate for captive breeding of this species in Suriname is not known yet. The Scientific Authority recommends the MA to keep track of the given permits.

No permit is needed for domestic use. CITES Permit is needed for export/import of this species.

The method used to monitor the effects of the harvest is through the monitoring of export and export quota. The CITES Management Authority has developed an e-permitting system with funding from the Bioamazon project. This e-permitting system has a few issues that still needs to be solved before it can be fully functional. With this system, the management of wildlife export can be easy, transparent and traceable.

Suriname has a system of voluntary export quotas for wildlife fauna species, which was in place 1987 after revision of the Game Law 1954 and has been revised in 1995 and is up till date used. Before the latest decision of the Standing Committee (SC74 doc. 30.1), the quota for the *Amazona farinosa* was 450. Suriname implemented a zero-export quota for *Amazona farinosa* after the publication regarding this matter by the CITES Secretariat in 2022.

According to the general conditions, which is an annex of the export permit, the harvesting quotas are 25% higher than the established export quotas taking into consideration the mortality rate of the species during capture and transport. For all bird species, the general export quotas are much higher than the actual numbers exported. Sometimes the quota in comparison with

the actual numbers exported is three times higher. The Scientific Authority recommends revision of the general conditions on this matter and sets the harvesting quota at 12 % higher than the export quotas for all bird species.

Analysis of the CITES export trade data shows that most of the *Amazona farinosa* species that are exported came from the wild except in 2017 (twenty species came from breeding) and 2020 (fourteen species came from breeding). The SA is aware of one permit for breeding in captivity for his species in Suriname but there is no data available to support the export of this source. Most of the *Amazona farinosa* from 2013 till 2020 are exported to Russia with the highest score of 245 species, followed by Thailand with a score of 236 species. The analyses of the CITES import trade data shows that from 2013 till 2020 most of the species are imported in Oman with a score of 272 live species, followed by Thailand with a score of 205 live species. Furthermore, it is observed that there are discrepancies in the export and import records. The export data from 2013-2020 shows a total of 1450 live species exports reported by Suriname and a total of 823 live species imports of *Amazona farinosa* from Suriname reported by the importing countries. The discrepancy is probably the result of an administrative error. A proper data entry and submission of the CITES annual report is necessary to eliminate any discrepancy in the future.

A few studies have been conducted in the past, namely Schouten (1995) and Ottema (2008) which are also mentioned in the report of Ramcharan (2022). The study done by Ramcharan (2022) can be seen as a baseline study for this species. During these studies, this species was seen in fair quantities. During the population study by Ramcharan this species was present at six of the surveyed river transects and seen in fair quantities. Still, more data is needed for the national abundance and population trend of this species. At least two more years of data will need to be collected to learn trends in numbers per area studied and other locations will need to be surveyed too.

Taking all the above in consideration, with the confines of the available data, the conclusion of the CITES Scientific Authority of Suriname on this NDF for this species is precautionary positive. The SA recommends establishing the interim conservative export quota of 200, as recommended by the Animals Committee, for the *Amazona farinosa* until further studies are done on the population of this species.

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- <https://www.iucnredlist.org/species/45430572/210109682#assessment-information>

ANNEXES

- I. Serano Ramcharan MSc. and Marchal Linaard. (2021), “A pre-study conducted on Psittacine species presence and numbers with the emphasis on the *Ara ararauna*, *Ara chlooptera* and *Amazona farinosa*”. An assessment on the habitat and occurrence of at least three parrot species in Suriname.
- II. Serano Ramcharan MSc. and Marchal Linaard, (2022). “Population size status of parrot species”, a focus on population size of parrot species in known harvest areas.



Non-detriment findings for *Ara ararauna* from Suriname



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ACKNOWLEDGEMENTS

CITES Scientific Authority of Suriname (SA) is established by Ministerial Decree of April 15th 2016 no. 0567A-16/MinRGB, S.B. 2016 No. 101. The members of the CITES SA were formally appointed by Ministerial Decree of 2nd of March 2022 no. 0699-22/MinGBB and is registered with the CITES Secretariat during the CoP19 in Panama. The CITES Scientific Authority of Suriname has started implementing its task after the installation of its members in 2022.

The CITES Management Authority of Suriname (MA) has requested the SA to do a non-detriment findings on three species (*Amazona farinosa*; *Ara ararauna* and *Ara chloropterus*), that are on the review of significant trade, in order to be in compliant with Article II and IV of the CITES convention.

With the guidance from Mrs. Kaminie Tajib - Rakimoen, National CITES Focal Point, who finished her CITES Master course in Baeza in 2023, the results of the Cancun workshop on Non-detriment Findings (NDF) and the IUCN NDF checklist the CITES Scientific Authority of Suriname conducted a baseline NDF on these species in Suriname.

It is the first time that the SA has conducted a NDF, which has been a learning process for the Scientific Authority. We hope to gain more knowledge and experience on how to make proper NDF for other species in the future. There is always room for improvement and we thank all who have supported us in making this NDF and we very much welcome any feedback and/or suggestions on ways to improve this in the future.

Kiran Somaroe BSc.
Chair CITES Scientific Authority of Suriname

LIST OF ACRONYMS

AC	Animals Committee
ACTO	Amazon Cooperation Treaty Organization
BBS	National Herbarium of Suriname
CELOS	Centre for Agricultural Research in Suriname
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CSNR	Central Suriname Nature Reserve
GBB	Ministry of Land Policy and Forest Management
HFLD	High Forest, Low Deforestation country
IUCN	International Union for Conservation of Nature
LBB	Suriname Forest Service
LVV	Ministry of Agriculture, Animal Husbandry and Fisheries
MA	Management Authority
No.	Number
NR	Nature Reserve
NZCS	National Zoological Collection of Suriname
S.B.	State Gazette
SA	Scientific Authority
SBB	Foundation for Forest Management and Production Control
SC	Standing Committee
UNEP-WCMC	UN Environment Programme World Conservation Monitoring Centre
UNESCO	United Nations Educational, Scientific and Cultural Organization

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INTRODUCTION

Suriname is located in the northeast of South America between latitudes 1° and 6° N and longitudes 54° and 58° W, bordering the Atlantic Ocean in the North, the Republic of Guyana in the West, French-Guiana in the East and Brazil in the South (see figure 1). The Republic of Suriname has been independent from The Netherlands since November 25, 1975 and populated by approximately 567,291 inhabitants (mid-year population estimation in 2015). Suriname encompasses 93% of forest and an Exclusive Economic Zone of 345 sea miles (Maritime Zones Act S.B. 2017 no. 41). Suriname exhibits a low deforestation rate and is characterized as a country with high forest cover and low deforestation (HFLD).

Suriname has approximately 3.5 inhabitants per km², making Suriname a low populated country. According to a mid-year population estimation in 2015, the largest ethnic groups are Hindustani (30%), followed by Creoles (20.6%), Javanese (19.6%), mixed race (14.4%), Maroons (10.5%) and others (including Chinese, Indigenous people, Lebanese and European) (4.9%). The sex distribution of the population remained stable, with females accounting for 50.1% of the population and males 49.9%.

With a land surface of 163,800 km², Suriname is divided into two main geographic regions: the Northern coastal area, with the majority of the population residing here; and the Southern area, mainly consisting of tropical rainforest and a sparsely populated savannah along the Brazilian border. Seven types of ecosystems have been distinguished, namely (i) marine ecosystems, (ii) coastal ecosystems, (iii) brackish water ecosystems, (iv) freshwater ecosystems, (v) savannah ecosystems, (vi) marsh ecosystems and (vii) tropical rainforest and inselbergs.

As part of the Guiana Shield, Suriname's tropical rainforest has a rich biodiversity. In 2012, 192 mammal species were reported, along with 102 amphibian species, 175 reptile species, 730 bird species, 450 freshwater fish species, and in 2016, 6044 vascular (higher) plants.

The long history of protecting Suriname's biodiversity dates back to 1954. Eighteen protected areas have been established since then, consisting of 11 Nature Reserves, 4 Multiple Use Management Areas, 1 Nature Park and two special reserve forests. Together they make up 2.293,200 hectares or 14% of the country's land surface. Of the 11 Nature Reserves, the Central Suriname Nature Reserve in the district of Sipaliwini is the largest and is placed on the World Heritage list of UNESCO.

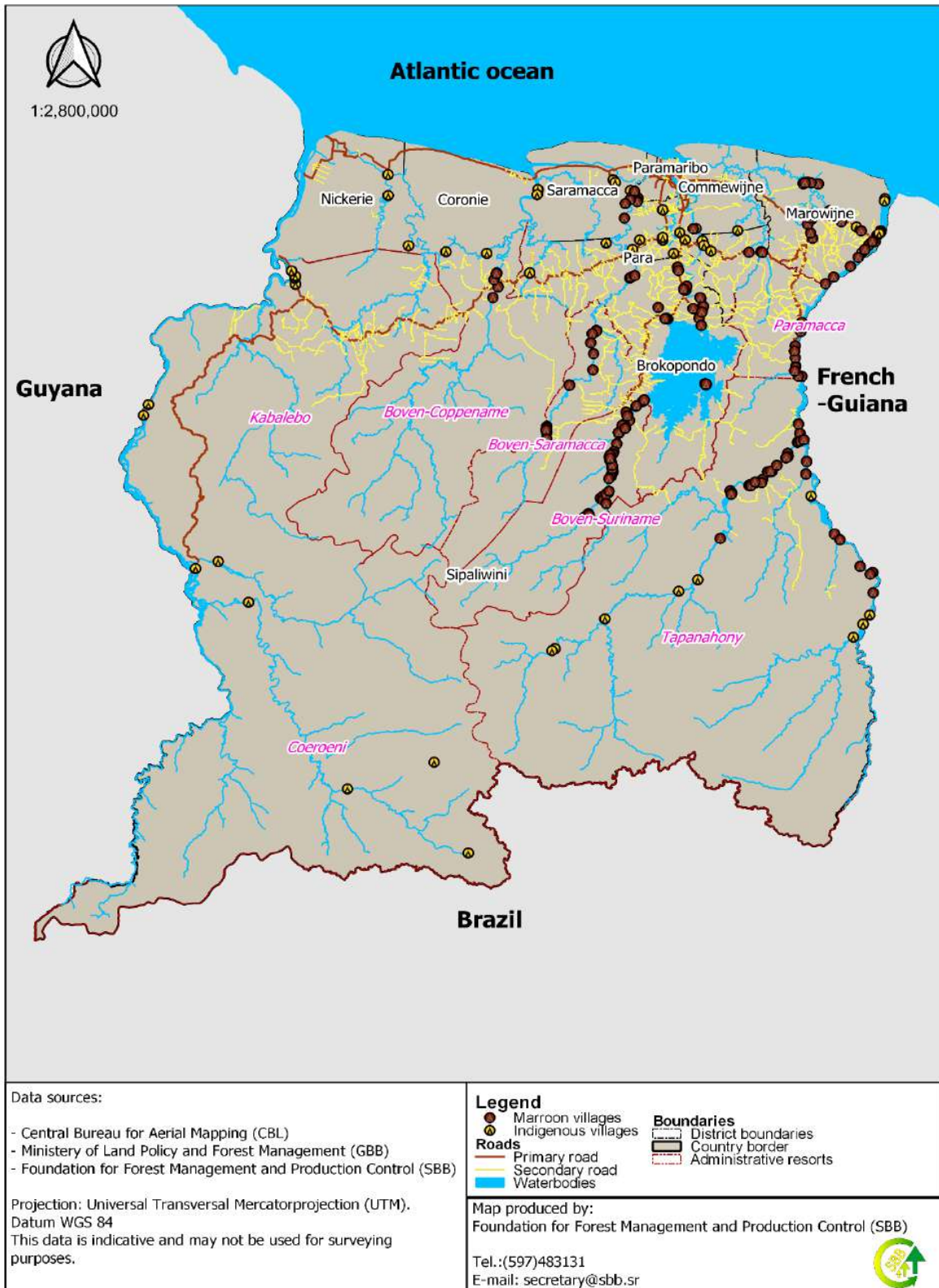


Figure 1. Map of Suriname. Source: Foundation for Forest Management and Production Control (SBB).

Suriname acceded to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in February 1981. The Ministry of Land Policy and Forest Management (GBB) is responsible for nature conservation in Suriname and is therefore currently responsible for implementation of CITES at the national level. The Head of Suriname Forest Service (LBB), which is resorted under the Ministry of GBB is according to the Game Law of 1954 and the State Order on Game 2002, the Wildlife Management Authority in Suriname.

The Suriname Forest Service (LBB) was established in 1947 (G.B. 1947 No. 108) and because of its tasks and powers it now resorts under the Ministry of Land Policy and Forest Management. The LBB has two major tasks, namely:

1. management of protected areas and,
2. wildlife management.

The duties and mandates of the Head of LBB are specifically outlined in the Nature Conservation Act 1954, the Forest Management Act 1992, and the Game Law. The Game Law of 1954 regulates the Wildlife Management in Suriname, including the CITES species.

The service divisions of LBB are currently Nature Conservation Division (NCD) and Forest Research. In a letter from the Head of LBB dated January 24, 2000, the mandate regarding the Forestry section of LBB was transferred to the Foundation for Forest Management and Production Control (SBB), which is a government foundation that directly resorts under the Minister of Land Policy and Forest Management. SBB is responsible for promoting Sustainable Forest Management among others by enforcing the Forest Management Act 1992, which includes monitoring the logging activities and the exports of timber.

By Ministerial Decree of April 15th, 2016, no. 0567B-16/Min RGB, S.B. 2016 No. 102, the Head of LBB is also designated as the CITES Management Authority in Suriname.

One of the requirements established in the text of the convention for the regulation of trade in specimen of species included in Appendix II, is that a Scientific Authority from the exporting member country declares that an export, import and/or re-export will not harm the CITES-regulated species survival in the wild. This analysis and evaluation mechanism is known as 'non-detriment findings' (NDF).

The proposal for the inclusion of the Order of Psittaciformes spp., in CITES Appendix II, except for the species included in Appendix I and *Agapornis roseicollis*, *Melopsittacus undalatus*, *Nymphicus hollandicus* and *Psittacula krameri*, which is not included in the Appendices, was adopted at the thirteenth meeting of the Conference of Parties to the CITES (CoP13) held in 2004 in Bangkok, Thailand and entered into force on January 12, 2005.

The CITES Animals and Plants Committees are reviewing the biological and trade information of Appendix II species subject to significant levels of trade, in order to identify problems and solutions concerning the implementation of Article IV, paragraphs 2 (a), 3 and 6 (a), of the Convention. These provisions require that a Scientific Authority makes a scientific assessment that international trade will not be detrimental to the survival of the species concerned.

At its 29th meeting (Geneva, July 2017), the Animals Committee examined the recorded levels of direct exports for Appendix II species of the five most recent years, as recorded in the CITES Trade Database, as well as an extended analysis of this trade prepared by the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC). On the basis of this and other information available, the Animals Committee selected a number of species/country combinations for review, including *Amazona farinosa*, *Ara ararauna* and *Ara chloropterus* of Suriname.

The CITES Secretariat sent a letter dated September 20, 2017, to the Head of LBB (CITES Management Authority) with the request to Suriname to provide the scientific basis by which Suriname states that exports of *Amazona farinosa*, *Ara ararauna* and *Ara chloropterus* from Suriname are not detrimental for the survival of the species concerned and are compliant with Article IV of the CITES convention.

The CITES Management Authority of Suriname has communicated with the CITES Secretariat on this matter and the Secretariat has given recommendations to Suriname in this regard. However, according to the report from the Secretariat to the Standing Committee, Suriname did not comply with any of their recommendations. The Secretariat is determined regarding implementation of the recommendations and request the Standing Committee to adopt the following recommendation of the CITES Secretariat:

- a) request the Secretariat to publish a zero-export quota for *A. ararauna* until Suriname provides information to justify a higher quota to be agreed with the AC Chair; and
- b) urge Suriname to provide an update on the implementation of recommendations d) to m) by three months before the documentation deadline for SC77.

The Standing Committee meeting (SC74 doc. 30.1) has adopted the recommendations of the CITES Secretariat on this matter.

In view of the above and being a range state for the population and export of the species *Ara ararauna*, a NDF of this species from Suriname is required in order to export this species and to ensure overall traceability, sustainability and legality of the export of this species. Suriname, through the Nature Conservation Division (NCD), has carried out a pre-study to learn and better understand the locations and habitats of at least three parrot species (*Amazona farinosa*, *Ara ararauna* and *Ara chloropterus*). This work was supported by the Amazon Cooperation Treaty Organization (ACTO) - Bioamazon Project, and was undertaken in March 2021. To understand the population size of at least the three above mentioned parrot species, a population size study was initiated as well in 2021. The reports from these studies are titled:

- “A pre-study conducted on Psittacine species presence and numbers with the emphasis on the *Ara ararauna*, *Ara chloropterus* and *Amazona farinosa*”. An assessment on the habitat and occurrence of at least three parrot species in Suriname, and;
- “Population size status of parrot species”, a focus on population size of parrot species in known harvest areas.

With the available data the CITES Scientific Authority of Suriname conducted a baseline NDF on this species in Suriname.

1. BIOLOGICAL DATA

1.1 Scientific, common and local names

Scientific name:	<i>Ara ararauna</i>
Common names:	Blue yellow Macaw
Local names:	Tjambaraaf

1.2 Taxonomy

The *Ara ararauna* was formally described by the Swedish naturalist Carl Linnaeus in 1758 in the tenth edition of his *Systema Naturae*. He placed it with all the other parrots in the genus *Psittacus* and coined the binomial name *Psittacus ararauna*. This macaw is now one of the eight extant species placed in the genus *Ara* that was erected in 1799 by the French naturalist Bernard Germain de Lacépède. The genus name is from *ará* meaning "macaw" in the Tupi language of Brazil. The word is an onomatopoeia based on the sound of their call. The specific epithet *ararauna* comes from the Tupi *Arára úna* meaning "big dark parrot" for the hyacinth macaw.

1.3 Distribution

1.3.1 Global distribution

Ara ararauna can be found throughout sub-tropical and tropical forest, woodlands, and savannas in South America from Venezuela to Brazil, Bolivia, Colombia, Ecuador, French Guiana, Guyana, Suriname, Peru and Paraguay (see figure 2). The range extends slightly into Central America, where it is restricted to Panama.



Figure 2. World distribution map of *Ara ararauna*.

Source: <https://www.iucnredlist.org>

1.3.2 National distribution

Widespread with a continuous distribution at the national level (see figure 3). Each small square indicates the observation of at least one (group) of these birds, the medium ones at least four observations on different days and the largest ones ten or more. The color of each square indicates: blue for coastal areas, yellow for savanna and red for rainforest.

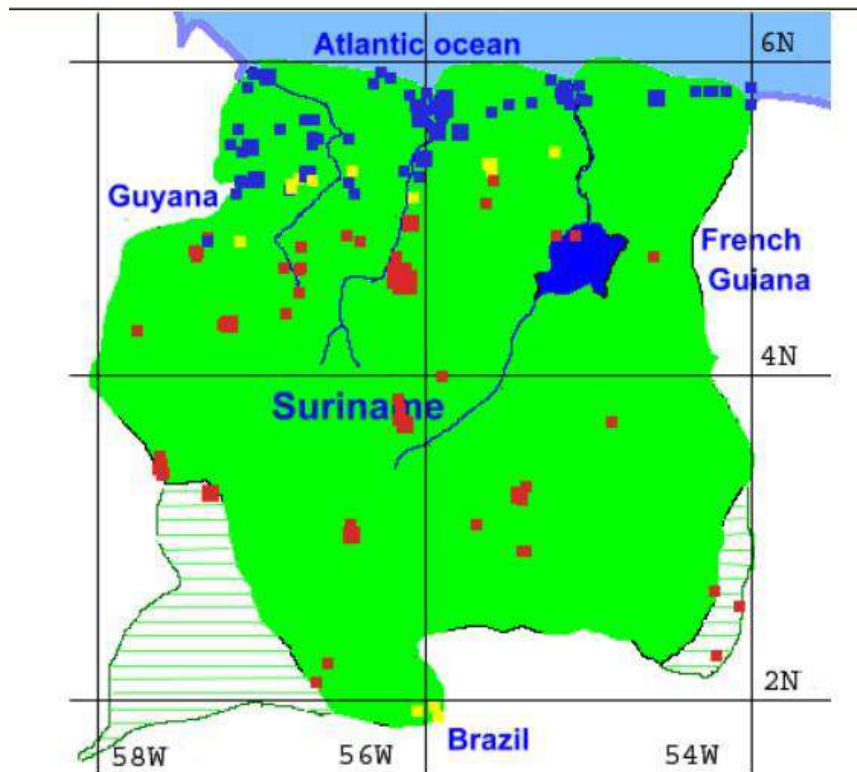


Figure 3. Distribution map of *Ara ararauna* in Suriname.
 Source: <https://www.surinamebirds.nl>

1.4 Biological characteristics

1.4.1 General biological and life history characteristics of the species

1.4.1.1 Physical Description

Ara ararauna are from 81-91,5 cm long, weight from 0,9 to 1,8 kg, and have a wingspan of 104 to 114 cm. They are vibrantly colored, with blue on their backs and wings, yellow under parts, green forehead feathers, and green tips on the end of their wings. Their underwing coverts and breasts are yellow-orange and they have black beaks, throat, and legs. Their eyes are yellow and their facial area consists of bare white skin with several black feather lines around their eyes (Low, 1983).

1.4.1.2 Sexual Dimorphism

Sexual dimorphism is the differences in appearance between males and females of the same species, such as in colour, shape, size, and structure, that are caused by the inheritance of one or the other sexual pattern in the genetic material. In the case of *Ara ararauna* the males and females look alike.

1.4.1.3 Reproduction

Ara ararauna form monogamous pairs that mate for life (Juniper, 1998). This species reaches sexual maturity at 3 to 4 years of age. Their breeding season is during the first half of the year and they breed about every 1 to 2 years. Nests are found high up in tall trees, mainly in cavities already made by other animals. Females lay 2 to 3 eggs and incubate them for 24 to 28 days, after which the young hatch blind and featherless. After 10 days, the young begin to develop feathers. Within 3 months, fledglings become independent. See table 1 for an overview of the reproductive features of the *Ara ararauna*.

Table 1. Overview reproductive features of *Ara ararauna*

Breeding interval	breed every 1 to 3 years
Breeding season	Breed from January through July
Range eggs per season	2 to 3 eggs
Range time to hatching	24 to 28 days
Range time to independence	Independence 10 (low) days
Range age at sexual or reproductive maturity (female)	3 to 4 years
Range age at sexual or reproductive maturity (male)	3 to 4 years

Ara ararauna care for their young through providing for them and protecting them. During their first week after hatching, only the female will feed the young through regurgitation, afterwards the male will feed the young. Both parents show extreme aggression towards intruders in order to protect their young.

1.4.1.4 Lifespan/Longevity

The life span of this species in the wild can be up to 50 years while their breeding age ranges from 30 to 35 years. They can also live up to 50 years in captivity (Low, 1983)

1.4.1.5 Behavior

This species is mainly found in pairs, but can congregate in groups to form flocks. When in pairs, they fly close together with their wings almost touching. When foraging they may join small, noisy flocks during the early morning, by midday they begin to search for shade. This

species are extremely wary, at any sign of danger they fly into the air screeching loudly (Juniper, 1998)

1.4.1.6 Food habits

This species mainly eats seeds, nuts, and fruits. The *Euterpe oleracea* palm fruits have proved to be a welcoming food source for the *Ara ararauna*¹.

They use their strong beaks to break open nutshells and to crush seeds. In some cases, they consume clay found at riverbanks, which allows them to digest the toxins from unripe seeds that they may have ingested. (Ragusa- Netto, 2006)

1.4.1.7 Predation

Known predators are eagles and falcons that attack while the birds are in flight. Humans hunt these birds for food, pet trade and feathers.

1.4.2 Habitat types

There are three vegetation types (Figure 4) in Suriname are:

- In the coastal plain, various types of hydrophytes vegetation like mangrove along the coasts, swamp forest, ridge forest and marsh forest.
- The high and low savanna forests form the cover landscape in the savannah belt, together with open, grass and shrub savannas.
- The high dryland forest in the interior, which differs in the species, height, density and diversity.

Ara ararauna primarily inhabits tropical and subtropical forest in South America. These birds are native to a range of habitats, including rainforest, savannas, swamps, and palm groves. They are often found in lowland areas near rivers and water sources, as well as in open woodland and forested regions.

1.4.3 Role of the species in its ecosystem.

Plays an important role in the forest dynamic through predation and dispersal of seeds in the tropical forest.

¹ Ramcharan S. and Lingaard M. (2022, August 5). Population size status of parrot species, a focus on population size of parrot species in known harvest areas, Suriname.

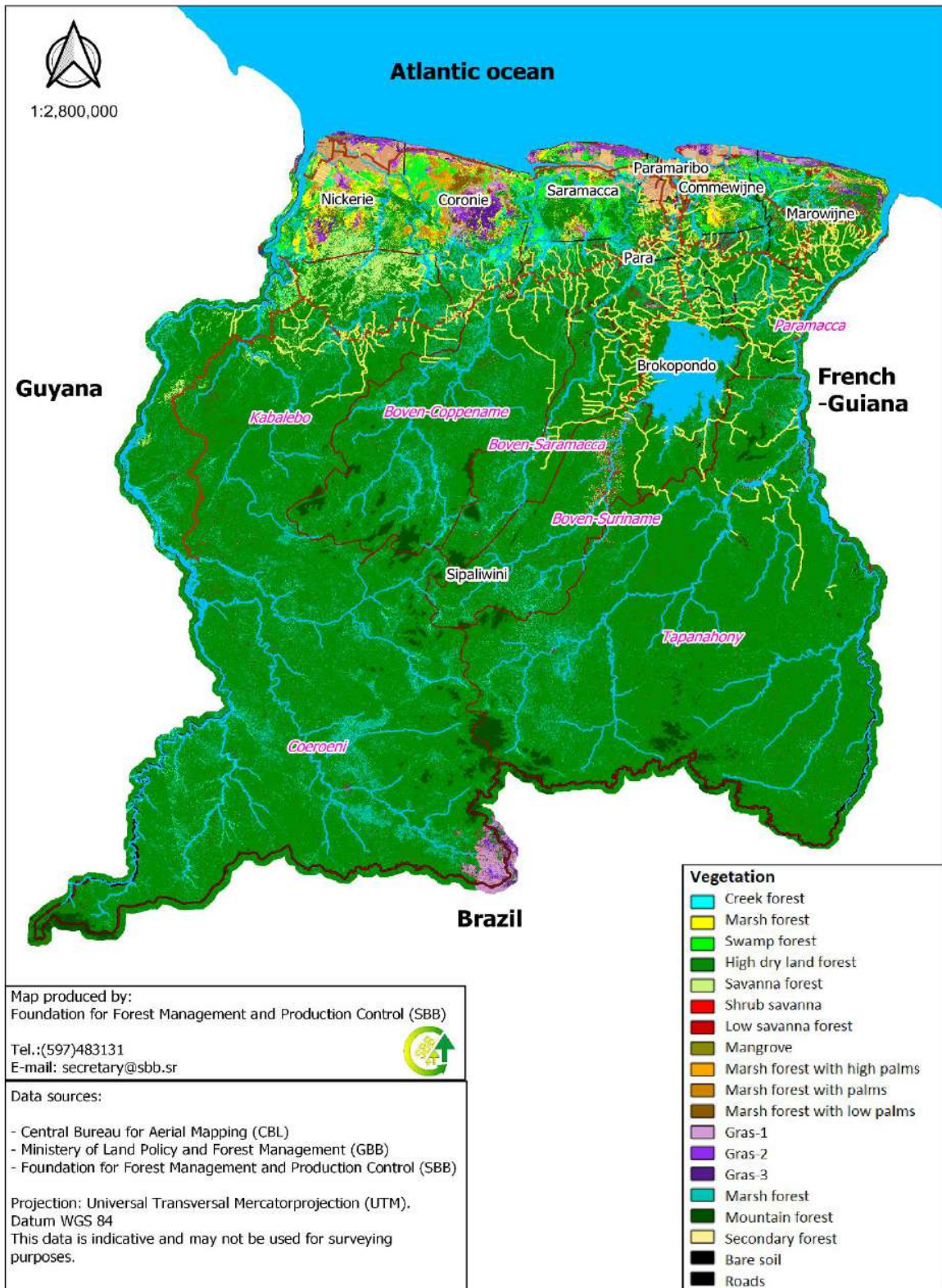


Figure 4. Vegetation map of Suriname.
 Source: Foundation for Forest Management and Production Control (SBB)

1.5 Population

1.5.1 Global Population size

The global population size is not precisely known. However, the species is considered relatively widespread and locally common in parts of its range. It is classified as “Least Concern”, indicating that the overall population is considered stable, and there are no immediate threats to the species at a global level. The estimation of this species can be challenging due to their wide distribution, remote habitats, and sometimes-elusive behavior. Population assessments may rely on various methods, including field surveys, local observations, and data from research studies and conservation organizations.

1.5.2 Current global population trends

Stable

1.5.3 National abundance

Generally very abundant and occur at high densities.

Suriname, through the Nature Conservation Division (NCD), has carried out a pre-study to learn and better understand the locations and habitats of at least three parrot species (*Amazona farinosa*, *Ara ararauna* and *Ara chloropterus*). This work was supported by the ACTO’s Bioamazon Project and was undertaken in March 2021. To understand population size of at least the three above mentioned parrot species, a population size study was initiated as well in 2021.

During the pre-study, all research areas were assessed via waterways. The North Commewijne swamp was assessed via accessible routes in the swamp. All other areas were assessed via main waterways (Rivers and a canal). The North Commewijne swamp consists mainly of Black mangrove forest patches and the habitats of most other research areas were all riverine consisting of elements of secondary vegetation and high dryland forest. During the pre-study only two parrot species of interest have been found; *Amazona farinosa* and *Ara ararauna*¹ (see annex 1).

There are several known harvest areas that are mostly in the coastal area of Suriname. A population study was conducted in August 2021, January 2022 and during June and July 2022 by Ramcharan in eight of these locations (see figure 5). The aim was to collect data seasonally to understand species numbers throughout certain times of the year in known harvest areas.

Field data was collected during August 2021, January 2022 and during June-July 2022. During the field visits data on other parrot species except for the research objects, were counted as well. Nine locations were surveyed. Eight of these locations were river transects and one was an island. Data on the latter was collected via point count. With this data, a baseline has been

established for any future intended study as well. See table 2 along which river these known harvest areas were surveyed.

Table 2. Location of the known harvest areas

River/tributary	Known harvest areas
Coppename	Karani
Wayambo	Corneliskondre
Maratakka	Bigibere, Morotokko
Cottica	Cottica
Barbacoeba	Barbacoeba
MCP	Tarzan
Corantijn	Kaburi, Island Apoera

With regard to species observed along the eight river transects, the highest species richness was reached for Corneliskondre with a species number of 15 species. Second highest in terms of species richness was obtained for both Morotokko and Karani (both had a species richness of 14). The Apoera Island only sustained one parrot species, which is the Orange-winged Parrot. When analyzing the occurrence of the research objects, the *Ara ararauna* have been present at all eight river transects. The highest number was reached at Tarzan, with 4958 individuals. The second highest number for this species was observed at Karani with 3871 individuals. Since, it is known that these parrot species are more often seen in upper river areas in the hinterland, it is recommended to not only cover other regions in Suriname for this species, but to consider the southern part of Suriname as well. When comparing species diversity based on the presence of the research objects, it is obvious that during January less is observed. The species diversity values and evenness values are therefore highest over August and June-July². In order to have a good population estimation it is advisable to do a population study at least after each two years and include more study areas. The above-mentioned population study covers only the coastal areas known harvesting sites. See table 3 for an overview of observed *Ara ararauna* species during this population study.

The population study has been done using the transect method (see figure 6) and point count method (see figure 7). Details on the method used for the population study is described in the population study report (Ramcharan, 2022) that is included in this NDF as Annex II.

² Ramcharan S. and Lingaard M. (2022, August 5). Population size status of parrot species, a focus on population size of parrot species in known harvest areas, Suriname.

Table 3. Overview of observed *Ara ararauna* per location and date during the population study (Ramcharan, 2022)

Location	Date of observation	<i>Ara ararauna</i>	Location	Date of observation	<i>Ara ararauna</i>		
1 Karani	17/8/21	2109	4	11/1/22	13		
	18/8/21	3871		12/1/22	11		
	19/8/21	352		4/7/22	40		
	6/1/22	11		6/7/22	0		
	7/1/22	29		28/8/21	24		
	7/1/22	73		29/8/21	53		
	8/1/22	155		28/1/22	37		
	21/6/22	2834		29/1/22	35		
	22/6/22	533		15/7/22	67		
	22/6/22	1790		16/7/22	22		
	23/6/22	3138		30/8/21	26		
	2 Corneliskondre	21/8/21		11	5 Barbacoeba	30/8/21	89
		21/8/21		0		31/8/21	49
22/8/21		0	29/1/22	10			
13/1/22		0	30/1/22	19			
14/1/22		0	30/1/22	2			
15/1/22		0	31/1/22	0			
7/7/22		19	17/7/22	37			
7/7/22		20	17/7/22	71			
8/7/22		5	18/7/22	29			
3 Bigibere		23/8/21	108	6 Cottica		26/1/22	7
	24/8/21	128	26/1/22		3		
	25/8/21	26	27/1/22		13		
	8/1/22	10	27/1/22		0		
	9/1/22	28	17/6/22		0		
	9/1/22	4	18/6/22		9		
	10/1/22	20	18/6/22		59		
	2/7/22	33	19/6/22		53		
	3/7/22	10	30/1/22		169		
	4/7/22	30	31/1/22		29		
4 Morotokko	25/8/21	19	7 Kaburi	31/1/22	386		
	26/8/21	22		1/2/22	138		
	26/8/21	40		19/6/22	3924		
	27/8/21	42		20/6/22	308		
	10/1/22	3		20/6/22	4958		
	11/1/22	0		21/6/22	2101		
4 Morotokko	11/1/22	0	8 Tarzan	21/6/22	2101		

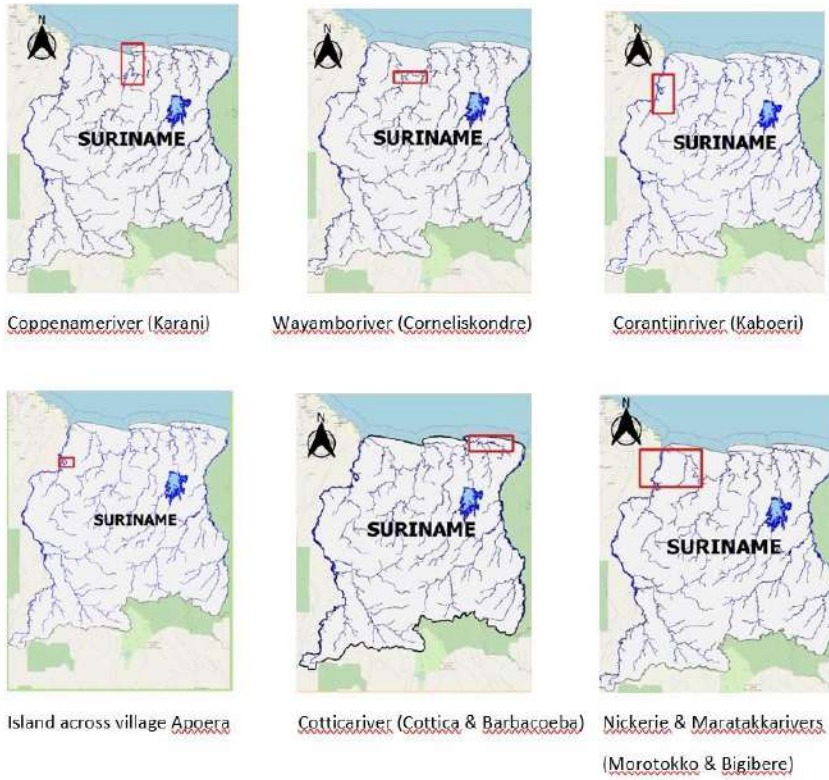


Figure 5. Overview of the area of interest population study. Known harvest areas of *Ara ararauna* in Suriname. Source: S. Ramcharan, 2022.

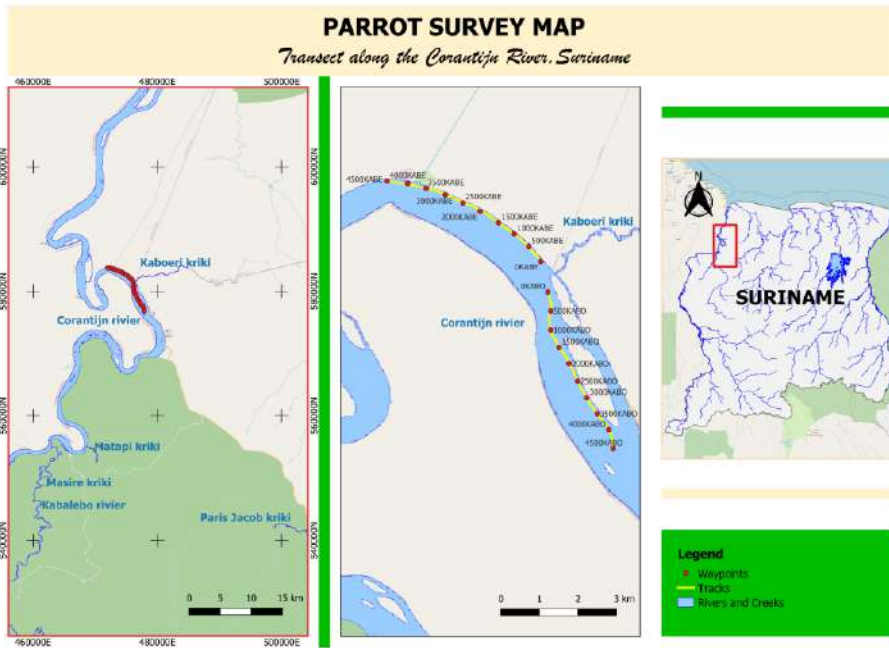


Figure 6. Map showing transect method used to do the parrot population survey. Source: S. Ramcharan, 2022.

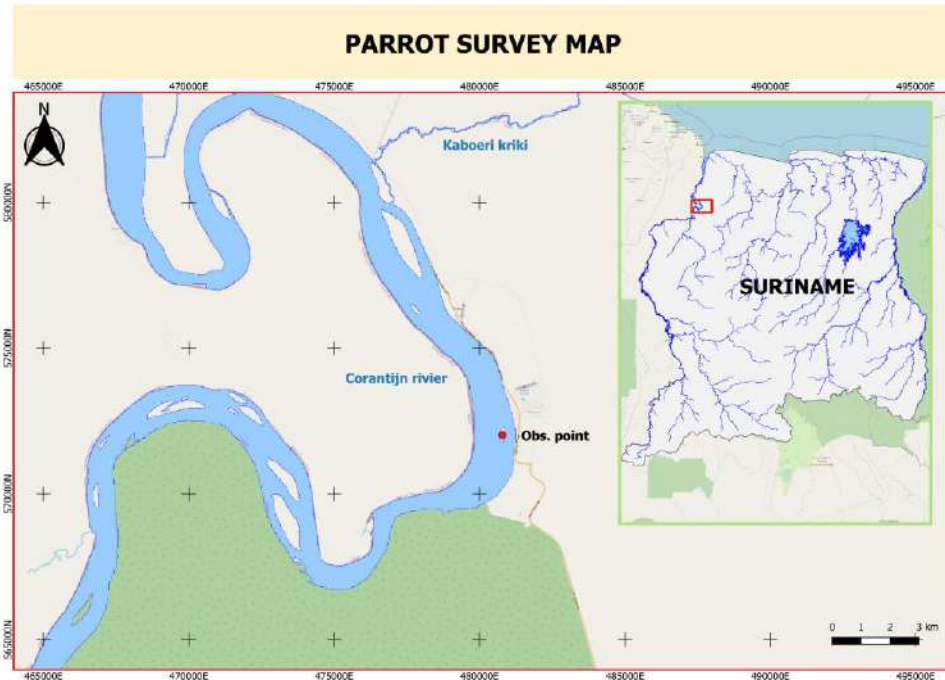


Figure 7. Map showing point count method used to do the parrot population survey.
Source: S. Ramcharan, 2022.

1.5.4 National population trend

Currently there is insufficient data available for the population trend of this species. The population study by Ramcharan is a baseline study for this species. In order to estimate the population trend several studies over time (typically years) will be required. The number of years of data, sampling frequency, degree of measurement error and population variability all affect the reliability of the derived trend.

1.6 Conservation status

1.6.1 Global conservation status (according to IUCN Red List)

This species is on the verge of being extirpated in Paraguay, but it remains widespread and common in a large part of mainland South America. The species is therefore listed as Least Concern by BirdLife International³. It is listed on CITES Appendix II and international trade is only allowed with a CITES permit.

³ <https://www.iucnredlist.org/>.

1.6.2 National conservation status

According to the Game Act of 1954 No. 25 as amended S.B. 1997 no. 33 and the Hunting Decree S.B. 2002 no. 116 and the Hunting decree S.B. 2009 no. 16 *Ara ararauna* belongs to the Hunting game category and is therefore, not a totally protected species in Suriname. Hunting is regulated through the hunting calendar for the northern zone for: HUNTING GAME with open respectively closed hunting and gathering seasons based on the Hunting Act 1954 no. 25 has a closed season from December till June (mating and breeding season) and an open season from July to November. Each hunter with a hunting license is permitted a “bag limit” (take off) of 5 pieces of this species each hunting trip. Harvest for export is governed by permit. Capture only allowed under catchers permitted by specific trappers. Hunting and trapping not permitted in protected areas. No permit is needed for domestic use.

1.6.3 Main threats in Suriname

Illegal wildlife trade: This species is a popular bird in the exotic pet trade due to its stunning appearance and intelligence. Illegal capture and trade can significantly affect wild populations, as well as disrupt social structures and reproductive success.

2. SPECIES MANAGEMENT IN SURINAME

2.1 Management measures

The Game Act of 1954 regulates the wildlife management in Suriname. A game calendar has been established as an integrated part of the Game State order to regulate hunting and trapping of game species through open and closed seasons. Although legislation is in place to protect the species from overexploitation there are still some concerns such as overharvesting and illegal harvesting by local and non-registered trappers. Due to lack of monitoring and enforcement activities by the authorities, illegal harvesting and trade might occur. Across the species distribution there is little evidence of active management⁴.

2.2 Methods used to monitor harvest

The method used to monitor the effects of the harvest is through the monitoring of export and export quota. The CITES Management Authority has developed an e-permitting system with funding from the Bioamazon project. This e-permitting system has a few issues that still needs to be solved before it can be fully functional. With this system, the management of wildlife export can be easy, transparent and traceable. Suriname has a system of voluntary export quotas for wildlife fauna species, which was in place 1987 after revision of the Game Law 1954 and has been revised in 1995 and is up till date being used. Before the latest decision of the Standing Committee (SC74 doc. 30.1), the quota for the *Ara ararauna* was 650. Suriname implemented a zero-export quota for *Ara ararauna* after the publication regarding this matter by the CITES Secretariat in 2022.

The harvesting quotas are 25% higher than the established export quotas to take into account the mortality rate. For all bird species, the general export quotas are much higher than the actual numbers exported.

There is a general quota and individual quotas for each trader. If a trader is not exporting a species for two consecutive years, the quota of that trader for that species will automatically be zero the next year – but the general quota is not amended. A “free quota system” applies to other traders that might want to start trading the species. In some cases, this “free” quota represents half the total quota.

Until now, there has been limited or no involvement of the SA in establishing quotas and limited understanding of how to develop an NDF. While quotas exist for a large number of species (50-75), only about 15 species are regularly traded.

According to the general conditions, the harvesting quotas are 25% higher than the established export quotas. For all bird species, the general export quotas are much higher than the actual numbers exported. Sometimes the quota is three times higher in comparison with the actual numbers exported.

⁴ Ramcharan S. and Lingaard M. (2022, August 5). Population size status of parrot species, a focus on population size of parrot species in known harvest areas, Suriname.

2.3 Institutional and Legal framework

2.3.1 Institutional Framework

The CITES MA in Suriname is located in the Ministry of Land Policy and Forest Management: The policy and planning part of the MA sits in the Suriname Forest Service (LBB), which resorts under the Sub-Directorate Forest Management, while the permitting and enforcement is in the Nature Conservation Division (NCD), which reports to LBB (See figure 8 for more details). The Permits section has two subsections namely Breeding in Captivity and Trade in Wild Flora and Fauna, which are not illustrated in the organogram.

SBB is in charge of forestry management, while the LBB/NCD is in charge of wildlife management. SBB is a government foundation that reports directly to the Minister of Land Policy and Forest Management. SBB deals with all forestry (timber) permits. However, SBB however only prepares the Legal Acquisition Findings (LAF) and the relevant documents for the CITES listed species for the MA (LBB) and the SA. If approved by the MA, the CITES permits are being issued. Without the CITES permit from the MA, no CITES listed species (fauna and flora) can be exported. The CITES SA is a committee consisting of representatives from the following agencies::

1. National Zoological Collection of Suriname (NZCS),
2. National Herbarium of Suriname (BBS),
3. Centre for Agricultural Research in Suriname (CELOS),
4. Import, export and foreign exchange control Division of the Ministry of Trade and Industry (IUD),
5. Plant protection and quality inspections of the Ministry of Agriculture, Animal Husbandry and Fisheries (LVV) with expertise in plant diseases and pests,
6. Directorate of Fisheries of the Ministry of Agriculture, Animal Husbandry and Fisheries (LVV) with expertise on fisheries,
7. Veterinary service of the Ministry of Agriculture, Animal Husbandry and Fisheries (LVV) with expertise in animal welfare and animal diseases,
8. Suriname Forest Service (LBB),
9. Nature Conservation Division (NCD) and
10. Foundation for Forest Management and Production Control (SBB).

While the SA was formally established several years ago, the members of the committee were only appointed in 2022⁵. The Chair of the SA is part of the Research Section of the NCD (alongside the permit section and the Nature Conservation Section, responsible for game warden and inspection of captive breeding facilities).

2.3.2 Legal Framework and enforcement

Ara ararauna is listed as a CITES Appendix II species. The legal framework and enforcement for wildlife in Suriname are based on various national and international laws and regulations.

⁵ Ministerial Decree of 2nd of March 2022 no. 0699-22/MinGBB

The Ministry of GBB is in accordance with the Decree Task Description Departments 1991 (S.B. 1991 no. 58), as it reads after the amendments made therein by S.B. 2002 no. 16, S.B. 2005 no. 94, S.B. 2010 no. 124 and S.B. 2020 No. 141) in charge of the nature management and conservation, and control of compliance with rules and regulations with regard to the production of wood and wood products, flora and fauna. In accordance with the Game Act 1954⁶ and its implementing Decrees⁷, LBB is in charge of wildlife Management in Suriname. This task is implemented by the Nature Conservation Division. The Head of LBB has also been appointed by ministerial order dated 15 April 2016 No. 0567B-16/Min RGB (S.B. 2016 No. 102) as the CITES Management Authority in Suriname.

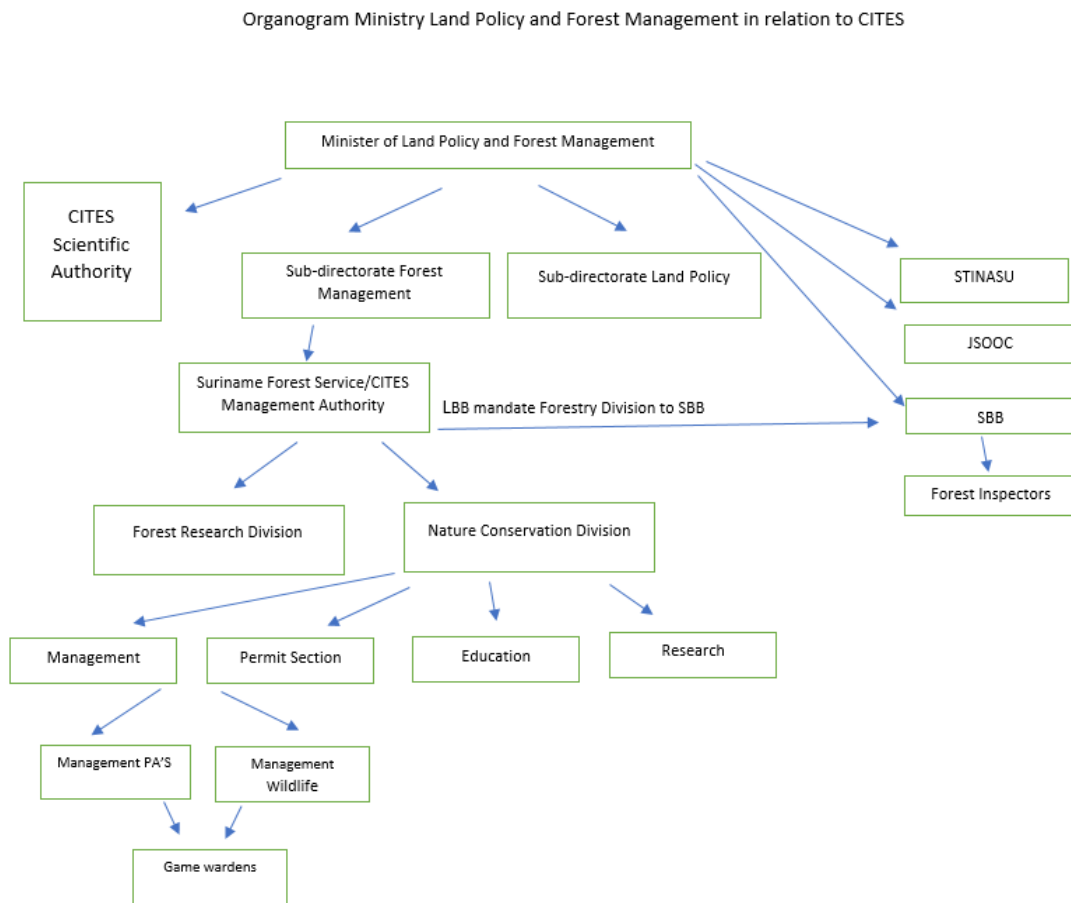


Figure 8. Organogram Ministry of Land Policy and Forest Management in relation to CITES
 Source: Tajib K. (from the Sub-Directorate Forest Management)

⁶ Game Act , G.B. 1954 no. 25, as it reads after the amendment made therein by S.B. 1997 no. 33 G.B. 1954 no. 25 and S.B. 1997 no. 33.

⁷ Game State Decree, S.B. 2002 no.116, as it reads after the amendment made therein by S.B. 2009 no. 16

3. UTILIZATION AND TRADE IN SURINAME

3.1 Type of use

Ara ararauna is a highly intelligent bird that can mimic sounds. That is why this species is in high demand as a pet. In some regions, these birds may be hunted for food and their feathers, which are used in traditional crafts and ceremonies.

3.2 Harvest

3.2.1 Harvesting regime

Ara ararauna is listed as a game species in Suriname. Therefore, this species can only be hunted and trapped during open season (Augustus to November). Outside the open season hunting, trapping, transport and trade of this species is prohibited and is classified as a criminal offence by Game Act and the Economic Crimes law. The maximum penalty for illegal trade is six years and if it involves organized crime, it is 8 years. The Prosecutor's Office has established a special desk for environmental and economic crime with four dedicated prosecutors. Any seizures by the game wardens are to be directly communicated to the Prosecutor's Office who leads the investigations.

Suriname has four categories of Protected Areas in total covering about 14 % of its land surface. In the eleven (11) nature reserves (Coppename Monding NR, Galibi NR, Wia Wia NR, Brinckheuvel NR, Wanekreek NR, Peruvia NR, Copie NR, Boven Coesewijne NR, Hertenrits NR, Sipaliwini NR and Central Suriname Nature Reserve (CSNR), which covers a total of 1,889,1000 ha. no activities are allowed without permission from the Head of LBB (see figure 9). It is strictly protected. No hunting or trapping of species is allowed in protected areas (nature reserve).

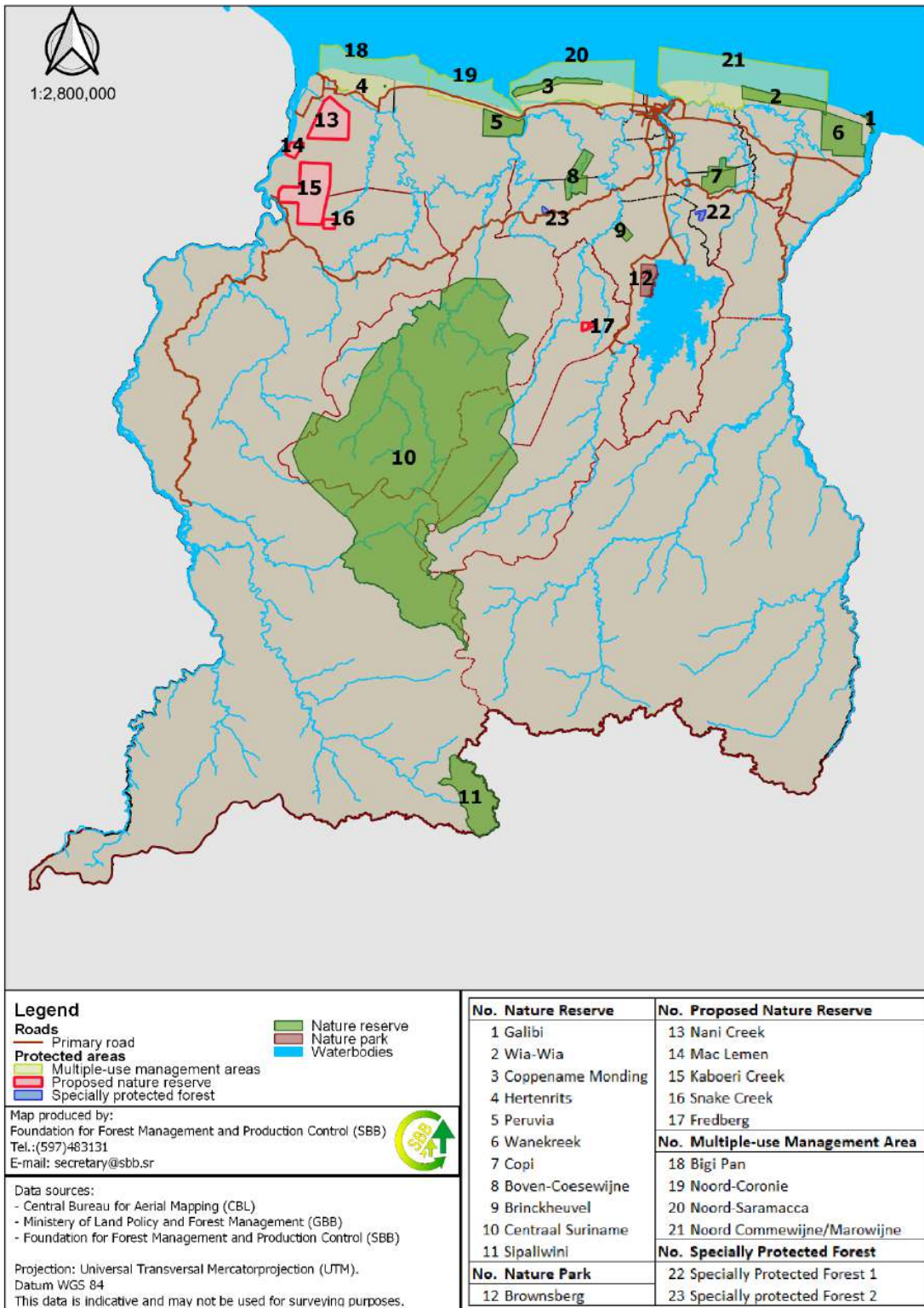


Figure 9. Overview of the protected areas in Suriname.

Source: Foundation for Forest Management and Production Control (SBB)

3.2.2 Harvest management

Animal exporters register their trappers at the permit section of the NCD. All registered trappers receive a trapper's pass and are allowed to trap species within the quota of an individual exporter. Trapping, transporting and trading of *Ara ararauna* is not allowed during the closed season (December to June). Harvest in nature reserves is prohibited. All exporters must make and submit to the NCD an annual inventory of all trapped species with the off-take from the wild, the area of harvest and export data including the mortality data. The Head of LBB/CITES MA issues CITES and non-CITES permits.

The Wildlife Management section of the NCD is responsible for inspecting all shipments and endorsing the CITES permits before export, undertaking patrolling in the field, based on a number of checkpoints. A team inspects the captive breeding facilities (two big ones and a couple of smaller ones). The enforcement of wildlife protection laws and regulations in Suriname is done by the game wardens of the Nature Conservation Division. There are currently about 35 active game wardens and 35 more in training. They are extraordinary police officers and operate within their task throughout the territory of Suriname. They collaborate with various governmental agencies, including the Police Department, Customs, Military Police, Public Prosecutors Office. They also collaborate with local authorities and non-governmental organizations to monitor and combat illegal activities related to wildlife, such as poaching, illegal trade etc. There are concerns about smuggling of *Ara ararauna* and other species between Guyana and Suriname, but there is no formalized collaboration with Guyana on these issues.

Permits for breeding in captivity have been issued to:

- Mr. Chen Qi (Red Dot Import & Export N.V.), special permit to breed parrots and set up a parrot farm. This permit was valid until Feb 14, 2019. In 2018, this breeding facility bred 18 pieces of the *Ara ararauna*. (Sixteen were ringed and two were not ringed). In 2022 they have bred 25 pieces (all ringed);
- The director of Para Breeding and Research Farm, Mr. G. Henzen dated October 21, 2022, valid for 3 years. It expires October 20, 2025. No other data of successful breeding is available.

In view of the above, it can be concluded that the success rate for captive breeding of this species in Suriname from 2018-2023 is very marginal.

3.3 Legal and illegal trade levels

3.3.1 Trade data

In terms of international trade, Suriname is a significant exporter of live *Ara ararauna*. Suriname's wildlife trade sector is contributing to its economy, especially bird species, including *Ara ararauna*, account for a significant portion of its exports.

To analyze the export of *Ara ararauna*, data for the period 2013-2020 has been extracted from the CITES Trade Database maintained at UNEP-WCMC (see table 4 and figure 10). Suriname has yet to submit its annual CITES report of 2021 and 2022. For this analysis only the data where the trade term code was 'live' is included.

The following is observed:

In 2013 a total of 1236 live *Ara ararauna* were exported to China (187), Curacao (10), Dominican Republic (18), Hong Kong (36), Kuwait (36), Malaysia (16), Maldives (2), Nepal (20), Pakistan (84), Russia (164), Singapore (52), Thailand (502), Ukraine (65), United Arab Emirates (42) and United States of America (2) for commercial trade, breeding, zoo and Scientific purposes. The import records for this year shows that a total of 232 live *Ara ararauna* have been imported by China (20), Dominican Republic (8), Hong Kong (1), Malaysia (6), Singapore (22) and Thailand (175) for commercial trade and breeding purposes. Records show that the exports exceed the national quota of 650 for this year and a discrepancy of 1031 species in the export and import data.

In 2014, 666 live *Ara ararauna* were exported to China (38), Kuwait (24), Pakistan (18), Russia (24), Singapore (89), Thailand (431), Ukraine (42), for commercial trade, breeding and zoo purposes. The import records for this year shows that a total of 849 live *Ara ararauna* has been imported by Nepal (20), Pakistan (84), Russia (124), Singapore (52), Thailand (502), United Arab Emirates (65) and United States of America (2) for commercial trade, zoo, scientific and breeding purposes. Records show that the exports exceed the national quota of 650 for this year and a discrepancy of 183 species in the export and import data.

In 2015, 532 live *Ara ararauna* were exported to China (48), Dominican Republic (15), Oman (6), Russia (22), Singapore (104), Thailand (332), Turkey (5), for commercial trade and breeding purposes. The import records for this year shows that 564 live *Ara ararauna* have been imported by China (30), Singapore (83) and Thailand (451) for commercial trade and breeding purposes. Records show that the exports did not exceed the national quota of 650 for this year and a discrepancy of 32 species in the export and import data.

In 2016, 668 live *Ara ararauna* were exported to China (188), Egypt (12), Hong Kong (44), Iraq (24), Netherlands Antilles (12), Oman (56), Pakistan (15), Singapore (42) and Thailand (275) for commercial trade and breeding purposes. The import records for this year shows that a total of 571 live *Ara ararauna* has been imported by China (81), Hong Kong (122), Kyrgyzstan (1), Oman (76), Singapore (42) and Thailand (249) for commercial trade, zoo,

circuses and breeding purposes. Records show that the exports did not exceed the national quota of 650 for this year and a discrepancy of 97 species in the export and import data.

In 2017, 579 live *Ara ararauna* were exported to Bangladesh (115), China (149), Dominica (6), Oman (14), Saudi Arabia (14), Singapore (64), and Thailand (217) for commercial trade, breeding and zoo purposes. The import records for this year shows that 395 live *Ara ararauna* have been imported by China (94), Oman (14), Singapore (64) and Thailand (223) for commercial trade, zoo and breeding purposes. Records show that the exports did not exceed the national quota of 650 for this year and a discrepancy of 184 species in the export and import data.

In 2018, 605 live *Ara ararauna* were exported to the Armenia (24) China (212), Curacao (11), Georgia (3), Oman (12), Pakistan (45), Singapore (78), and Thailand (220) for commercial trade, breeding and zoo purposes. The import records for this year shows that a total of 662 live *Ara ararauna* have been imported by China (309), Dominican Republic (6), Oman (12), Singapore (108) and Thailand (227) for commercial trade and breeding purposes. Records show that the exports did not exceed the national quota of 650 for this year and a discrepancy of 57 species in the export and import data.

In 2019, 338 live *Ara ararauna* were exported to Armenia (56), China (125), Curacao (3), Dominican Republic (37), Singapore (36), and Thailand (81) for commercial trade and breeding purposes. The import records for this year shows that 564 live *Ara ararauna* have been imported by Oman (36), Singapore (63), Thailand (63), Turkey (18), United States of America (21) and Uzbekistan (4) for commercial trade and breeding purposes. Records show that the exports did not exceed the national quota of 650 for this year and a discrepancy of 226 species in the export and import data.

In 2020, 309 live *Ara ararauna* were exported to Afghanistan (30), China (137), French Guiana (2), Indonesia (62), Kuwait (19), United Arab Emirates (40) and Uzbekistan (19) for commercial trade, breeding and purposes. The import records for this year shows that a total of 185 live *Ara ararauna* have been imported by Dominican Republic (37), France (2), Indonesia (50), Saudi Arabia (50), United Arab Emirates (40) and Uzbekistan (6) for commercial trade and breeding purposes. Records show that the exports did not exceed the national quota of 650 for this year and a discrepancy of 32 species in the export and import data.

In the years 2013, 2014 and 2016 exports of *Ara ararauna* exceeded the quota of 650. The export of this species is in 2015, 2017, 2018, 2019 and 2020 below the quota of 650. A significant decrease of export of this species is observed for the years 2019 and 2020. This might be caused by the Covid-pandemic situation.

Analysis of the CITES trade data shows that most of the species that are exported comes from the wild except in 2013 (four source unknown), 2014 (eleven source unknown), 2017 (twelve

comes from breeding) and 2018 (twelve comes from breeding). Most of the *Ara ararauna* is exported to Thailand with the highest score followed by China and Singapore. Furthermore, it is observed that there are discrepancies in the export and import records (see table 5 and figure 11). The export data from 2013-2020 shows a total of 4933 live species exports reported by Suriname and a total of 3663 live species imports of *Ara ararauna* from Suriname reported by the importing countries. The discrepancy is probably the result of an administrative error. A proper data entry and submission of the CITES annual report is necessary to eliminate any discrepancy in the future.

3.3.2 Illegal trade

Due to the lack of data, it is difficult to quantify the extent of illegal trade of this species.

Table 4. Exports of live *Ara ararauna* from Suriname 2013-2020. Data has been extracted from the CITES Trade Database maintained at UNEP-WCMC.

Country	2013	2014	2015	2016	2017	2018	2019	2020	Total
Afghanistan	0	0	0	0	0	0	0	30	30
Armenia	0	0	0	0	0	24	56	0	80
Bangladesh	0	0	0	0	115	0	0	137	252
China	187	38	48	188	149	212	125	0	947
Curacao	10	0	0	0	0	11	3	0	24
Dominica	0	0	0	0	6	0	0	0	6
Dominican Republic	18	0	15	0	0	0	37	0	70
Egypt	0	0	0	12	0	0	0	0	12
French Guiana	0	0	0	0	0	0	0	2	2
Georgia	0	0	0	0	0	3	0	0	3
Hong Kong	36	0	0	44	0	0	0	0	80
Indonesia	0	0	0	0	0	0	0	62	62
Iraq	0	0	0	24	0	0	0	0	24
Kuwait	36	24	0	0	0	0	0	19	79
Malaysia	16	0	0	0	0	0	0	0	16
Maldives	2	0	0	0	0	0	0	0	2
Nepal	20	0	0	0	0	0	0	0	20
Netherlands Antilles	0	0	0	12	0	0	0	0	12
Oman	0	0	6	56	14	12	0	0	88
Pakistan	84	18	0	15	0	45	0	0	162
Russia	164	24	22	0	0	0	0	0	210
Saudi Arabia	0	0	0	0	14	0	0	0	14
Singapore	52	89	104	42	64	78	36	0	465
Thailand	502	431	332	275	217	220	81	0	2058
Turkey	0	0	5	0	0	0	0	0	5
Ukraine	65	42	0	0	0	0	0	0	107
United Arab Emirates	42	0	0	0	0	0	0	40	82
United States of America	2	0	0	0	0	0	0	0	2
Uzbekistan	0	0	0	0	0	0	0	19	19
Total	1236	666	532	668	579	605	338	309	4933

Table 5. Import of live *Ara ararauna* from Suriname 2013-2020. Data has been extracted from the CITES Trade Database maintained at UNEP-WCMC.

Country	2013	2014	2015	2016	2017	2018	2019	2020	Total
China	20	0	30	81	94	309	0	0	534
Dominican Republic	8	0	0	0	0	6	0	37	51
France	0	0	0	0	0	0	0	2	2
Hong Kong	1	0	0	122	0	0	0	0	123
Indonesia	0	0	0	0	0	0	0	50	50
Kyrgyzstan	0	0	0	1	0	0	0	0	1
Malaysia	6	0	0	0	0	0	0	0	6
Nepal	0	20	0	0	0	0	0	0	20
Oman	0	0	0	76	14	12	36	0	138
Pakistan	0	84	0	0	0	0	0	0	84
Russia	0	124	0	0	0	0	0	0	124
Saudi Arabia	0	0	0	0	0	0	0	50	50
Singapore	22	52	83	42	64	108	63	0	434
Thailand	175	502	451	249	223	227	63	0	1890
Turkey	0	0	0	0	0	0	18	0	18
United Arab Emirates	0	65	0	0	0	0	0	40	105
United States of America	0	2	0	0	0	0	21	0	23
Uzbekistan	0	0	0	0	0	0	4	6	10
TOTAL	232	849	564	571	395	662	205	185	3663

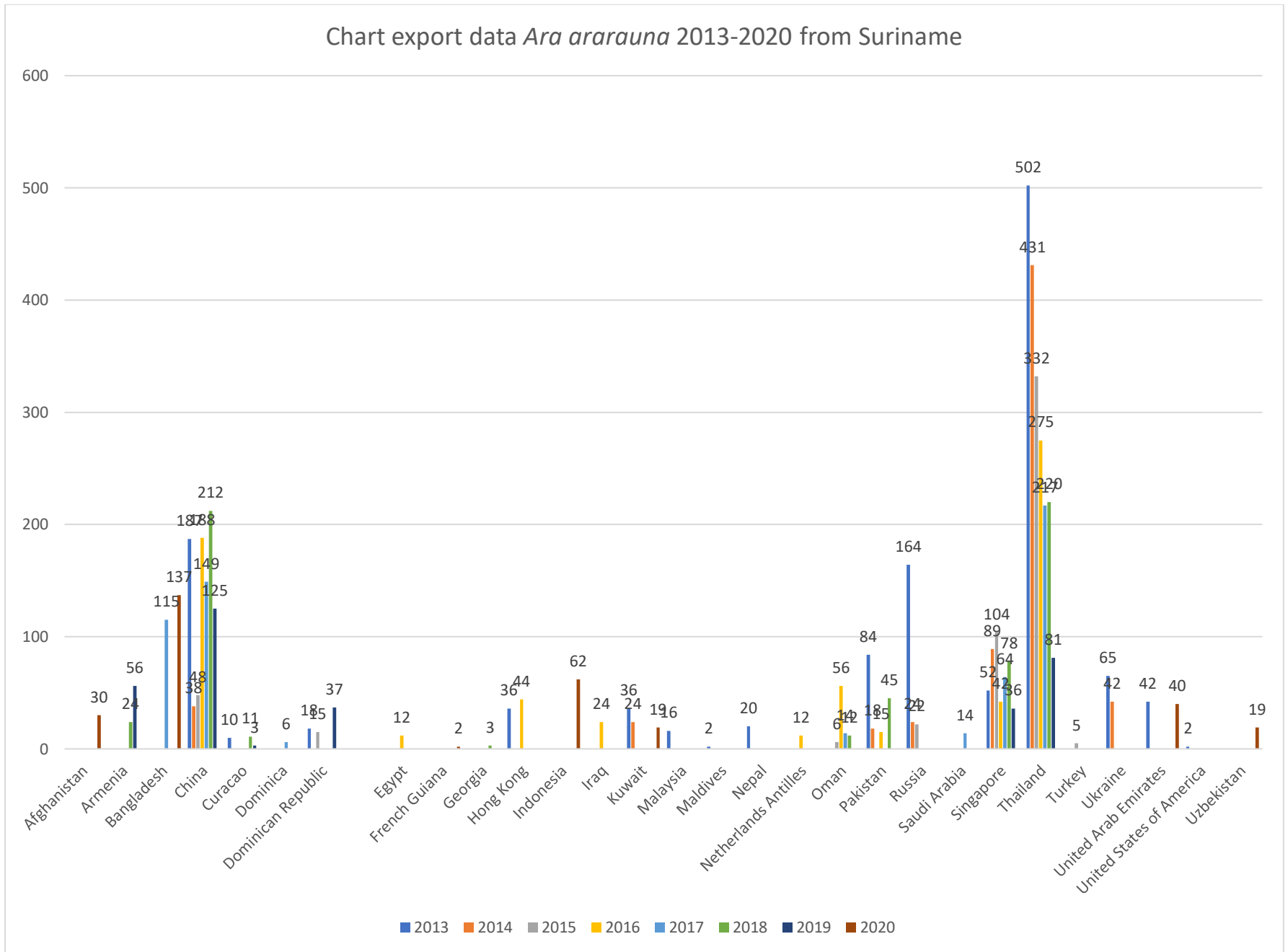


Fig. 10. Chart export data *Ara ararauna* 2013-2020 from Suriname.

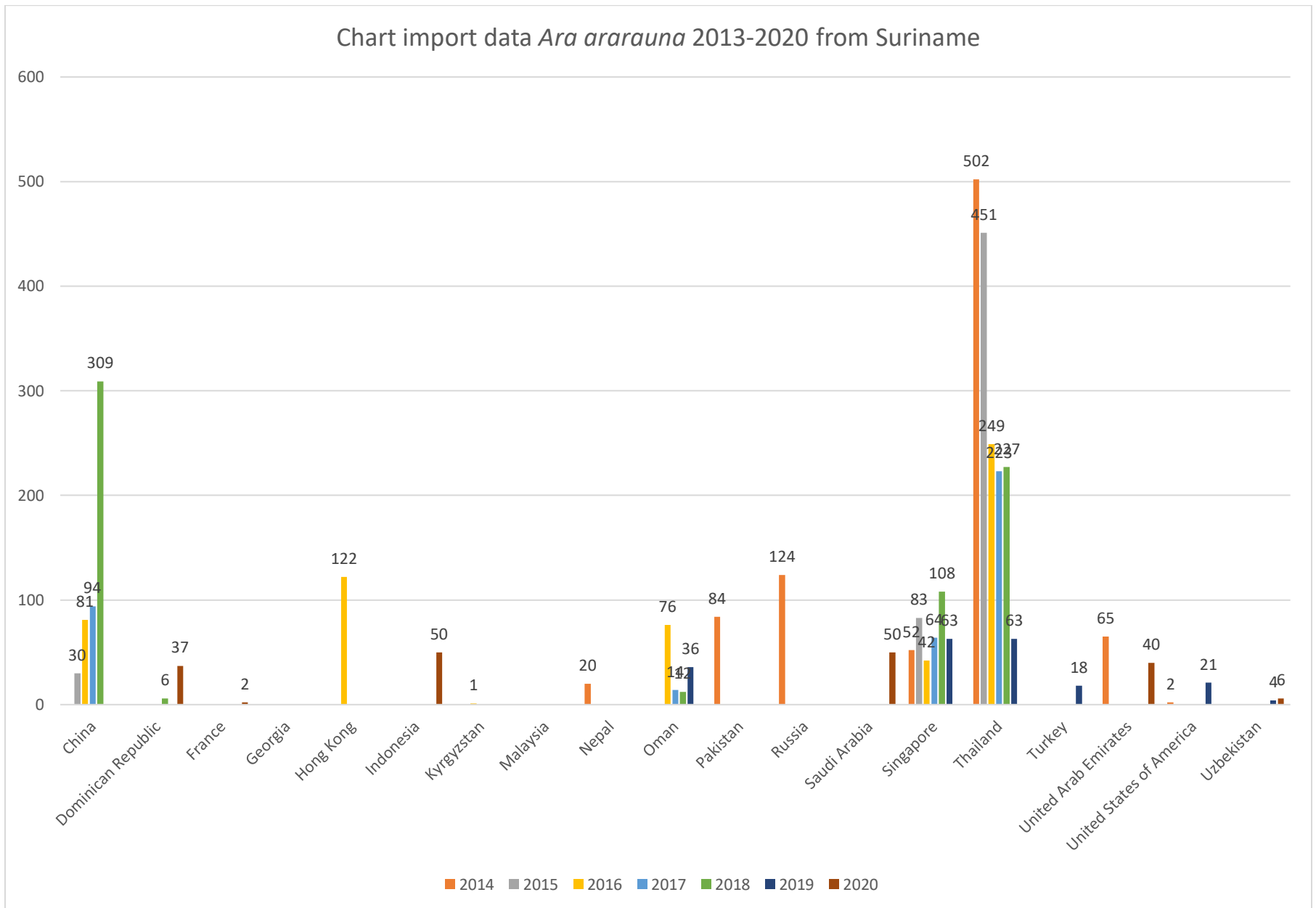


Fig. 11. Chart import data *Ara ararauna* 2013-2020 from Suriname

4. NON-DETRIMENT FINDING

4.1 IUCN - NDF checklist analyses

The Scientific Authority conducted this NDF using the guidance of the IUCN-NDF checklist as presented below in table 6. The result of this checklist is presented in the form of a radar chart (table 5). The result of this checklist is presented in the following paragraph in the form of a radar chart in figure 12.

Analysis of the result shows that in terms of biological characteristics the *Ara ararauna* has a low reproductive rate and a long life history. This species is a highly adaptive bird species when it comes to environmental tolerance. They inhabit a diverse range of habitats, displaying their ability to adapt to different environmental conditions. Some of the key factors that contribute to this species adaptability are as follows:

- **Habitat Variety:** This species is found in a wide range of habitats, from tropical rainforests and savannas to grasslands and palm groves. This adaptability to various environments allows them to cope with changes in their natural surroundings.
- **Feeding Behavior:** They have an omnivorous diet that includes fruits, seeds, nuts, and various plant materials. This broad diet allows them to exploit different food sources, which is essential for surviving in diverse habitats.
- **Nesting Habitats:** These species often utilize tree cavities or cliffs for nesting, demonstrating their ability to adapt their nesting habits to available resources in different locations. **Flight and Mobility:** Being strong flyers, they can cover vast distances and relocate to new areas if necessary. This mobility enhances their ability to cope with environmental changes or find suitable habitats.
- **Social Structure:** They are highly social birds and often form large flocks. This social behavior can provide advantages in adapting to changing environments as they can share information about food sources and potential threats. **Breeding Flexibility:** The macaws are known for their adaptability in breeding, and they can adjust their breeding patterns according to the availability of resources and favorable conditions.

The national distribution of *Ara ararauna* in Suriname is widespread and contiguous. Recent population study on known harvest sites shows that this species is still in abundance in the wild, however like many other parrot species, they are facing challenges due to illegal harvesting and trade. These factors can significantly affect their populations and their ability to adapt to changing environments in the long term.

There is no existing harvest plan for this species or any other species. The harvest is managed based on the existing regulations for game species taking into consideration the open and closed seasons of the game calendar for this species. The aim of harvest is to exploit maximum economic yield.

Suriname has a system of voluntary export quotas for wildlife fauna species, which was in place 1987 after revision of the Game Law 1954 and has been revised in 1995 and up till date used.

Before the latest decision of the Standing Committee (SC74 doc. 30.1), the quota for the *Ara ararauna* was 650. Suriname implemented a zero-export quota for these species after the publication regarding this matter by the CITES Secretariat in 2022.

Considering mortality rate during harvest and transport the harvest quota is set 25% higher than the national export quota, which in terms of conservation is considered a high risk.

Most of the legal national harvest occurs in the coastal areas and areas where there is no strong local control.

Considering the above and due to lack of budgetary and other factors the confidence in effective implementation of harvest management is medium.

The principal used to monitor the effect of the harvest is through national monitoring of exports. The CITES MA has developed an e-permitting system, which can be used as a tool to monitor and manage exports of this species. The system has yet to be operational. The confidence level in the effective harvest monitoring is medium.

At the national level, the conservation benefit to this species accrues from harvesting is low. All profits from the game trade go to the state's treasury and very little goes back into the national budget for nature conservation.

Harvest in Protected Areas (Nature Reserves) are strictly prohibited. Considering that Suriname has 11 Nature Reserves, with a total of 1,889,1000 ha, the percentage of the species' natural range or population legally excluded from harvest is between 5-15% (11.5%).

It is uncertain how effective restriction on harvest in harvest areas can help to prevent overharvesting. Study on this matter has never been conducted.

Table 6: harvest regime checklist

Biological characteristics: <i>Ara ararauna</i>		
2.1. Life history: What is the species' life history?	High reproductive rate, long-lived	
	High reproductive rate, short-lived	
	Low reproductive rate, long-lived	X
	Low reproductive rate, short-lived	
	Uncertain	
2.2. Ecological adaptability: To what extent is the species adaptable (habitat, diet, environmental tolerance etc.)?	Extreme generalist	
	Generalist	X
	Specialist	
	Extreme specialist	
	Uncertain	
2.3 Dispersal efficiency: How efficient is the species' dispersal mechanism at key life stages?	Very Good	
	Good	X
	Medium	
	Poor	
	Uncertain	
2.4. Interaction with humans: Is the species tolerant to human activity other than harvest?	No interaction	
	Pest /Commensal	
	Tolerant	X
	Sensitive	
	Uncertain	
National status: Animals and plants		
2.5. National distribution: How is the species distributed nationally?	Widespread, contiguous in country	
	Widespread, fragmented in country	X
	Restricted and fragmented	
	Localized	
	Uncertain	
2.6. National abundance: What is the abundance nationally?	Very abundant	
	Common	X
	Uncommon	
	Rare	
	Uncertain	
2.7. National population trend: What is the recent national population trend?	Increasing	
	Stable	
	Reduced, but stable	
	Reduced and still decreasing	
	Uncertain	X
2.8. Quality of information: What type of information is available to describe abundance and trend in the national population?	Quantitative data, recent	X
	Good local knowledge	
	Quantitative data, outdated	
	Anecdotal information	
	None	

2.9 Major threats: What major threat is the species facing (underline following: overuse/ habitat loss and alteration/ invasive species/ other: and how severe is it?	None	
	Limited/Reversible	X
	Substantial	
	Severe/Irreversible	
	Uncertain	
Harvest management: Animals and plants		
2.10. Illegal off-take or trade: How significant is the national problem of illegal or unmanaged off-take or trade?	None	
	Small	
	Medium	
	Large	
	Uncertain	X
2.11. Management history: What is the history of harvest?	Managed harvest: ongoing with adaptive framework	X
	Managed harvest: ongoing but informal	
	Managed harvest: new	
	Unmanaged harvest: ongoing or new	
	Uncertain	
2.12. Management plan or equivalent: Is there a management plan related to the harvest of the species?	Approved and coordinated local and national management plans	
	Approved national/state/provincial management plan(s)	
	Approved local management plan	
	No approved plan: informal unplanned management	X
	Uncertain	
2.13. Aim of harvest regime in management planning: What is harvest aiming to achieve?	Generate conservation benefit	
	Population management/control	
	Maximize economic yield	X
	Opportunistic, unselective harvest, or none	
	Uncertain	
2.14 Quotas: Is the harvest based on a system of quotas?	Ongoing national quota: based on biologically derived local quotas	X
	Ongoing quotas: "cautious" national or local	
	Untried quota: recent and based on biologically derived local quotas	
	Market-driven quota(s), arbitrary quota(s), or no quotas	
	Uncertain	
Control of harvest: Animals and plants		
2.15. Harvesting in Protected Areas: What percentage of the legal national harvest occurs in State-controlled Protected Areas?	High	
	Medium	
	Low	
	None	X
	Uncertain	
2.16. Harvesting in areas with strong resource tenure or ownership: What percentage of the	High	
	Medium	X
	Low	

legal national harvest occurs outside Protected Areas, in areas with strong local control over resource use?	None	
	Uncertain	
2.17. Harvesting in areas with open access: What percentage of the legal national harvest occurs in areas where there is no strong local control, giving <i>de facto</i> or actual open access?	None	
	Low	
	Medium	X
	High	
	Uncertain	
2.18. Confidence in harvest management: Do budgetary and other factors allow effective implementation of management plan(s) and harvest controls?	High confidence	
	Medium confidence	X
	Low confidence	
	No confidence	
	Uncertain	
Monitoring of harvest: Animals and plants		
2.19. Methods used to monitor the harvest: What is the principal method used to monitor the effects of the harvest?	Direct population estimates	
	Quantitative indices	
	Qualitative indices	
	National monitoring of exports	X
	No monitoring or uncertain	
2.20. Confidence in harvest monitoring: Do budgetary and other factors allow effective harvest monitoring?	High confidence	
	Medium confidence	
	Low confidence	X
	No confidence	
	Uncertain	
Incentives and benefits from harvesting: Animals and plants		
2.21. Utilization compared to other threats: What is the effect of the harvest when taken together with the major threat that has been identified for this species?	Beneficial	
	Neutral	X
	Harmful	
	Highly negative	
	Uncertain	
2.22. Incentives for species conservation: At the national level, how much conservation benefit to this species accrues from harvesting?	High	
	Medium	X
	Low	
	None	
	Uncertain	
2.23. Incentives for habitat conservation: At the national level, how much habitat conservation benefit is derived from harvesting?	High	
	Medium	
	Low	X
	None	
	Uncertain	
Protection from harvest: Animals and plants		
2.24. Proportion strictly protected: What percentage of the species'	>15%	
	5-15%	X
	<5%	

natural range or population is legally excluded from harvest?	None	
	Uncertain	
2.25. Effectiveness of strict protection measures: Do budgetary and other factors give confidence in the effectiveness of measures taken to afford strict protection?	High confidence	
	Medium confidence	X
	Low confidence	
	No confidence	
	Uncertain	
2.26. Regulation of harvest effort: How effective are any restrictions on harvesting (such as age or size, season or equipment) for preventing overuse)?	Very effective	
	Effective	
	Ineffective	
	None	
	Uncertain	X

4.2 Result in radar chart IUCN-NDF checklist

For ease of reference, a graphical evaluation was carried out. As regards the figures, it must be considered that the assignment of numerical values is partly subjective and leads to simplifications on account of the categories used. Thus, the figures are useful to obtain an overview; yet for the purpose of assessment, exact data are required. For the graphical evaluation of *Ara ararauna*, the following indicators are particularly striking: the lack of national population trend, the lack of active management (illegal off-take) and the lack of protection (effectiveness of protection and regulation of harvest). The other indicators are within a positive range.

Ara ararauna

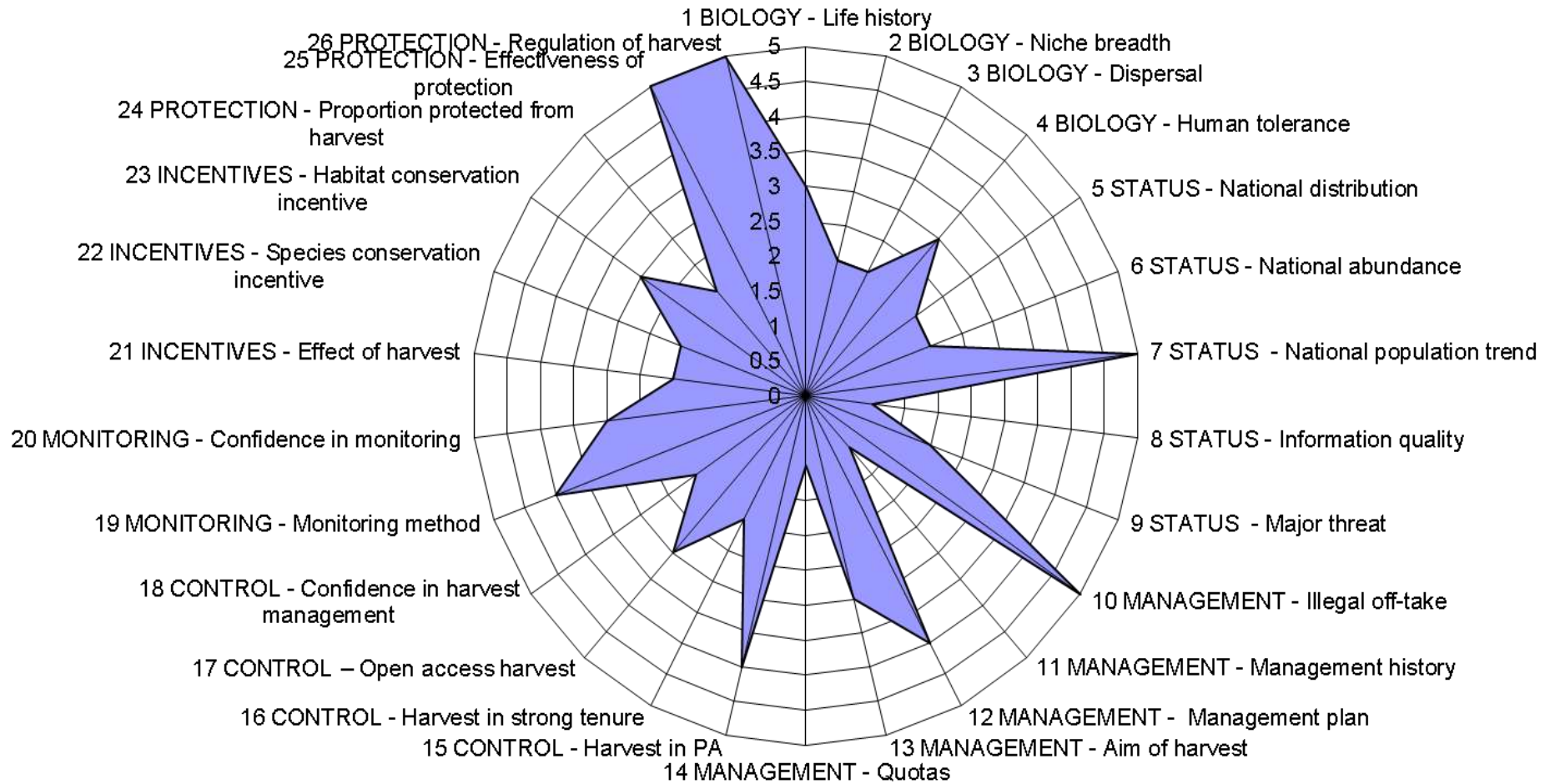


Figure. 12. Graphical NDF evaluation of Ara ararauna

4.3 Conclusion and recommendations

Ara ararauna is widespread with a continuous distribution at the national level⁸. According to the latest population study (Ramcharan 2022) the national population status of the *Ara ararauna* is stable and generally very abundant and occurs at high densities. However, illegal harvest from local and registered trappers may have an impact on the population of this species in the wild. During this study it has been observed that there is a lack of monitoring and enforcement activities by the authorities. Across the species distribution there is little evidence of active management. The Scientific Authority recommends stepping up control and enforcement activities in strategic posts in order to stop possible illegal activities. The Scientific Authority advises the Management Authority to keep record of all illegal harvest and trade of this species and other CITES listed species in order to be able to produce an illegal trade report for CITES listed species in Suriname.

There is no harvest plan for *Ara ararauna* in Suriname. Although *Ara ararauna* is a CITES Appendix II listed species it is not a fully protected species in Suriname as it is nationally listed as a game species. The hunting, capture, transport and the Game Act of 1954, the Game State Decree and the Game Calendar regulate trade of these species. Hunting, capture, transport and trade of *Ara ararauna* is prohibited during the closed season from December until June (mating and breeding season). Each hunter with a hunting license is permitted a “bag limit” (take off) of 5 pieces of this species each hunting trip. Harvest for export is governed by permit. Hunting, capture, transport and trade of *Ara ararauna* is only allowed under catcher permit by specific trappers during open season from August to November. Hunting and trapping of species is not permitted in protected areas. Most known harvest areas are in the coast of Suriname. Due to the remoteness of the interior of Suriname, very limited harvest of this species comes from the interior. The Scientific Authority recommends the development of a harvest plan for all wildlife species on the export list.

Bred in captivity for this species was done by two animal exporters. The success rate for captive breeding of this species in Suriname from 2018-2023 is very marginal.

No permit is needed for domestic use. CITES Permit is needed for export/import of this species.

The method used to monitor the effects of the harvest is through the monitoring of export and export quota. The CITES Management Authority has developed an e-permitting system with funding from the Bioamazon project. This e-permitting system has a few issues that still needs to be solved before it can be fully functional. With this system, the management of wildlife export can be easy, transparent and traceable.

Suriname has a system of voluntary export quotas for wildlife fauna species, which was in place 1987 after revision of the Game Law 1954 and has been revised in 1995 and up till date used. Before the latest decision of the Standing Committee (SC74 doc. 30.1), the quota for the *Ara ararauna* was 650. Suriname implemented a zero-export quota for *Ara ararauna* after the publication regarding this matter by the CITES Secretariat in 2022.

⁸ <https://www.surinamebirds.nl/php/bird.php?arar>

According to the general conditions, which is an annex of the export permit, the harvesting quotas are 25% higher than the established export quotas taking into consideration the mortality rate of the species during capture and transport. For all bird species, the general export quotas are much higher than the actual numbers exported. Sometimes the quota in comparison with the actual numbers exported is three times higher. The Scientific Authority recommended revision of the general conditions on this matter and set the harvesting quota at 12 % higher than the export quotas for all bird species.

Analysis of the CITES trade data shows that most of the species that are exported comes from the wild except in 2013 (four source unknown), 2014 (11 source unknown), 2017 (12 comes from breeding) and 2018 (12 comes from breeding). Furthermore, analyses of the CITES trade data shows discrepancies in the export and import records have been noticed. The export data from 2013-2020 shows a total of 4933 live species exports reported by Suriname and a total of 3663 live species imports of *Ara ararauna* from Suriname reported by the importing countries. The discrepancy is probably the result of an administrative error. A proper data entry and submission of the CITES annual report is necessary to eliminate any discrepancy in the future.

A few studies have been conducted in the past, namely Schouten (1995) and Ottema (2008) which are also mentioned in the report of Ramcharan (2022). The study done by Ramcharan (2022) can be seen as a baseline study for this species. During these studies, this species was seen in high quantities. During the population study by Ramcharan this species was present at all eight surveyed river transects and seen at some of these locations in high quantities. Still, more data is needed for the national abundance and population trend of this species. At least two more years of data will need to be collected to learn trends in numbers per area studied and other locations will need to be surveyed too.

Taking all the above in consideration, with the confines of the available data, the conclusion of the CITES Scientific Authority of Suriname on this NDF for this species is precautionary positive. The SA recommends establishing the interim conservative export quota of 500, as recommended by the Animals Committee, for the *Ara ararauna* until further studies are done on the population of this species.

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ANNEXES

- I.** Serano Ramcharan MSc. and Marchal Linaard. (2021), “A pre-study conducted on Psittacine species presence and numbers. With the emphasis on the *Ara ararauna*, *Ara chlooptera* and *Amazona farinosa*”. An assessment on the habitat and occurrence of at least three parrot species in Suriname.
- II.** Serano Ramcharan MSc and Marchal Linaard, (2022). “ Population size status of parrot species”, a focus on population size of parrot species in known harvest areas.



Non-detriment findings for *Ara chloropterus* from Suriname



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ACKNOWLEDGEMENTS

CITES Scientific Authority of Suriname (SA) is established by Ministerial Decree of April 15th 2016 no. 0567A-16/MinRGB, S.B. 2016 No. 101. The members of the CITES SA were formally appointed by Ministerial Decree of 2nd of March 2022 no. 0699-22/MinGBB and are registered at the CITES Secretariat during the CoP19 in Panama. The CITES Scientific Authority of Suriname has started implementing its task after the installation of its member in 2022.

The CITES Management Authority of Suriname (MA) has requested the SA to do a non-detriment finding on three species (*Amazona farinosa*, *Ara ararauna* and *Ara chloropterus*), that are on the review of significant trade, in order to be in compliant with Article II and IV of the CITES convention.

With the guidance from Mrs. Kaminie Tajib - Rakimoen, National CITES Focal Point, who finished her CITES Master course in Baeza in 2023, the results of the Cancun workshop on Non-detriment Findings (NDF) and the IUCN NDF checklist, the CITES Scientific Authority of Suriname conducted a baseline NDF on these species in Suriname.

It is the first time that the SA has conducted a NDF and a learning process for the Scientific Authority. We hope to gain more knowledge and experience on how to make proper NDF for other species in the future. There is always room for improvement and we thank all who have supported us in making this NDF, and we very much welcome any feedback and suggestions on ways to improve this in the future.

Kiran Somaroe BSc.

Chair CITES Scientific Authority of Suriname

LIST OF ACRONYMS

AC	Animals Committee
ACTO	Amazon Cooperation Treaty Organization
BBS	National Herbarium of Suriname
CELOS	Centre for Agricultural Research in Suriname
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CSNR	Central Suriname Nature Reserve
GBB	Ministry of Land Policy and Forest Management
HFLD	High Forest, Low Deforestation country
IUCN	International Union for Conservation of Nature
LBB	Suriname Forest Service
LVV	Ministry of Agriculture, Animal Husbandry and Fisheries
MA	Management Authority
No.	Number
NR	Nature Reserve
NZCS	National Zoological Collection of Suriname
S.B.	State Gazette
SA	Scientific Authority
SBB	Foundation for Forest Management and Production Control
SC	Standing Committee
UNEP-WCMC	UN Environment Programme World Conservation Monitoring Centre
UNESCO	United Nations Educational, Scientific and Cultural Organization

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INTRODUCTION

Suriname is located in the northeast of South America between latitudes 1° and 6° N and longitudes 54° and 58° W, bordering the Atlantic Ocean in the North, the Republic of Guyana in the West, French-Guiana in the East and Brazil in the South (see figure 1). The Republic of Suriname has been independent from The Netherlands since November 25, 1975 and populated by approximately 567,291 inhabitants (mid-year population estimation in 2015). Suriname encompasses 93% of forest and an Exclusive Economic Zone of 345 sea miles (Maritime Zones Act S.B. 2017 no. 41). Suriname exhibits a low deforestation rate and is characterized as a country with high forest cover and low deforestation (HFLD).

Suriname has approximately 3.5 inhabitants per km², making Suriname a low populated country. According to a mid-year population estimation in 2015, the largest ethnic groups are Hindustani (30%), followed by Creoles (20.6%), Javanese (19.6%), mixed race (14.4%), Maroons (10.5%) and others (including Chinese, Indigenous people, Lebanese and European) (4.9%). The sex distribution of the population remained stable, with females accounting for 50.1% of the population and males 49.9%.

With a land surface of 163,800 km², Suriname is divided into two main geographic regions: the Northern coastal area, with the majority of the population residing here; and the Southern area, mainly consisting of tropical rainforest and a sparsely populated savannah along the Brazilian border. Seven types of ecosystems have been distinguished, namely (i) marine ecosystems, (ii) coastal ecosystems, (iii) brackish water ecosystems, (iv) freshwater ecosystems, (v) savannah ecosystems, (vi) marsh ecosystems and (vii) tropical rainforest and inselbergs.

As part of the Guiana Shield, Suriname's tropical rainforest has a rich biodiversity. In 2012, 192 mammal species were reported, along with 102 amphibian species, 175 reptile species, 730 bird species, 450 freshwater fish species, and in 2016, 6,044 vascular (higher) plants.

The long history of protecting Suriname's biodiversity dates back to 1954. Eighteen protected areas have been established since then, consisting of 11 Nature Reserves, 4 Multiple Use Management Areas, 1 Nature Park and two special reserve forests. Together they make up 2,293,200 hectares or 14% of the country's land surface. Of the 11 Nature Reserves, the Central Suriname Nature Reserve in the district of Sipaliwini is the largest and is placed on the World Heritage list of UNESCO.



Figure 1. Map of Suriname
Source: Foundation for Forest Management and Production Control (SBB)

Suriname acceded to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in February 1981. The Ministry of Land Policy and Forest Management (GMB) is responsible for nature conservation in Suriname and is therefore currently responsible for implementation of CITES at the national level. The Head of Suriname Forest Service (LBB), which is resorted under the Ministry of GMB is according to the Game Law of 1954 and the State Order on Game 2002, the Wildlife Management Authority in Suriname.

The Suriname Forest Service (LBB) was established in 1947 (G.B. 1947 No. 108) and because of its tasks and powers it now resorts under the Ministry of Land Policy and Forest Management. The LBB has two major tasks, namely:

1. Management of protected areas and,
2. Wildlife management.

The duties and mandates of the Head of LBB are specifically outlined in the Nature Conservation Act 1954, the Forest Management Act 1992 and the Game Law. The Game Law of 1954 regulates the Wildlife Management in Suriname, including the CITES species.

The service divisions of LBB are currently Nature Conservation Division (NCD) and Forest Research. In a letter from the Head of LBB dated January 24, 2000, the mandate regarding the Forestry section of LBB was transferred to the Foundation for Forest Management and Production Control (SBB), which is a government foundation that directly resorts under the Minister of Land Policy and Forest Management. SBB is responsible for promoting Sustainable Forest Management among others by enforcing the Forest Management Act 1992, which includes monitoring the logging activities and the exports of timber.

By Ministerial Decree of April 15th, 2016, no. 0567B-16/Min RGB, S.B. 2016 No. 102, the Head of Suriname Forest Service is also designated as the CITES Management Authority in Suriname.

One of the requirements established in the text of the convention for the regulation of trade in specimen of species included in Appendix II, is that a Scientific Authority from the exporting member country declares that an export, import and/or re-export will not harm the survival of a CITES-regulated species in the wild. This analysis and evaluation mechanism is known as 'non-detriment finding' (NDF).

The proposal for the inclusion of the Order of Psittaciformes spp., in CITES Appendix II, except for the species included in Appendix I and *Agapornis roseicollis*, *Melopsittacus undulatus*, *Nymphicus hollandicus* and *Psittacula krameri*, which is not included in the Appendices, was adopted at the thirteenth meeting of the Conference of Parties to the CITES (CoP13) held in 2004 in Bangkok, Thailand and entered into force on January 12, 2005.

The CITES Animals and Plants Committees are reviewing the biological and trade information of Appendix II species subject to significant levels of trade, in order to identify problems and solutions concerning the implementation of Article IV, paragraphs 2 (a), 3 and 6 (a), of the Convention. These provisions require that a Scientific Authority makes a scientific assessment that international trade will not be detrimental to the survival of the species concerned.

At its 29th meeting (Geneva, July 2017), the Animals Committee examined the recorded levels of direct exports for Appendix II species of the five most recent years, as recorded in the CITES Trade Database, as well as an extended analysis of this trade prepared by the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC). Based on this

and other information available, the Animals Committee selected a number of species/country combinations for review, including *Amazona farinosa*, *Ara ararauna* and *Ara chloropterus* of Suriname.

The CITES Secretariat sent a letter dated September 20, 2017, to the Head of Suriname Forest Service (CITES Management Authority) with the request to Suriname, to provide the scientific basis by which Suriname states that exports of *Amazona farinosa*, *Ara ararauna* and *Ara chloropterus* from Suriname are not detrimental for the survival of the species concerned and are compliant with Article IV of the CITES convention.

The CITES Management Authority of Suriname has communicated with the CITES Secretariat on this matter and the Secretariat has given recommendations to Suriname in this regard. However, according to the report from the Secretariat to the Standing Committee, Suriname did not comply with any of their recommendations. The Secretariat is determined regarding implementation of the recommendations and request the Standing Committee to adopt the following recommendations of the CITES Secretariat:

- a) request the Secretariat to publish a zero-export quota for *A. chloropterus* until Suriname provides information to justify a higher quota to be agreed with the AC Chair; and
- b) urge Suriname to provide an update on the implementation of recommendations d) to m) by three months before the documentation deadline for SC77.

The Standing Committee meeting (SC74 doc. 30.1) has adopted the recommendations of the CITES Secretariat on this matter.

In view of the above and being a range state for the population and exports of the species *Ara chloropterus*, a NDF from Suriname is required in order to export this species and to ensure overall traceability, sustainability and legality of the export of this species. Suriname, through the Nature Conservation Division (NCD), has carried out a pre-study to learn and better understand the locations and habitats of at least three parrot species (*Amazona farinosa*, *Ara ararauna* and *Ara chloropterus*). This work was supported by the Amazon Cooperation Treaty Organization (ACTO) - Bioamazon Project, and was undertaken in March 2021. To understand population size of at least the three above mentioned parrot species, a population size study was initiated as well in 2021. The reports from these studies are titled:

- “A pre-study conducted on Psittacine species presence and numbers with the emphasis on the *Ara ararauna*, *Ara chloropterus* and *Amazona farinosa*”. An assessment on the habitat and occurrence of at least three parrot species in Suriname, and;
- “Population size status of parrot species”, a focus on population size of parrot species in known harvest areas.

With the available data the CITES Scientific Authority of Suriname conducted a baseline NDF on this species in Suriname.

1. BIOLOGICAL DATA

1.1 Scientific and common and local names

Scientific name:	<i>Ara chloropterus</i>
Common names:	Red-and-green Macaw
Local names:	Warauraaf

1.2 Taxonomy

Order:	Psittaciformes
Family:	Psittacidae
Genus:	<i>Ara</i>
Species:	<i>Ara chloropterus</i>

1.3 Distribution

1.3.1 Global distribution

Ara chloropterus can be found within the Neotropical region. They are native to the northern half of South America and are found from the northern coast of Panama, Colombia, Venezuela, Guyana, Suriname, French Guiana, and Brazil southward to Bolivia and Paraguay (see figure 2). They are most commonly found along the northern and southern borders of the Amazon rainforest and sparsely within the rainforest.



Figure 2. World distribution map of *Ara chloropterus*
 Source: <https://www.iucnredlist.org>

1.3.2 National distribution

Widespread with a continuous distribution at the national level (see figure 3). Each small square indicates the observation of at least one (group) of these birds, the medium ones at least four observations on different days and the largest ones ten or more. The color of each square indicates: blue for coastal areas, yellow for savanna and red for rainforest.

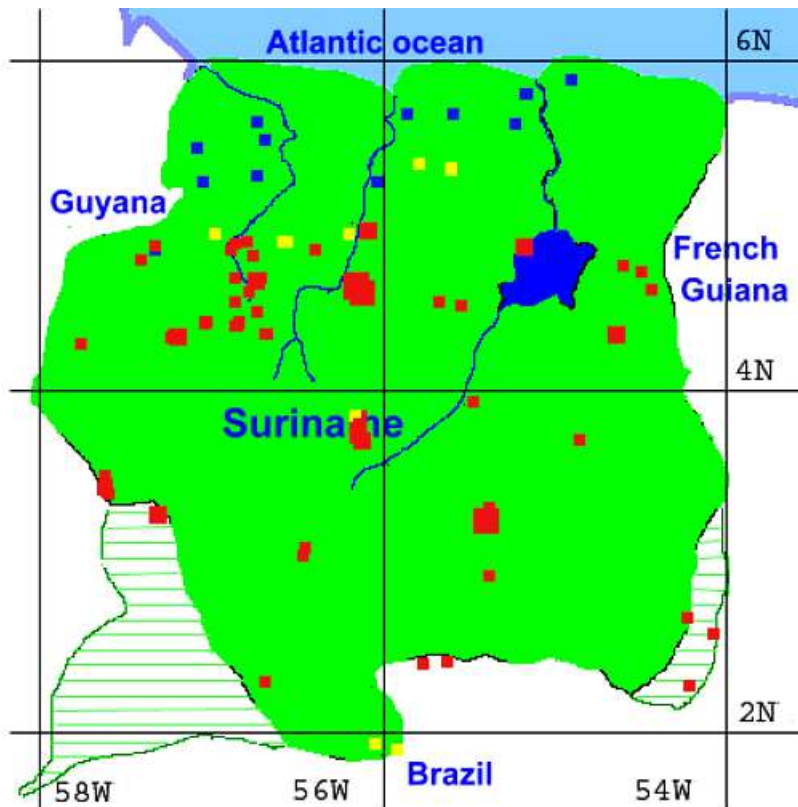


Figure 3. Distribution map of *Ara chloropterus* in Suriname
 Source: <https://www.surinamebirds.nl>

1.4 Biological characteristics

1.4.1 General biological and life history characteristics of the species

1.4.1.1 Physical Description

Ara chloropterus primarily have a red body plumage that fades to green on the central wing feathers. This changes to light blue feathers outwards to their primaries. Primaries farthest from their cavity are dark blue. The base of their tail feathers is light blue transitioning to red on each feather. These feathers are tipped with blue. The underside of both their tail and wings are dark red. Their face is sparsely red-feathered and atop visible white skin. Their upper mandible is pale yellow with black at the base of their beak. Their lower mandible is entirely black. Their iris color is yellow. Males and females look alike. Adults range in length of 90-95 cm and in mass of 1,050-1,700 g. The wingspan ranges between 380 and 421mm. Juveniles have a shorter tail than adults and the black parts on adults' mandibles are a paler grey. The iris of juveniles is brown.

1.4.1.2 Sexual Dimorphism

Sexual dimorphism is the differences in appearance between males and females of the same species, such as in colour, shape, size, and structure, that are caused by the inheritance of one or

the other sexual pattern in the genetic material. In the case of *A. chloropectus* the males and females look alike.

1.4.1.3 Reproduction

Ara chloropectus form a monogamous pair for life, breeding and laying eggs at minimum once every year. This species breeds from October to May. Mating rituals involve self-and mate-preening. Both males and females take part in nest-building and both feed the chicks. These macaws typically choose large canopy-emergent trees in the genus *Dipteryx* or natural cavities in clay-licks alongside rivers. The typical number of eggs within their clutches ranges between 2 to 4, and they are incubated by the mother for 23 to 28 days. The eggs hatch at intervals of 1 to 5 days between each egg. The chicks start to form their down feathers within 8 days of hatching and sheath feathers at about 3 weeks. It takes about 90 days for a chick to fledge. The males and females both reach sexual maturity at ages of 2 to 4 years. See table 1 for an overview of the reproductive features of the *Ara Chloropectus*.

Table 1. Overview reproductive features of *A. chloropectus*

Breeding interval	Breed once yearly if nesting site is chosen
Breeding season	Breed starts as early as late October and extends until as late as May
Range eggs per season	2 to 4 eggs
Range time to hatching	23 to 28 days
Range time to independence	90 to 365 days
Range age at sexual or reproductive maturity (female)	2 to 4 years
Range age at sexual or reproductive maturity (male)	2 to 4 years

Ara chloropectus both take care of their young. The mothers incubate the eggs, while the father forages for food and shares (regurgitates) it with the female. After the chicks hatch, both parents preen, feed the babies by regurgitation, and keep them warm.

1.4.1.4 Lifespan/Longevity

Ara chloropectus have an average lifespan of 50.1 years in captivity. As of 2008, the maximum recorded lifespan in captivity was 63.04 years. When lifespans were calculated from 1 day post-

hatching, Young et al. (2012) calculated lifespans averaging 9.51 years. However, if macaws lived at least 4 years in captivity, then their average lifespans were 14.44 years.

1.4.1.5 Behavior

Ara chloropterus socialize along clay-licks between early morning and mid-afternoon. They let out vocal warnings to other members of their species in warning when raptors or predatory animals are spotted, sending the flock to disperse among the trees. Outside of clay-licks, *ara chloropterus* socialize with either their small family group or solely their partner. Members of this species do not migrate. These macaws are diurnal and remain in trees at night when not nesting.

1.4.1.6 Food habits

Ara chloropterus have large and powerful beaks and are primarily granivorous, mainly consuming seeds and seed coverings. Less commonly, they eat fruits and occasionally also consume leaves, flowers, and bark.

1.4.1.7 Predation

Known predators include large raptors, like roadside hawks, and mammalian carnivores, like jaguars. Suspected predators include tayras, toucans, and hawk eagles. Humans hunt these birds for food, pet trade and feathers which are being used by native cultures as a decorative article for clothing and accessories.

1.4.2 Habitat types

There are three vegetation types (see figure 4) in Suriname:

- In the coastal plain various types of hydrophytes vegetation like mangrove along the coasts, swamp forest, ridge forest and marsh forest.
- The high and low savanna forests form the cover landscape in the savannah belt, together with open, grass and shrub savannas.
- The high dryland forest in the interior, which differs in the species, height, density and diversity.

Ara chloropterus live in trees and near water sources with clay-licks. They live in tropical locations, evergreen forests, and occasionally deciduous rainforests. They are more common in areas rich in canopy-emergent trees because they are used for nesting cavities during the breeding season. Uncommonly, they occupy savannahs and “llanos” which are plains in South America that lack trees.

1.4.3 Role of the species in its ecosystem

Ara chloropterus plays an important role in the dispersal of some seeds in the tropical rainforest.

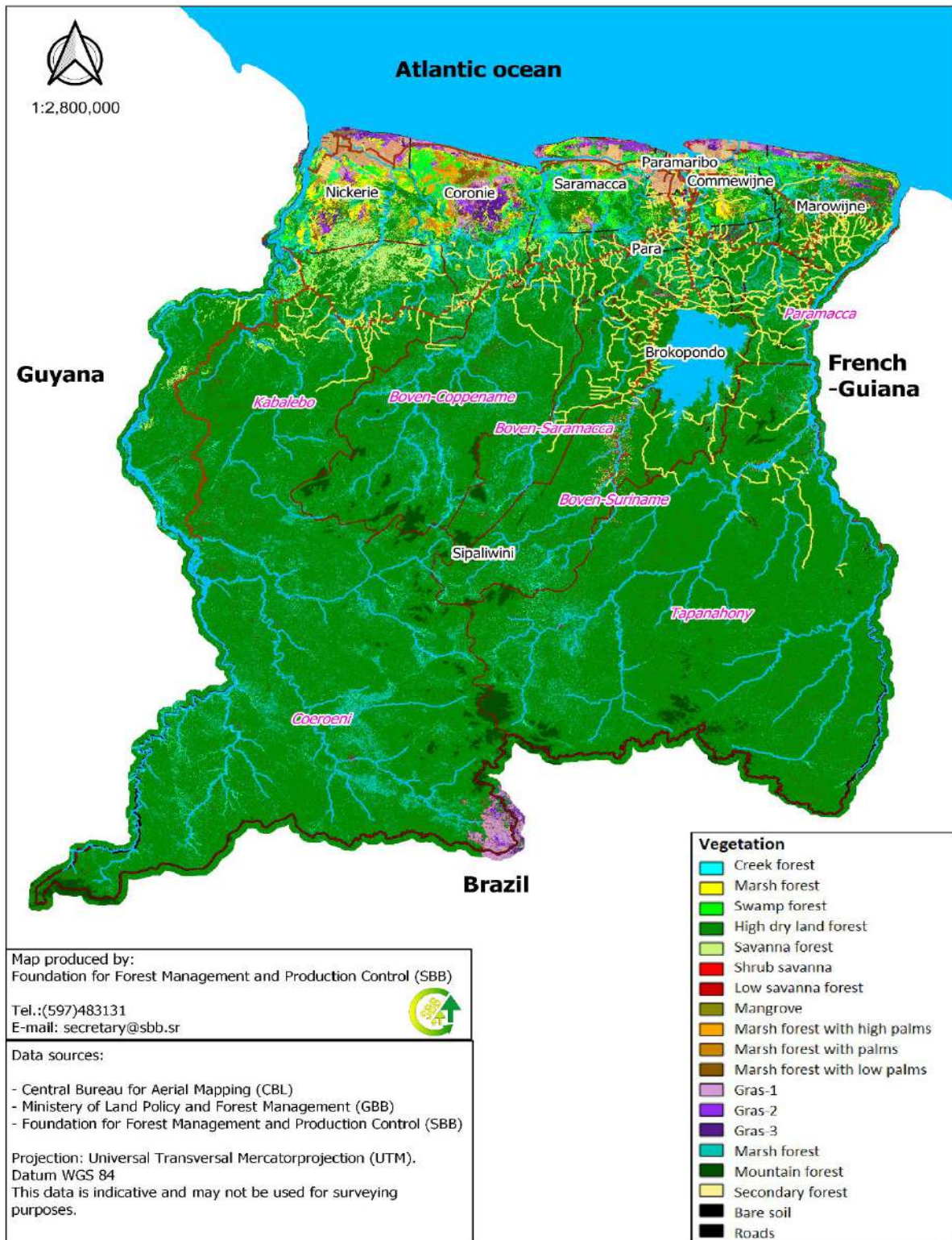


Figure 4. Vegetation map of Suriname

Source: Foundation for Forest Management and Production Control (SBB)

1.5 Population

1.5.1 Global Population size

The global population of *Ara chloropterus* is estimated to number 50,000-499,999 mature individuals. The species is described as ‘fairly common’. *Ara chloropterus* is classified as “Least Concern”, indicating that the overall population is considered stable, and there are no immediate threats to the species at a global level.

1.5.2 Current global population trends

The population of *Ara chloropterus* is undergoing a large, significant decline, which is thought to be caused by ongoing habitat destruction and unsustainable levels of exploitation.

1.5.3 National abundance

Suriname, through the Nature Conservation Division (NCD), has carried out a pre-study to learn and better understand the locations and habitats of at least three parrot species (*Amazona farinosa*, *Ara ararauna* and *Ara chloropterus*). This work was supported by the ACTO’s Bioamazon Project and was undertaken in March 2021. To understand population size of at least the three above mentioned parrot species, a population size study was initiated as well in 2021.

During the pre-study all research areas were assessed via waterways. The North Commewijne swamp was assessed via accessible routes in the swamp. All other areas were assessed via main waterways (rivers and a canal). The North Commewijne swamp consists mainly of Black mangrove forest patches and the habitats of most other research areas were all riverine consisting of elements of secondary vegetation and high dryland forest. During the pre-study only two parrot species of interest have been found; *Amazona farinosa* and *Ara ararauna*¹ (see annex 1).

There are several known harvest areas that are mostly in the coastal area of Suriname. A population study was conducted in Augustus 2021, January 2022 and during June and July 2022 by Ramcharan in eight of these locations (see figure 5). The aim was to collect data seasonally to understand species numbers throughout certain times of the year in known harvest areas.

Field data was collected during August 2021, January 2022 and during June-July 2022. During the field visits data on other parrot species except for the research objects, were counted as well. A total of nine locations were surveyed. Eight of these locations were river transects and one was an island. Data on the latter was collected via point count. With this data, a baseline has been established for any future intended study as well. See table 2 along which river these known harvest areas were surveyed.

¹ Ramcharan S. and Lingaard M. (2022, August 5). Population size status of parrot species, A focus on population size of parrot species in known harvest areas, Suriname.

Table 2. Location of the known harvest areas

River/tributary	Known harvest areas
Coppename	Karani
Wayambo	Corneliskondre
Maratakka	Bigibere, Morotokko
Cottica	Cottica
Barbacoeba	Barbacoeba
MCP	Tarzan
Corantijn	Kaburi, Island Apoera

With regard to species observed along the eight river transects, the highest species richness was reached for Corneliskondre with a species number of 15 species. Second highest in terms of species richness was obtained for both Morotokko and Karani (both had a species richness of 14). The Apoera island only sustained one parrot species, which is the Orange-winged Parrot. When analyzing for occurrence of the research objects, the *Ara chloropterus* species were only found at Corneliskondre and at Morotokko. Only four individuals have been observed at Corneliskondre and 124 individuals at Morotokko. Since, it is known that these parrot species are more often seen in upper river areas in the hinterland, it is recommended to not only cover other regions in Suriname for this species, but to consider the southern part of Suriname as well. When comparing species diversity based on the presence of the research objects, it is obvious that during January less is observed. The species diversity values and evenness values are therefore highest over August and June-July². In order to have a good population estimation it is advisable to do a population study at least after each two years and include more study areas. The above-mentioned population study covers only the coastal areas known harvesting sites. See table 3 for an overview of observed *Ara chloropterus* species during this population study.

The population study has been done using the transect method (see figure 6) and point count method (see figure 7). Details on the method used for the population study is described in the population study report (Ramcharan, 2022) that is included in this NDF as Annex II.

² Ramcharan S. and Lingaard M. (2022, August 5). Population size status of parrot species, A focus on population size of parrot species in known harvest areas, Suriname.

Table 3. Overview of observed *Ara chloropterus* per location and date during the population study (Ramcharan, 2022)

Location	Date of observation	<i>Ara chloropterus</i>	Location	Date of observation	<i>Ara chloropterus</i>	
1 Karani	17/8/21	0	4	11/1/22	0	
	18/8/21	0		12/1/22	0	
	19/8/21	0		4/7/22	0	
	6/1/22	0		6/7/22	0	
	7/1/22	0		28/8/21	0	
	7/1/22	0		29/8/21	0	
	8/1/22	0		28/1/22	0	
	21/6/22	0		29/1/22	0	
	22/6/22	0		15/7/22	0	
	22/6/22	0		16/7/22	0	
	23/6/22	0		5 Barbacoeba	30/8/21	0
	2 Comeliskondre	21/8/21		0	6 Cottica	30/8/21
21/8/21		0	31/8/21	0		
22/8/21		4	29/1/22	0		
13/1/22		0	30/1/22	0		
14/1/22		0	30/1/22	0		
15/1/22		0	31/1/22	0		
7/7/22		0	17/7/22	0		
7/7/22		0	17/7/22	0		
8/7/22		0	18/7/22	0		
3 Bigibere		23/8/21	0	7 Kaburi		26/1/22
	24/8/21	0	26/1/22		0	
	25/8/21	0	27/1/22		0	
	8/1/22	0	27/1/22		0	
	9/1/22	0	17/6/22		0	
	9/1/22	0	18/6/22		0	
	10/1/22	0	18/6/22		0	
	2/7/22	0	19/6/22		0	
	3/7/22	0	30/1/22		0	
	4/7/22	0	31/1/22		0	
4 Morotokko	25/8/21	124	8 Tarzan	31/1/22	0	
	26/8/21	8		1/2/22	0	
	26/8/21	51		19/6/22	0	
	27/8/21	49		20/6/22	0	
	10/1/22	0		20/6/22	0	
	11/1/22	0		21/6/22	0	

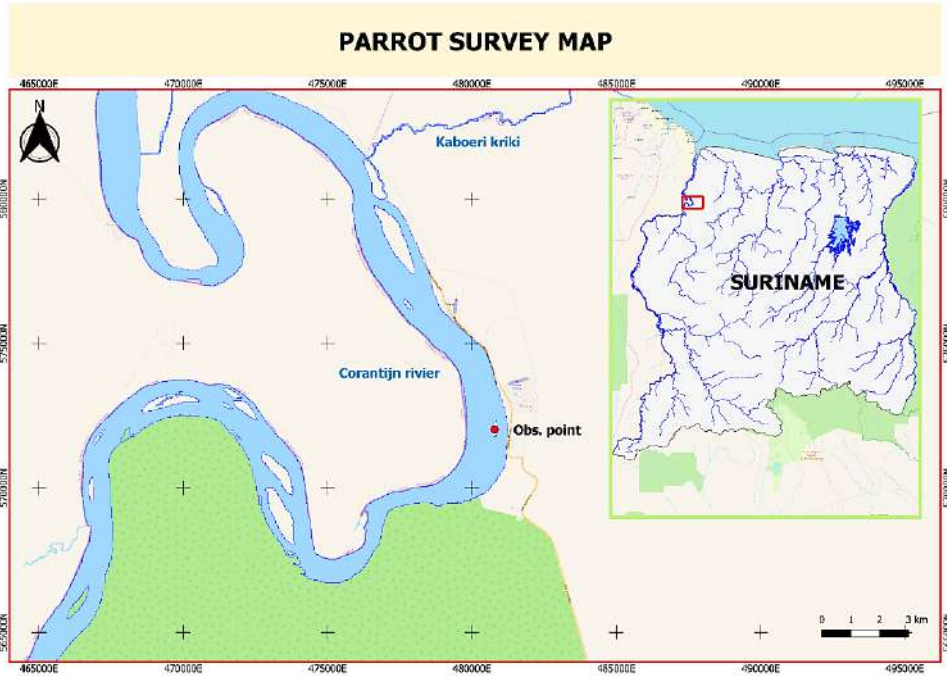


Figure 7. Map showing point count method used to do the parrot population survey.
 Source: Ramcharan S., 2022.

1.5.4 National population trend

Currently there is insufficient data available for the population trend of this species. The population study by Ramcharan is a baseline study for this species. In order to estimate the population trend several studies over time (typically years) will be required. The number of years of data, sampling frequency, degree of measurement error and population variability all affect the reliability of the derived trend.

1.6 Conservation status

1.6.1 Global conservation status (according to IUCN Red List)

Ara chloropterus are listed as a species of “Least Concern” on the IUCN Red List. However, their populations are believed to be decreasing, especially along the borders of their geographic range. They are listed under Appendix II in CITES and international trade is only allowed with a CITES permit. Conservation efforts include the dependence on captive breeding for legal sales in the pet trade.

1.6.2 National conservation status

According to the Game Act of 1954 No. 25 as amended S.B. 1997 no. 33 and the Hunting Decree S.B. 2002 no. 116 and the Hunting decree S.B. 2009 no. 16 *Ara chloropterus* belongs to the

Hunting game category and is therefore, not a totally protected species in Suriname. Hunting is regulated through the hunting calendar for the northern zone for: HUNTING GAME with open respectively closed hunting and gathering seasons based on the Hunting Act 1954 no. 25 has a closed season from December till June (mating and breeding season) and an open season from July to November. Each hunter with a hunting license is permitted a “bag limit” (take off) of 5 pieces of this species each hunting trip. Harvest for export is governed by permit. Capture is only allowed under a catchers permit by specific trappers. Hunting and trapping are not permitted in protected areas. No permit is needed for domestic use.

1.6.3 Main threats in Suriname

Illegal wildlife trade: This species is a popular bird in the exotic pet trade due to its stunning appearance and intelligence. Illegal capture and trade can significantly impact wild populations, as well as disrupt social structures and reproductive success.

2. SPECIES MANAGEMENT IN SURINAME

2.1 Management measures

The Game Act of 1954 regulates the wildlife management in Suriname. A game calendar has been established as an integrated part of the Game State order to regulate hunting and trapping of game species through open and close seasons. Although legislation is in place to protect the species from overexploitation, there are some concerns such as overharvesting and illegal harvesting by local and non-registered trappers. Because of lack of monitoring and enforcement activities by the authorities, illegal harvesting and trade might occur. Across the species distribution there is little evidence of active management³.

2.2 Methods used to monitor harvest

The method used to monitor the effects of the harvest is through the monitoring of export and export quota. The CITES Management Authority has developed an e-permitting system with funding from the Bioamazon project. This e-permitting system has a few issues that still need to be solved before it can be fully functional. With this system, the management of wildlife export can be easy, transparent and traceable. Suriname has a system of voluntary export quotas for wildlife fauna species, which was in place in 1987 after revision of the Game Law 1954 and has been revised in 1995 and is up till date being used. Before the latest decision of the Standing Committee (SC74 doc. 30.1) the quota for the *Ara chloropterus* was 250. Suriname implemented a zero-export quota for *Ara chloropterus* after the publication regarding this matter by the CITES Secretariat in 2022.

The harvesting quotas are 25% higher than the established export quotas to take into account the mortality rate. For all bird species, the general export quotas are much higher than the actual numbers exported. There is a general quota and individual quotas for each trader. If a trader is not exporting a species for two consecutive years, the quota of that trader for that species will automatically be zero the next year – but the general quota is not amended. A “free quota system” is being applied to other traders that might want to start trading the species. In some cases, this “free” quota represents half the total quota.

Until now, there has been limited or no involvement of the SA in establishing quotas and limited understanding of how to develop an NDF. While quotas exist for a large number of species (50-75), only about 15 species are regularly traded. According to the general conditions, the harvesting quotas are 25% higher than the established export quotas. For all bird species, the general export quotas are much higher than the actual numbers exported. Sometimes the quota is three times higher in comparison with the actual numbers exported.

³ Ramcharan S. and Lingaard M. (2022, August 5). Population size status of parrot species, A focus on population size of parrot species in known harvest areas, Suriname.

2.3 Institutional and Legal framework

2.3.1 Institutional Framework

The CITES MA in Suriname is located in the Ministry of Land Policy and Forest Management. The policy and planning part of the MA sits in the LBB, which falls under the Sub-Directorate Forest Management, while the permitting and enforcement is in the NCD, which reports to LBB (see figure 8 for more details). The Permits section has two subsections namely Breeding in Captivity and Trade in Wild Flora and Fauna, which are not illustrated in the organogram.

SBB is in charge of forest management, while LBB/NCD is in charge of wildlife management. SBB is a government foundation that reports directly to the Minister of GBB. SBB deals with all forestry (timber) permits. However, SBB only prepares the Legal Acquisition Findings (LAF) and the relevant documents for the CITES listed species for the MA (LBB) and the SA. If approved by the MA, the CITES permits are being issued. Without the CITES permit from the MA, no CITES listed species (fauna and flora) can be exported. The CITES SA is a committee consisting of representatives from the following agencies:

1. National Zoological Collection of Suriname (NZCS),
2. National Herbarium of Suriname (BBS),
3. Centre for Agricultural Research in Suriname (CELOS),
4. Import, export and foreign exchange control Division of the Ministry of Trade and Industry (IUD),
5. Plant protection and quality inspections of the Ministry of Agriculture, Animal Husbandry and Fisheries (LVV) with expertise in plant diseases and pests,
6. Directorate of Fisheries of the Ministry of Agriculture, Animal Husbandry and Fisheries (LVV) with expertise on fisheries,
7. Veterinary service of the Ministry of Agriculture, Animal Husbandry and Fisheries (LVV) with expertise in animal welfare and animal diseases,
8. Suriname Forest Service (LBB),
9. Nature Conservation Division (NCD) and
10. Foundation for Forest Management and Production Control (SBB).

While the SA was formally established several years ago, the members of the committee were only appointed in 2022⁴. The Chair of the SA is part of the Research Section of the NCD (alongside the permit section and the Nature Conservation Section, responsible for game wardens and inspection of captive breeding facilities).

2.3.2 Legal Framework and enforcement

Ara chloropterus is listed as a CITES Appendix II species. The legal framework and enforcement for wildlife in Suriname are based on various national and international laws and regulations.

⁴ Ministerial Decree of 2nd of March 2022 no. 0699-22/MinGBB

The Ministry of GBB is in accordance with the Decree Task Description Departments 1991 (S.B. 1991 no. 58), as it reads after the amendments made therein by S.B. 2002 no. 16, S.B. 2005 no. 94, S.B. 2010 no. 124 and S.B. 2020 No. 141) in charge of the nature management and conservation, and control of compliance with rules and regulations with regard to the production of wood and wood products, flora and fauna. In accordance with the Game Act 1954⁵ and its implementing Decrees⁶, LBB is in charge of wildlife management in Suriname. This task is implemented by the Nature Conservation Division. The Head of the LBB has also been appointed by ministerial order dated 15 April 2016 No. 0567B-16/Min RGB (S.B. 2016 No. 102) as CITES Management Authority in Suriname.

Organogram Ministry Land Policy and Forest Management in relation to CITES

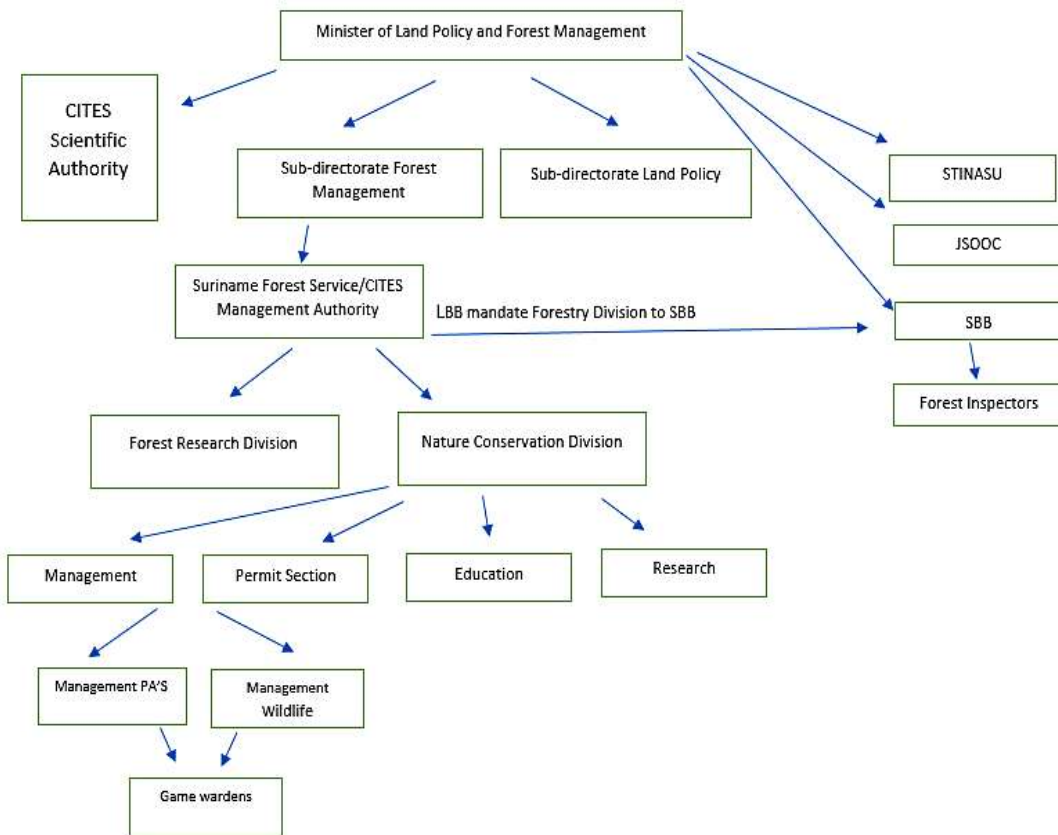


Figure 8. Organogram Ministry of Land Policy and Forest Management in relation to CITES

⁵ Game Act, G.B. 1954 no. 25, as it reads after the amendment made therein by S.B. 1997 no. 33 G.B. 1954 no. 25 and S.B. 1997 no. 33.

⁶ Game State Decree, S.B. 2002 no.116, as it reads after the amendment made therein by S.B. 2009 no. 16

Source: Tajib K. (from the Sub-Directorate Forest Management)

3. UTILIZATION AND TRADE IN SURINAME

3.1 Type of use

Ara chloropterus is a highly intelligent bird that can mimic sounds. That is why this species is in high demand as a pet. In some regions, these birds may be hunted for food and their feathers, which are used in traditional crafts and ceremonies.

3.2 Harvest

3.2.1 Harvesting regime

Ara chloropterus is listed as a game species in Suriname. Therefore, this species can only be hunted and trapped during the open season (July to November). Outside the open season hunting, trapping, transport and trade of this species is prohibited and classified as a criminal offence by the Game Act and the Economic Crimes law. There is a maximum penalty for illegal trade is six years and if it involves organized crime, it is 8 years. The Prosecutor's Office has established a special desk for environmental and economic crime with four dedicated prosecutors. Any seizures by the game wardens are to be directly communicated to the Prosecutor's Office who leads the investigations.

Suriname has four categories of Protected Areas in total covering about 14% of its land surface. In the eleven (11) nature reserves (Coppename Monding NR, Galibi NR, Wia-Wia NR, Brinckheuvel NR, Wanekreek NR, Peruvia NR, Copi NR, Boven Coesewijne NR, Hertenrits NR, Sipaliwini NR and Central Suriname Nature Reserve (CSNR), which covers a total of 1,889,1000 ha.) no activities are allowed without permission from the Head of LBB (see figure 9). It is strictly protected. No hunting or trapping of species is allowed in protected areas (nature reserve).

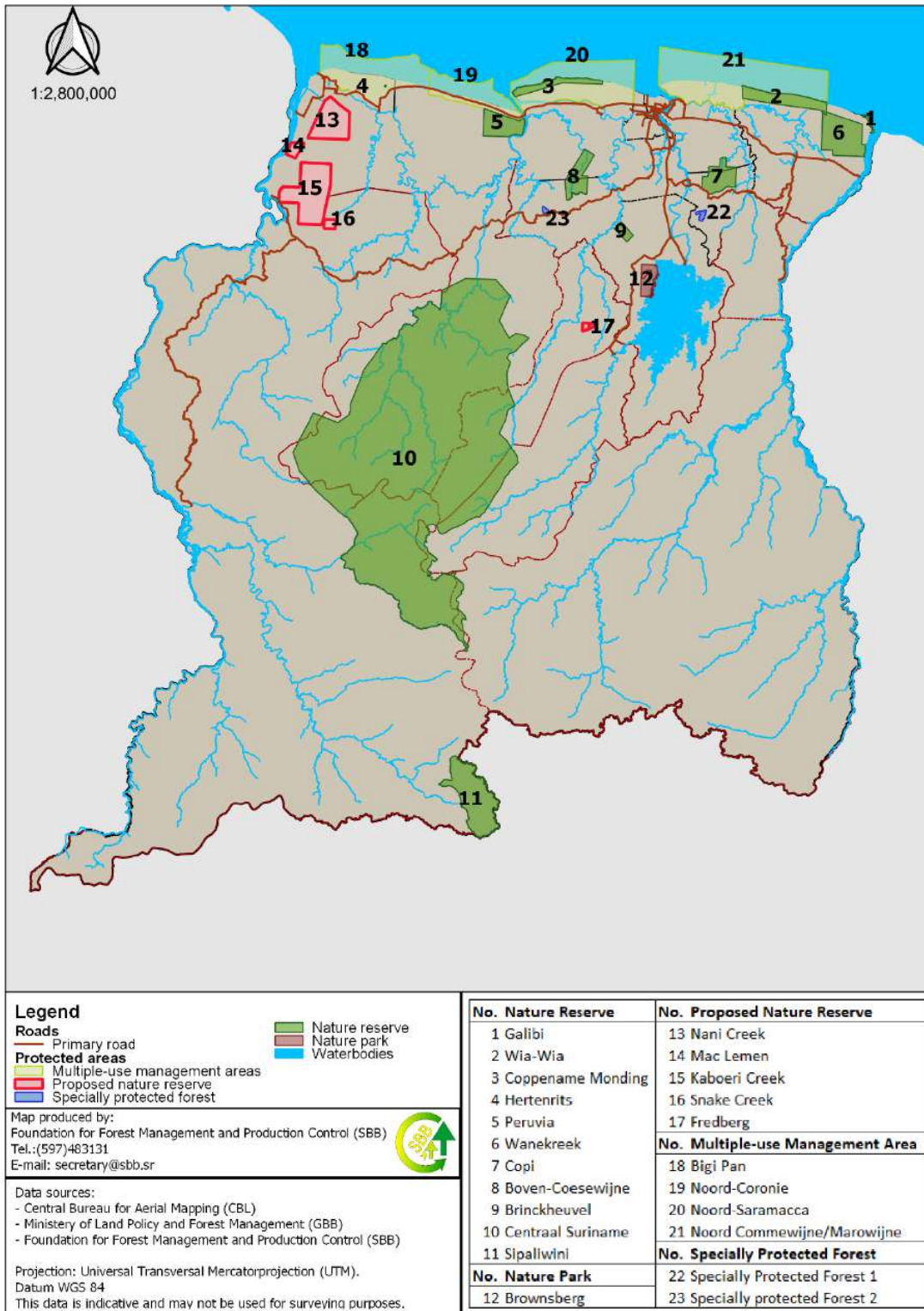


Figure 9. Overview of the protected areas in Suriname.
 Source: Foundation for Forest Management and Production Control (SBB)

3.2.2 Harvest management

Animal exporters register their trappers at the permit section of the NCD. All registered trappers receive a trapper's pass and are allowed to trap species within the quota of an individual exporter. Trapping, transporting and trading of *Ara chloropterus* is not allowed during the close season (December to June). Harvest in nature reserves is prohibited. All exporters must make and submit to the NCD an annual inventory of all trapped species with the off-take from the wild, the area of harvest and export data including the mortality data. The Head of LBB/CITES MA issues CITES and non-CITES permits.

The Wildlife Management section in the NCD is responsible for inspecting all shipments and endorse the CITES permits before export and undertake patrolling in the field, based on a number of checkpoints. A team inspects the captive breeding facilities (two big ones and a couple of smaller ones). The enforcement of wildlife protection laws and regulations in Suriname is done by the game wardens of the Nature Conservation Division. There are currently about 35 active game wardens and 35 more in training. They are extraordinary police officers and operate within their task throughout the territory of Suriname. They collaborate with various governmental agencies, including the Police Department, Customs, Military-Police and the Public Prosecutors Office. They also collaborate with local authorities and non-governmental organizations to monitor and combat illegal activities related to wildlife, such as poaching, illegal trade etc. There are concerns about smuggling of *Ara chloropterus* and other species between Guyana and Suriname, but there is no formalized collaboration with Guyana on these issues.

3.3 Legal and illegal trade levels

3.3.1 Trade data

In terms of international trade, Suriname is a significant exporter of live *Ara chloropterus*. Suriname's wildlife trade sector is contributing to its economy, especially bird species, including *Ara chloropterus*, account for a significant portion of its exports.

To analyze the export of *Ara chloropterus*, data for the period 2013-2020 has been extracted from the CITES Trade Database maintained at UNEP-WCMC (see table 4 and figure 10). Suriname has yet to submit its annual CITES report 2021 and 2022. For this analysis only the data where the trade term code was 'live' is included.

The following is observed:

In 2013 a total of 433 live *Ara chloropterus* were exported to Bahrain (6), China (45), Dominican Republic (6), Hong Kong (5), Kuwait (6), Malaysia (5), Maldives (4), Nepal (10), Pakistan (44), Philippines (18), Russian Federation (54), Singapore (35), Thailand (140), Turkey (6), Ukraine (18), United Arab Emirates (29) and United States of America (2) for commercial trade, breeding, zoo and scientific purposes. The import records for this year shows that a total of 102 live *Ara chloropterus* has been imported by China (10), Hong Kong (35), Singapore (20) and Thailand (37)

for commercial trade, breeding and zoo purposes. Records show that the exports exceed the national quota of 250 for this year and a discrepancy of 331 species in the export and import data.

In 2014 a total of 286 live *Ara chloropterus* were exported to China (33), Kuwait (18), Pakistan (5), Russian Federation (18), Singapore (44), Thailand (162) and Ukraine (6) for commercial trade, breeding and zoo purposes. The import records for this year shows that a total of 196 live *Ara chloropterus* has been imported by China (18), Hong Kong (15), Singapore (33), Thailand (124) and Turkey (6) for commercial trade, breeding and zoo purposes. Records show that the exports exceed the national quota of 250 for this year and a discrepancy of 90 species in the export and import data.

In 2015 a total of 238 live *Ara chloropterus* were exported to China (30), Russian Federation (27), Singapore (39), Thailand (140) and the United States of America (2) for commercial trade and breeding purposes. The import records for this year shows that a total of 245 live *Ara chloropterus* has been imported by China (20), Hong Kong (10), Singapore (39), Thailand (156) and Turkey (10) for commercial trade, breeding and zoo purposes. Records show that the exports did not exceed the national quota of 250 for this year and a discrepancy of 7 species in the export and import data.

In 2016 a total of 248 live *Ara chloropterus* were exported to China (66), Egypt (11), Hong Kong (22), Iraq (4), Netherlands Antilles (3), Oman (21), Pakistan (10), Singapore (15), Thailand (91) and Turkey (5) for commercial trade and breeding purposes. The import records for this year shows that a total of 207 live *Ara chloropterus* has been imported by China (33), Hong Kong (42), Kyrgyzstan (1), Oman (21), Singapore (15), Thailand (85), Turkey (5) and Uzbekistan (5) for commercial trade, breeding, zoo and circus or travelling exhibition purposes. Records show that the exports did not exceed the national quota of 250 for this year and a discrepancy of 41 species in the export and import data.

In 2017 a total of 217 live *Ara chloropterus* were exported to Bangladesh (38), China (61), Dominica (6), Saudi Arabia (6), Singapore (25) and Thailand (81) for commercial trade, breeding and zoo purposes. The import records for this year shows that a total of 156 live *Ara chloropterus* has been imported by China (38), Oman (6), Singapore (25) and Thailand (87) for commercial trade, breeding and zoo purposes. Records show that the exports did not exceed the national quota of 250 for this year and a discrepancy of 61 species in the export and import data.

In 2018 a total of 227 live *Ara chloropterus* were exported to Armenia (4), China (90), Curaçao (4), Pakistan (6), Singapore (30) and Thailand (93) for commercial trade, breeding and zoo purposes. The import records for this year shows that a total of 268 live *Ara chloropterus* has been imported by China (135), Dominican Republic (6), Singapore (36) and Thailand (91) for commercial trade, breeding and zoo purposes. Records show that the exports did not exceed the national quota of 250 for this year and a discrepancy of 41 species in the export and import data.

In 2019 a total of 144 live *Ara chloropterus* were exported to Armenia (24), China (46), Oman (6), Russian Federation (5), Singapore (9), Thailand (39) and Turkey (15) for commercial trade and breeding purposes. The import records for this year shows that a total of 117 live *Ara chloropterus* has been imported by Bahrain (1), Oman (12), Panama (10), Singapore (31), Thailand (26), Turkey (15) and Uzbekistan (12) for commercial trade, breeding, zoo and personal purposes. Records show that the exports did not exceed the national quota of 250 for this year and a discrepancy of 27 species in the export and import data.

In 2020 a total of 137 live *Ara chloropterus* were exported to Afghanistan (15), Bangladesh (50), Indonesia (40), Kuwait (6), United Arab Emirates (20) and Uzbekistan (6) for commercial trade and breeding purposes. The import records for this year shows that a total of 98 live *Ara chloropterus* has been imported by the United Arab Emirates (17), Indonesia (37), Panama (10), Saudi Arabia (28) and Uzbekistan (6) for commercial trade, breeding and zoo purposes. Records show that the exports did not exceed the national quota of 250 for this year and a discrepancy of 39 species in the export and import data.

In the years 2013 and 2014 exports of *Ara chloropterus* exceeded the quota of 250. The export of this species is in 2015, 2016, 2017, 2018, 2019 and 2020 below the quota of 250. A significant decrease of export of this species in 2019 and 2020 is observed. This might be caused by the Covid-pandemic situation.

Analysis of the CITES trade data shows that most of the species that are exported, come from the wild. Most of the *Ara chloropterus* is exported to Thailand with the highest score followed by China and Singapore. Furthermore, it is observed that there are discrepancies in the export and import records (see table 5 and figure 11). The export data from 2013-2020 shows a total of 1930 live species exports reported by Suriname and a total of 1389 live species imports of *Ara chloropterus* from Suriname reported by the importing countries. The discrepancy is probably the result of an administrative error. A proper data entry and submission of the CITES annual report is necessary to eliminate any discrepancy in the future.

3.3.2 Illegal trade

Due to the lack of data, it is difficult to quantify the extent of illegal trade of this species.

Table 4. Exports of *Ara chloropterus* from Suriname 2013-2020. Data has been extracted from the CITES Trade Database maintained at UNEP-WCMC.

Country	2013	2014	2015	2016	2017	2018	2019	2020	Total
Afghanistan	0	0	0	0	0	0	0	15	15
Armenia	0	0	0	0	0	4	24	0	28
Bahrain	6	0	0	0	0	0	0	0	6
Bangladesh	0	0	0	0	38	0	0	50	88
China	45	33	30	66	61	90	46	0	371
Curaçao	0	0	0	0	0	4	0	0	4
Dominica	0	0	0	0	6	0	0	0	6
Dominican Republic	6	0	0	0	0	0	0	0	6
Egypt	0	0	0	11	0	0	0	0	11
Hong Kong	5	0	0	22	0	0	0	0	27
Indonesia	0	0	0	0	0	0	0	40	40
Iraq	0	0	0	4	0	0	0	0	4
Kuwait	6	18	0	0	0	0	0	6	30
Malaysia	5	0	0	0	0	0	0	0	5
Maldives	4	0	0	0	0	0	0	0	4
Nepal	10	0	0	0	0	0	0	0	10
Netherlands Antilles	0	0	0	3	0	0	0	0	3
Oman	0	0	0	21	0	0	6	0	27
Pakistan	44	5	0	10	0	6	0	0	65
Philippines	18	0	0	0	0	0	0	0	18
Russian Federation	54	18	27	0	0	0	5	0	104
Saudi Arabia	0	0	0	0	6	0	0	0	6
Singapore	35	44	39	15	25	30	9	0	197
Thailand	140	162	140	91	81	93	39	0	746
Turkey	6	0	0	5	0	0	15	0	26
Ukraine	18	6	0	0	0	0	0	0	24
United Arab Emirates	29	0	0	0	0	0	0	20	49
United States of America	2	0	2	0	0	0	0	0	4
Uzbekistan	0	0	0	0	0	0	0	6	6
Total	433	286	238	248	217	227	144	137	1930

Table 5. Imports of *Ara chloropterus* from Suriname 2013-2020. Data has been extracted from the CITES Trade Database maintained at UNEP-WCMC.

Country	2013	2014	2015	2016	2017	2018	2019	2020	Total
Bahrain	0	0	0	0	0	0	1	0	1
China	10	18	20	33	38	135	0	0	254
Dominican Republic	0	0	0	0	0	6	0	0	6
Hong Kong	35	15	10	42	0	0	0	0	102
Indonesia	0	0	0	0	0	0	0	37	37
Kyrgyzstan	0	0	0	1	0	0	0	0	1
Oman	0	0	0	21	6	0	12	0	39
Panama	0	0	0	0	0	0	10	10	20
Saudi Arabia	0	0	0	0	0	0	0	28	28
Singapore	20	33	39	15	25	36	31	0	199
Thailand	37	124	166	85	87	91	36	0	626
Turkey	0	6	10	5	0	0	15	0	36
United Arab Emirates	0	0	0	0	0	0	0	17	17
Uzbekistan	0	0	0	5	0	0	12	6	23
Total	102	196	245	207	156	268	117	98	1389

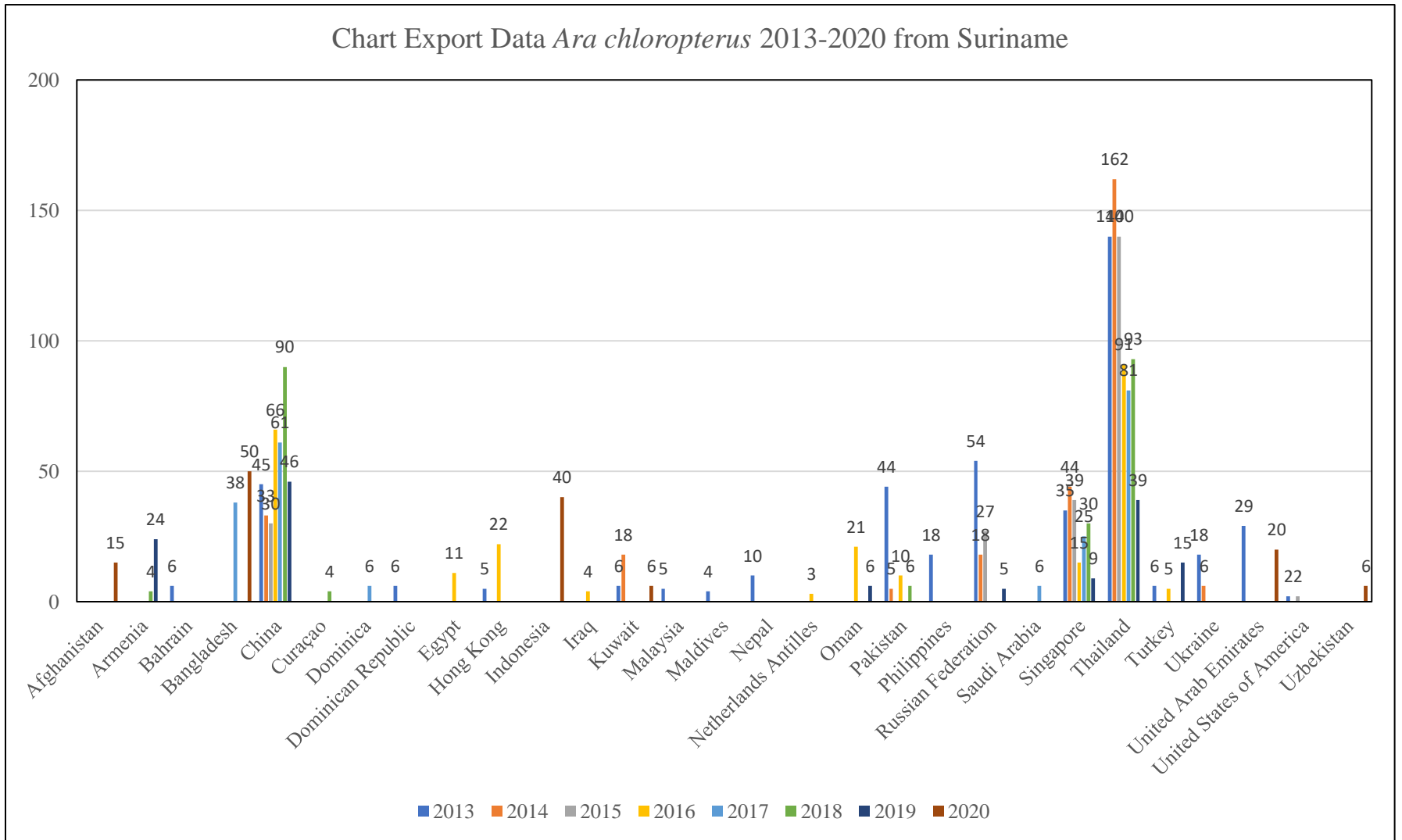


Figure 10. Chart Export Data *Ara chloropterus* 2013-2020 from Suriname.

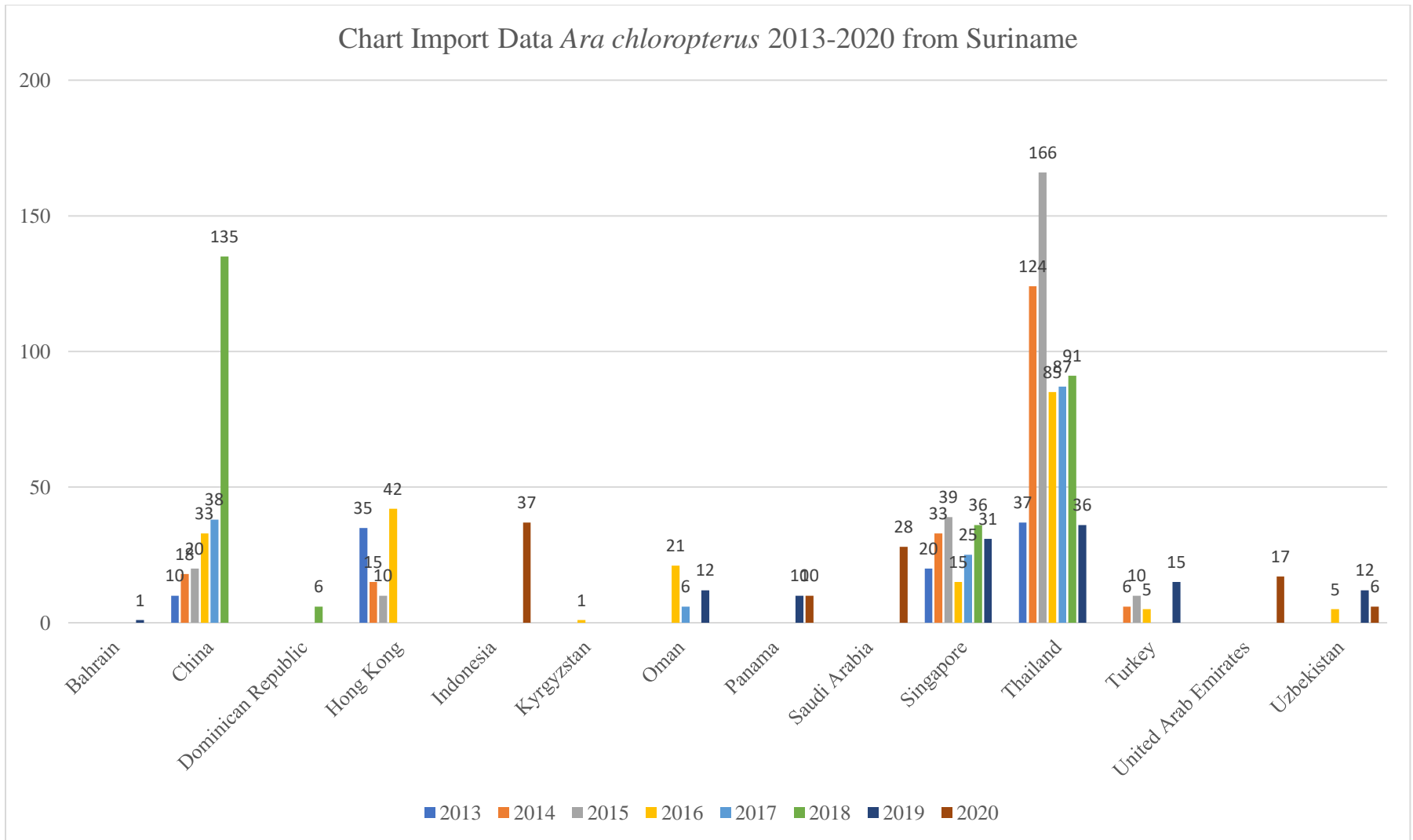


Figure 11. Chart Import Data *Ara chloropterus* 2013-2020 from Suriname.

4. NON-DETRIMENT FINDING

4.1 IUCN-NDF checklist analyses

The Scientific Authority conducts this NDF using the guidance of the IUCN-NDF checklist as presented below in table 6. The result of this checklist is presented in the following paragraph in the form of a radar chart in figure 12. Analysis of the result shows that in terms of biological characteristics the *Ara chloropterus* has a low reproductive rate and a long-life history. This species is a highly adaptive bird species when it comes to environmental tolerance. They inhabit a diverse range of habitats, displaying their ability to adapt to different environmental conditions. Some of the key factors that contribute to this species adaptability are as follows:

- **Habitat Variety:** These species live in trees and near water sources with clay-licks. They are commonly found in humid forests and high dryland forests. This species is confined to the interior and known for its wide distribution in Suriname as well. This adaptability to various environments allows them to cope with changes in their natural surroundings.
- **Feeding Behavior:** They have large and powerful beaks and are primarily granivorous, mainly consuming seeds and seed coverings. Less commonly, they eat fruits and occasionally also consume leaves, flowers, and bark. This broad diet allows them to exploit different food sources, which is essential for surviving in diverse habitats.
- **Nesting Habitats:** These species are more common in areas rich in canopy-emergent trees because they are used for nesting cavities during the breeding season.
- **Flight and Mobility:** Being strong flyers, they can cover vast distances and relocate to new areas if necessary. This mobility enhances their ability to cope with environmental changes or find suitable habitats.
- **Social Structure:** They socialize with either their small family group or solely their partner.
- **Breeding Flexibility:** The macaws are known for their adaptability in breeding, and they can adjust their breeding patterns according to the availability of resources and favorable conditions.

The national distribution of *Ara chloropterus* in Suriname is widespread and contiguous. According to Spaans et al., 2018 & Spaans et al., 2009, this species is common found in Humid Forests and High Dryland Forests. Recent population study on known harvest sites also shows that this species is more often seen in upper river areas in the hinterland. This is also mentioned in the study by Schouten (1995) and Ottema (2008) in the report of Ramcharan (2022). However, like many other parrot species, they are facing challenges due to illegal harvesting and trade. These factors can significantly affect their populations and their ability to adapt to changing environments in the long term.

There is no existing harvest plan for this species or any other species. The harvest is managed based on the existing regulations for game species taking into consideration the open and closed seasons of the game calendar for this species. The aim of harvest is to exploit maximum economic yield.

Suriname has a system of voluntary export quotas for wildlife fauna species, which was in place in 1987 after revision of the Game Law 1954 and has been revised in 1995 and is up till date being used. Before the latest decision of the Standing Committee (SC74 doc. 30.1), the quota for the *Ara chloropterus* was 250. Suriname implemented a zero-export quota for this species after the publication regarding this matter by the CITES Secretariat in 2022.

Considering mortality rate during harvest and transport the harvest quota is set 25% higher than the national export quota, which in terms of conservation is considered a high risk. Most of the legal national harvest occurs in the coastal areas and areas where there is no strong local control.

Considering the above and due to lack of budgetary and other factors the confidence in effective implementation of harvest management is medium. The principal used to monitor the effect of the harvest is through national monitoring of exports. The CITES MA has developed an e-permitting system, which can be used as a tool to monitor and manage exports of this species. The system has yet to be operational. The confidence level in the effective harvest monitoring is medium.

At the national level, the conservation benefit to this species accrues from harvesting is low. All profits from the game trade go to the state's treasury and very little goes back into the national budget for nature conservation. Harvest in Protected Areas (Nature Reserves) is strictly prohibited. Considering that Suriname has 11 Nature Reserves, with a total of 1,889,1000 ha, the percentage of the species' natural range or population legally excluded from harvest is between 5-15% (11.5%).

It is uncertain how effective restriction on harvest in harvest areas can help to prevent overharvesting. Study on this matter has never been conducted.

Table 6. Harvest regime checklist.

Biological characteristics: <i>Ara chloropterus</i>		
2.1. Life history: What is the species' life history?	High reproductive rate, long-lived	
	High reproductive rate, short-lived	
	Low reproductive rate, long-lived	X
	Low reproductive rate, short-lived	
	Uncertain	
2.2. Ecological adaptability: To what extent Is the species adaptable (habitat, diet, environmental tolerance etc.)?	Extreme generalist	
	Generalist	X
	Specialist	
	Extreme specialist	
	Uncertain	
2.3 Dispersal efficiency: How efficient is the species' dispersal mechanism at key life stages?	Very Good	
	Good	X
	Medium	
	Poor	
	Uncertain	
2.4. Interaction with humans: Is the species tolerant to human activity other than harvest?	No interaction	
	Pest /Commensal	
	Tolerant	X
	Sensitive	
	Uncertain	
National status: Animals and plants		
2.5. National distribution: How is the species distributed nationally?	Widespread, contiguous in country	
	Widespread, fragmented in country	
	Restricted and fragmented	X
	Localized	
	Uncertain	
2.6. National abundance: What is the abundance nationally?	Very abundant	
	Common	X
	Uncommon	
	Rare	
	Uncertain	
2.7. National population trend: What is the recent national population trend?	Increasing	
	Stable	
	Reduced, but stable	
	Reduced and still decreasing	
	Uncertain	X
	Quantitative data, recent	X

2.8. Quality of information: What type of information is available to describe abundance and trend in the national population?	Good local knowledge	
	Quantitative data, outdated	
	Anecdotal information	
	None	
2.9 Major threats: What major threat is the species facing (underline following: overuse/ habitat loss and alteration/ invasive species/ other: and how severe is it?	None	
	Limited/Reversible	X
	Substantial	
	Severe/Irreversible	
	Uncertain	
Harvest management: Animals and plants		
2.10. Illegal off-take or trade: How significant is the national problem of illegal or unmanaged off-take or trade?	None	
	Small	
	Medium	
	Large	
	Uncertain	X
2.11. Management history: What is the history of harvest?	Managed harvest: ongoing with adaptive framework	X
	Managed harvest: ongoing but informal	
	Managed harvest: new	
	Unmanaged harvest: ongoing or new	
	Uncertain	
2.12. Management plan or equivalent: Is there a management plan related to the harvest of the species?	Approved and coordinated local and national management plans	
	Approved national/state/provincial management plan(s)	
	Approved local management plan	
	No approved plan: informal unplanned management	X
	Uncertain	
2.13. Aim of harvest regime in management planning: What is harvest aiming to achieve?	Generate conservation benefit	
	Population management/control	
	Maximize economic yield	X
	Opportunistic, unselective harvest, or none	
	Uncertain	
2.14 Quotas: Is the harvest based on a system of quotas?	Ongoing national quota: based on biologically derived local quotas	X
	Ongoing quotas: "cautious" national or local	
	Untried quota: recent and based on biologically derived local quotas	
	Market-driven quota(s), arbitrary quota(s), or no quotas	
	Uncertain	
Control of harvest: Animals and plants		
2.15. Harvesting in Protected Areas: What percentage of the legal national harvest occurs in State-controlled Protected Areas?	High	
	Medium	
	Low	
	None	X

	Uncertain	
2.16. Harvesting in areas with strong resource tenure or ownership: What percentage of the legal national harvest occurs outside Protected Areas, in areas with strong local control over resource use?	High	
	Medium	X
	Low	
	None	
	Uncertain	
2.17. Harvesting in areas with open access: What percentage of the legal national harvest occurs in areas where there is no strong local control, giving <i>de facto</i> or actual open access?	None	
	Low	
	Medium	X
	High	
	Uncertain	
2.18. Confidence in harvest management: Do budgetary and other factors allow effective implementation of management plan(s) and harvest controls?	High confidence	
	Medium confidence	X
	Low confidence	
	No confidence	
	Uncertain	
Monitoring of harvest: Animals and plants		
2.19. Methods used to monitor the harvest: What is the principal method used to monitor the effects of the harvest?	Direct population estimates	
	Quantitative indices	
	Qualitative indices	
	National monitoring of exports	X
	No monitoring or uncertain	
2.20. Confidence in harvest monitoring: Do budgetary and other factors allow effective harvest monitoring?	High confidence	
	Medium confidence	
	Low confidence	X
	No confidence	
	Uncertain	
Incentives and benefits from harvesting: Animals and plants		
2.21. Utilization compared to other threats: What is the effect of the harvest when taken together with the major threat that has been identified for this species?	Beneficial	
	Neutral	
	Harmful	
	Highly negative	
	Uncertain	X
2.22. Incentives for species conservation: At the national level, how much conservation benefit to this species accrues from harvesting?	High	
	Medium	
	Low	X
	None	
	Uncertain	
2.23. Incentives for habitat conservation: At the national level, how much habitat conservation benefit is derived from harvesting?	High	
	Medium	
	Low	X
	None	
	Uncertain	

Protection from harvest: Animals and plants		
2.24. Proportion strictly protected: What percentage of the species' natural range or population is legally excluded from harvest?	>15%	
	5-15%	X
	<5%	
	None	
	Uncertain	
2.25. Effectiveness of strict protection measures: Do budgetary and other factors give confidence in the effectiveness of measures taken to afford strict protection?	High confidence	
	Medium confidence	X
	Low confidence	
	No confidence	
	Uncertain	
2.26. Regulation of harvest effort: How effective are any restrictions on harvesting (such as age or size, season or equipment) for preventing overuse)?	Very effective	
	Effective	
	Ineffective	
	None	
	Uncertain	X

4.2 Result in radar chart IUCN-NDF checklist

For ease of reference, a graphical evaluation was carried out. As regards the figures, it must be considered that the assignment of numerical values is partly subjective and leads to simplifications on account of the categories used. Thus, the figures are useful to obtain an overview; yet for the purpose of assessment, exact data are required. For the graphical evaluation of *Ara chloropterus*, the following indicators are particularly striking: the lack of national population trend, the lack of active management (illegal off-take), the lack of effect of harvest, the lack of control (open access harvest), the lack of incentives (effect of harvest) and the lack of protection (proportion protected from harvest and regulation of harvest). The other indicators are within a positive range.

Ara chloropterus

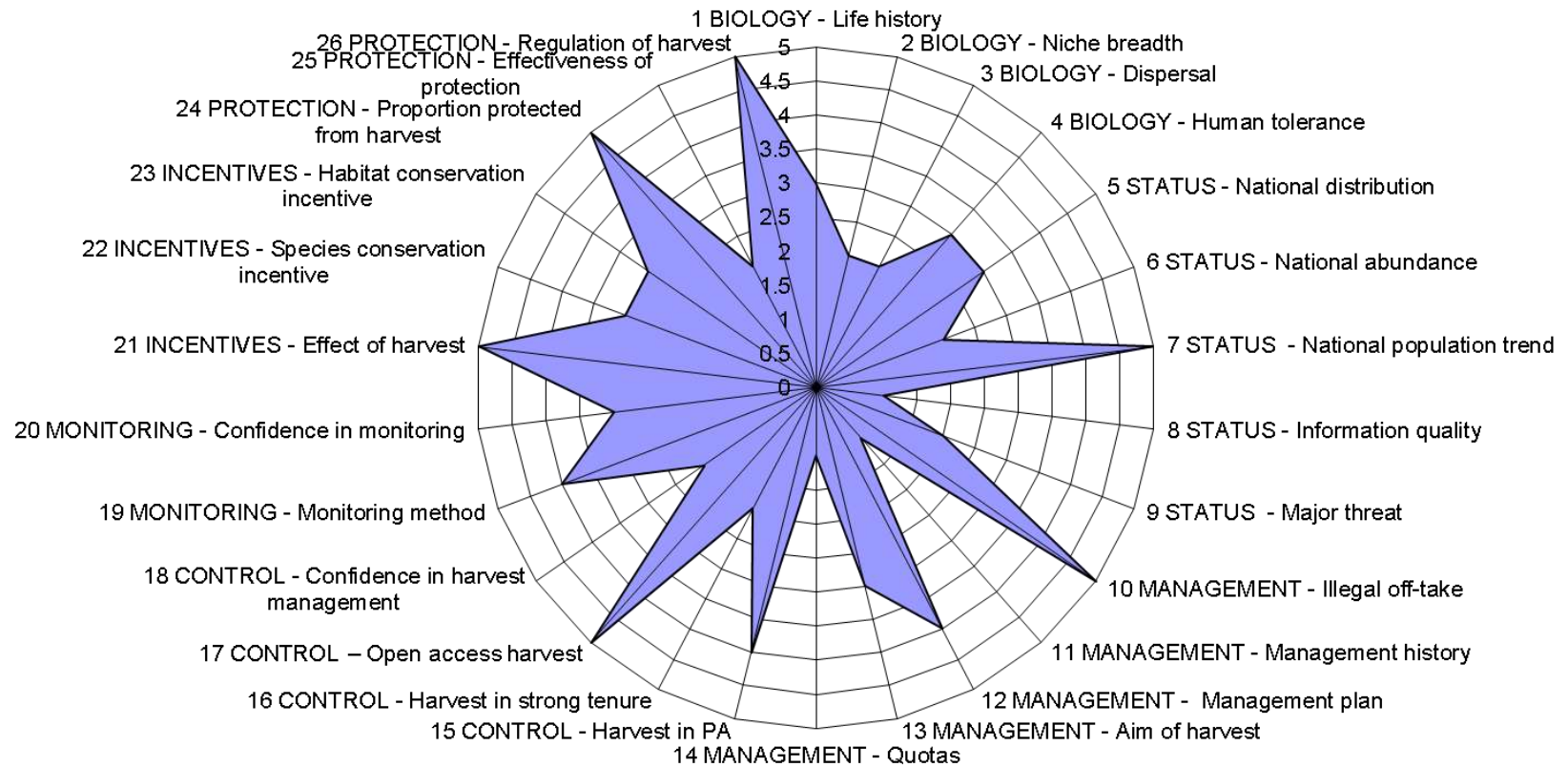


Figure 12. Graphical NDF evaluation of *Ara chloropterus*

4.3 Conclusion and recommendations

Ara chloropterus is widespread with a continuous distribution at the national level. According to the latest population study (Ramcharan 2022) the national population status of the *Ara chloropterus* is not known. However, illegal harvest from local and registered trappers may have an impact on the population of this species in the wild. During this study it has been observed that there is a lack of monitoring and enforcement activities by the authorities. Across the species distribution there is little evidence of active management. The Scientific Authority recommends stepping up control and enforcement activities in strategic posts in order to stop possible illegal activities. The Scientific Authority advises the Management Authority to keep record of all illegal harvest and trade of this species and other CITES listed species in order to be able to produce an illegal trade report for CITES listed species in Suriname.

There is no harvest plan for *Ara chloropterus* in Suriname. Although *Ara chloropterus* is a CITES Appendix II listed species, it is not a fully protected species in Suriname as it is nationally listed as a game species. The hunting, capture, transport and the Game Act of 1954, the Game State Decree and the Game Calendar regulate trade of this species. Hunting, capture, transport and trade of *Ara chloropterus* is prohibited during the closed season from December until June (mating and breeding season). Each hunter with a hunting license is permitted a “bag limit” (take off) of 5 pieces of this species each hunting trip. Harvest for export is governed by permit. Hunting, capture, transport and trade of *Ara chloropterus* is only allowed under a catcher permit by specific trappers during the open season from July to November. Hunting and trapping of species are not permitted in protected areas. Most known harvest areas are in the coast of Suriname. Due to the remoteness of the interior of Suriname, very limited harvest of this species comes from the interior. The Scientific Authority recommends the development of a harvest plan for all wildlife species on the export list.

No permit is needed for domestic use. CITES Permit is needed for export/import of this species. The method used to monitor the effects of the harvest is through the monitoring of export and export quota. The CITES Management Authority has developed an e-permitting system with funding from the Bioamazon project. This e-permitting system has a few issues that still need to be solved before it can be fully functional. With this system, the management of wildlife export can be easy, transparent and traceable.

Suriname has a system of voluntary export quotas for wildlife fauna species, which was in place in 1987 after revision of the Game Law 1954 and has been revised in 1995 and is up till date being used. Before the latest decision of the Standing Committee (SC74 doc. 30.1), the quota for the *Ara chloropterus* was 250. Suriname implemented a zero-export quota for *Ara chloropterus* after the publication regarding this matter by the CITES Secretariat in 2022.

According to the general conditions, which is an annex of the export permit, the harvesting quotas are 25% higher than the established export quotas taking into consideration the mortality rate of

the species during capture and transport. For all bird species, the general export quotas are much higher than the actual numbers exported. Sometimes the quota is three times higher in comparison with the actual numbers exported. The Scientific Authority recommends revision of the general conditions on this matter and that the harvesting quota is set at 12% higher than the export quotas for all bird species.

Analysis of the CITES trade data shows that most of the species that are exported come from the wild. Furthermore, analyses of the CITES trade data shows discrepancies in the export and import records have been noticed. The export data from 2013-2020 shows a total of 1930 live species exports reported by Suriname and a total of 1389 live species imports of *Ara chloropterus* from Suriname reported by the importing countries. The discrepancy is probably the result of an administrative error. A proper data entry and submission of the CITES annual report is necessary to eliminate any discrepancy in the future.

A few studies have been conducted in the past, namely Schouten (1995) and Ottema (2008) which are also mentioned in the report of Ramcharan (2022). The available data is insufficient for the population trend. The study done by Ramcharan (2022) can be seen as a baseline study for this species. During these studies, this species was seen in very low quantities. More data will need to be collected to learn trends in numbers per area studied and other locations will need to be surveyed since it is known that this species is more often seen in upper river areas in the hinterland. It is recommended to consider research on this species in the southern part of Suriname.

Considering all of the above, with the limitations of the available scientific data, the conclusion of the CITES Scientific Authority of Suriname on this NDF is negative for export until further studies are done on the population of this species in the interior of Suriname. The zero quota will still be applied for this species.

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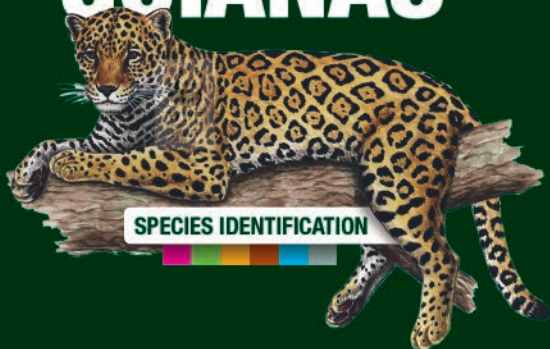
ANNEXES

- I. Serano Ramcharan MSc. and Marchal Lingaard. (2021), “A pre-study conducted on Psittacine species presence and numbers with the emphasis on the *Ara ararauna*, *Ara chloreptera* and *Amazona farinosa*”. An assessment on the habitat and occurrence of at least three parrot species in Suriname.
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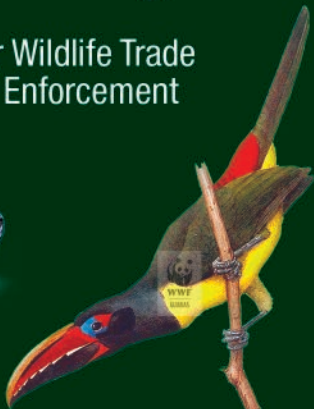


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SPECIES IDENTIFICATION

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February 2023



OUR MISSION:

Together with the people of Suriname and Guyana
we conserve our natural heritage for human wellbeing
for now and for generations to come.

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Contributions, material:	Nature Conservation Division of the Suriname (NCD), National Zoological Collection of Suriname/Center for Environmental Research (NZCS/CMO) and the Environmental Protection Agency of Guyana
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ARRANGEMENT OF IMAGES

Images are arranged in animal groups of mammals, reptiles, amphibians, arthropods, birds and fish. Within each animal group, images are arranged alphabetically by family name and within each family, they are arranged alphabetically by species name.

PREFACE

Suriname and Guyana more than ever recognize the valuable contribution of their biological resources to their future sustainable development aspirations. For this reason and given that the wildlife trade is still permitted, WWF supports efforts taken by the respective countries to ensure strict management, monitoring and enforcement of regulations of the trade. Over the years, the Governments of Suriname and Guyana with support from WWF, have developed and implemented appropriate legislation, and strengthened the administrative systems to effectively combat threats of wildlife over-exploitation and habitat change.

To support this continuous and collaborative effort, focus has been placed on reviewing and updating this species identification manual.

The species identification manual is designed as a pocketbook meant to serve as a reference document for game wardens, forest conservation officers, veterinary officers, customs, and the police. It is hoped that the updated pocketbook will enhance regional efforts and the region's capability to combat the illegal movement of animals across international borders.

This pocketbook is designed in an easy, simple ready-to-go/-use tool that can be carried anywhere where animals are inspected for trade or may be intercepted in trade and can be used to address the species-specific requirements for international trade in Suriname and Guyana.

This pocketbook provides vital information to bridge the gap affecting the capacity of border – control officers, necessary to curb smuggling and other unauthorized wildlife trade. WWF hopes that this updated Wildlife Guide will become part of the field equipment to be used by all trade monitoring and enforcement officers and will achieve its objective of facilitating quick and accurate identification of wildlife species.

WWF looks forward to continued and fruitful collaboration with all wildlife management agencies in the Guianas, especially those that are responsible for monitoring regional and international wildlife trade. It is hoped that all users of the document will enjoy success in their endeavors at effective management of the region's biological diversity and help secure a living planet for present and future generations.



David Singh, PhD
Director, WWF-Guianas (Suriname and Guyana)
Paramaribo, Suriname



VOORWOORD

Meer dan ooit erkennen Suriname en Guyana de waardevolle bijdrage van hun biologische hulpbronnen aan hun toekomstige ambities voor duurzame ontwikkeling. Om deze reden en gezien het feit dat de handel in uit het wild afkomstige dieren nog steeds is toegestaan, ondersteunt WWF de inspanningen die door de respectievelijke landen worden geleverd om te zorgen voor strikt beheer, toezicht en handhaving van de regelgeving van de handel. In de loop der jaren hebben de regeringen van Suriname en Guyana, met steun van het WWF, passende wetgeving ontwikkeld en geïmplementeerd en de administratieve systemen versterkt om de bedreigingen van overexploitatie van uit het wild afkomstige dieren en verandering van leefgebieden effectief te bestrijden.

Om deze voortdurende en gezamenlijke inspanning te ondersteunen, is de nadruk gelegd op het herzien en bijwerken van deze handleiding voor identificatie van soorten.

De identificatie van soorten is ontworpen als een zakboekje dat bedoeld is als referentiedocument voor jachtopzieners, boswachters, dierenartsen, douane en politie. Het is te hopen dat het bijgewerkt zakboekje de regionale inspanningen en de capaciteit van de regio om de illegale verplaatsing van dieren over internationale grenzen te bestrijden, zal vergroten.

Dit zakboekje is ontworpen als een eenvoudig, gebruiksklaar hulpmiddel dat overal kan worden meegenomen waar dieren worden gekeurd voor handel of die in de handel kunnen worden onderschept, en kan worden gebruikt om te voldoen aan de soort specifieke vereisten voor internationale handel in Suriname en Guyana.

Dit zakboekje biedt essentiële informatie om eventuele capaciteitskloof van grensbewakingsambtenaren te dichten, hetgeen nodig is om smokkel en andere ongeoorloofde handel in uit het wild afkomstige dieren in te dammen. WWF hoopt dat deze bijgewerkte gids over uit het wild afkomstige dieren onderdeel zal worden van de veldapparatuur die door alle handelscontroleurs en handhavingsambtenaren zal worden gebruikt en dat het zijn doel zal bereiken om snelle en nauwkeurige identificatie van uit het wild afkomstige dieren mogelijk te maken.

WWF kijkt uit naar een voortgezette en vruchtbare samenwerking met alle instanties voor beheer van uit het wild afkomstige dieren in de Guyana's, met name degene die verantwoordelijk zijn voor het toezicht op de regionale en internationale handel in uit het wild afkomstige dieren. Gehoopt wordt dat alle gebruikers van het document succes zullen hebben bij hun inspanningen om de biologische diversiteit van de regio effectief te beheren en om een levende planeet voor huidige en toekomstige generaties veilig te stellen.



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WHAT IS CITES?

The Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) is an international agreement that has been signed by 184 countries. This treaty identifies animals and plants believed to be at risk from overexploitation and sets up mechanisms to monitor and control their trade internationally. The animals and plants are listed in three appendices which offer various levels of protection against exploitation.

Appendix I species are rare or endangered. Trade in these species primarily for commercial purposes is not allowed. Appendix I species may however be exported for research. Special CITES permits are required by both the importing and exporting countries prior to shipping.

Appendix II species are neither rare nor endangered but may become so if immediate action is not taken to control their exploitation. Appendix II species must possess a CITES permit. The CITES export permit will stipulate the specimens that may be exported and when export can take place.

Appendix III species are subject to special management within certain countries in order to provide protection for local populations.

WITHOUT A CITES PERMIT, ANIMALS LISTED IN THE ABOVE APPENDICES CANNOT BE APPROVED FOR IMPORT OR EXPORT UNDER ANY CIRCUMSTANCE.

HOW TO USE THIS MANUAL

This manual deals with

- all the major species of animals that are permitted for international trade in Guyana and Suriname, and
- their “look-alikes” and others which are fully protected by the State and not allowed for export.

The species described in this manual were identified by the Wildlife Management Authorities of Guyana and Suriname as those most requiring attention by monitoring and enforcement officers. The list is not exhaustive as it was beyond the capacity of this manual to include all species that are approved for export.

In order to help the user quickly identify the export status of each species the following icons are used:



CITES Appendix I. Species and other species that are under complete protection by Guyana and Suriname Law and cannot be permitted for export under any circumstance.



CITES Appendix II. Species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with their survival.



CITES Appendix III. Species that are protected in at least one country, which has asked other CITES Parties for assistance in controlling the trade.



Non-CITES listed species. Export is permitted and these species require an export permit from the Wildlife Management Authorities.



Protected species in Suriname. “Protected animal species” are all species of mammals, birds and sea turtles and other animal species to be designated by State Decree, which belong to a species living in the wild in Suriname, except for:

- Hunting animals
- Captive animals
- Predominantly harmful animals

Game Law 1954 (Jacht Wet) G.B. 1954 no. 25 - Article 1.1

BIRD CHART

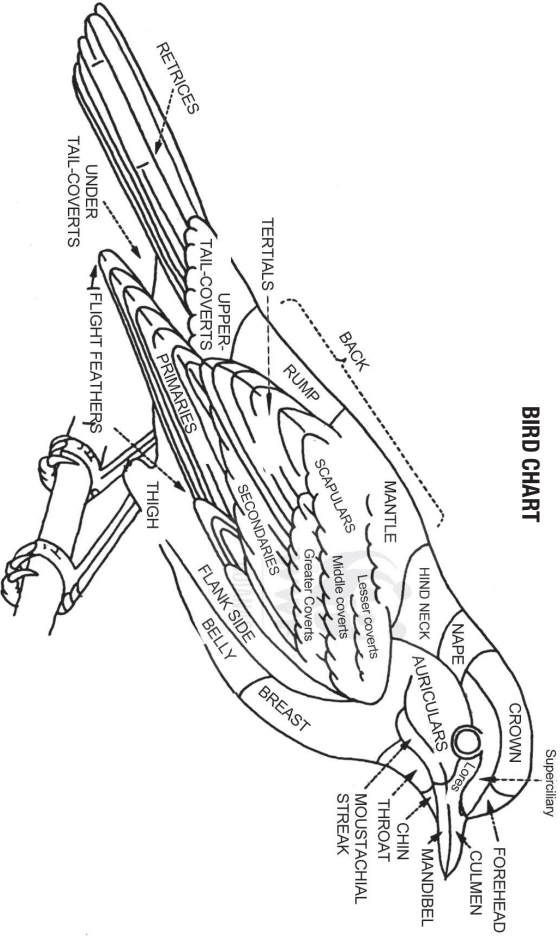


Image adapted from A Guide to the Birds of Venezuela

GLOSSARY

Word	Definition
abdomen	the belly (between the diaphragm and the pelvis)
aglyphe	snakes that possess small massive teeth without a groove, not venomous
anteriorly-converging	coming together near or towards the head
anuran	frogs and toads belonging to the group of amphibians
aquatic	living in water
arboreal	tree dwelling
barbel	a slender sensory structure on the lips of certain aquatic animals
basally	situated at, or forming the base
bulbous	resembling a bulb especially in roundness
canopy	the uppermost spreading branchy layer of a forest
carapace	bony shield (the upper section of the shell) covering the back of a turtle or tortoise
carpal	equivalent of the wrist bone
cephalic	of or in the head
convexly	curved or rounded like the exterior of a sphere or circle
costal scutes	large bony plates forming a longitudinal row on both sides of the carapace of a turtle
coverts	feathers covering the bases of the quills of the wings and tail of a bird
crown	the topmost part of the skull or the head
dermal	of the skin
dewlap	a collapsible usually brightly colored fold of skin underneath the throat of certain lizards
digits	fingers or toes
dilate	make or become wider
distal	most distant end from the point of attachment

Word	Definition
diurnal	active chiefly in the daytime
dorsal	involving the upperparts (head to tail) of an animal
dorso-lateral	involving the upperparts and the sides of an animal
dorso-ventrally	
depressed	flattened, upperside pressed towards the underside of an animal
dorsum	upper surface of an animal
endemic	restricted to a certain local area
filament	a thin flexible thread-like appendage
flanks	side of the body between the ribs and the hips
forest remains	the remnants of natural forests that have been incompletely cut down
fossorial	adapted to living underground
habitat	the natural environment of an animal
gallery forest	a forest growing along a watercourse in a savanna area
gular fan	a fold of skin underneath the throat of certain lizards
immatures	stage just before adulthood or reproductive maturity
inundated	flooded
labial	of the lips
lateral	involving the side of, or directed to the side
laterally compressed	sides compressed towards each other
linear	elongated with nearly parallel sides
lobes	a curved or rounded projection
lores	the space between the eye and bill of a bird
keel	a ridgelike structure
mandible	lower segment of the bill/jaw of an animal
mantle	the upper part of the back
maxilla	upper segment of the bill or jaw of an animal
median groove	longitudinal depression along a midsection
mid-dorsal	middle of the upperside of the body

Word	Definition
monogamous	living in pairs, having only one mate
mottled	patterned with irregular patches of color
neotropical	the bio-geographic region of tropical Central and South-America
nocturnal	active at night
oblique	slanting
opisthogyph	snakes with venomous fangs located to the rear of the mouth
opposable	capable of being placed opposite something else
ornated	elaborately decorated
oscillate	swing or move to and fro
oxbow lakes	U-shaped lake that originated from a cut off riverbend
palpebral	located on or near the eyelids
paratoid glands	poisonous glands behind the eyes of toads
parthogenetic	capable of producing young without fertilization of the egg
pelagic	living within the water column
plastron	the under section of a shell. The bony shield covering the underside of a tortoise or turtle
posterior	the back end
pre-anal	in front of the anus
prefrontal scutes	bony plates in front of the forehead
prehensile	adapted for seizing or grasping especially by wrapping around
primary forest	a forest largely undisturbed by human activities
proteroglyph	snakes with fixed venomous front fangs
proximal	close to the point of attachment
reticulate	having a network of veins or fibers
retractile	capable of being drawn back or inwards
rudimentary	a degenerated part of the body
roost	a perch on which birds can rest or sleep
rump	the “buttocks” of a bird
scapula	shoulder-blade

Word	Definition
scutes	external bony or horny plate or large scale found mainly on turtles and tortoises
secondary forest	forest that has replaced the original or primary vegetation of the area
semi-arboreal	often inhabiting and frequenting trees but not completely tree dwelling
sensory pits	depressions that convey nerve impulses from sense organs to nerve centers, temperature sensitive
serrated	having a series of small projections
solenoglyphe	snakes with movable venomous front fangs
subterranean	below the ground
superciliary	adjoining the eyebrow
supra-ocular	above the eyes
SV	snout-vent length: length from the snout or tip of the nose to the rectum
terra firma	dry land, the ground
terrestrial	living on the ground
TL	total length
transverse	cross-wise
trapezoidal	four-sided shape with none of the sides being parallel
triads	groups of three
tri-colored	having three (3) colors
tympanum	a thin tense membrane covering the organ of hearing
undulating	wavy
vent	the external opening of the rectum or cloaca
ventral	involving the underside of an animal
ventro-lateral	involving the area between the underside and the sides of an animal
vertebral crest	ridge or hump running along the area above the back bone
wing-speculum	colored part of wing along the outer/upper edge distinct from the coloration of the rest of the wing

ABBREVIATIONS

G	the Guyana name, is used in Guyana
S	the Sranan name, is used in Suriname
SN	the Surinamese-Dutch name, is used in Suriname
N	the Dutch name, is used in the Netherlands, but sometimes in Suriname as well
SE	the Surinamese-English name, is used in Suriname

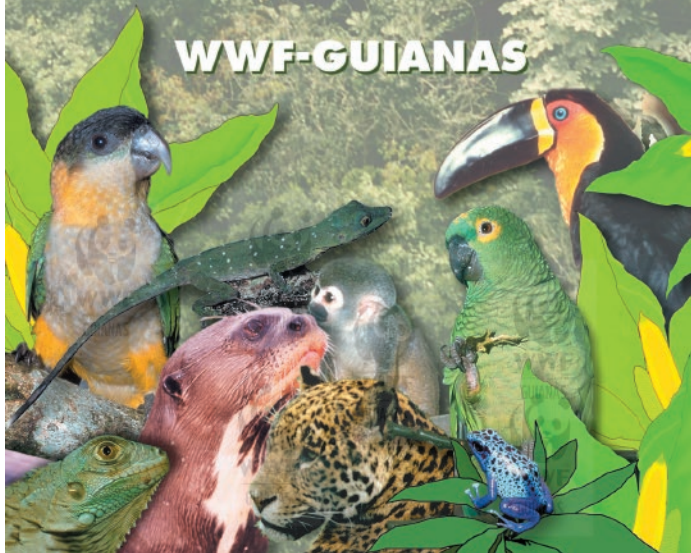
ILLUSTRATIONS

AJF	Antonio J. Ferreira
BoS	Birds of Suriname - Naturalis Biodiversity Center, Leiden NL ©
BoV	Birds of Venezuela
CdB	Claudett de Bruin
FAR	Fiona A. Reid
FdG	Faune de Guyane: Maël Dewynter, Carole Pourcher, Caroline Soissons-Tairraz
FGB	Field Guide to the Birds of Suriname: Ber van Perlo
G&BC	Gerald and Buff Corsi
GS	Ginoh Soerodimedjo
HC	Hugo Claessen
JdB	John de Bruin
JHT	John H. Tashjian
JW	John White
LGI	Lloyd Glenn Ingles
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MT	Mark Tway
MWW	Morag W. Williams
PP	Peter Pritchard
PV	Patrick Viehoever
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WE	Wim Eriks
WW	Wolfgang Wuster



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WWF-GUIANAS



MAMMALS



FAR

Cyclopedidae*Cyclopes didactylus***PYGMY ANTEATER**

Likanu (S)

Wespeneter (N)

**Identification**

Cyclopes didactylus has a dense, soft fur, grey to yellowish, with a silvery sheen. Subspecies have darker, often brownish, streaks, and paler underparts or limbs. The eyes are black, and the soles of the feet are red. Proportionately shorter faces and larger skulls than other anteater species. Presence of two claws on the fore feet. The claws are present on the second and third toes, with the latter being much larger. The fourth toe is very small, and lacks a claw, while the other two toes are vestigial or absent, and are not visible externally. Adults have a total length from 36cm to 45cm, including a tail 17cm to 24cm long, and weigh from 175cm to 400g.

Habitat

Cyclopes didactylus inhabits the tree *Ceiba*, which has large seed pods that contain masses of a silky silverish fiber. The silky anteater is arboreal and very rarely descends to the ground.



Myrmecophaga tridactyla

GIANT ANTEATER

Giant Anteater (G)

Tamanuwa (S)

Reuzenmierenerter (N)



Identification

Largest of anteaters, with a long body, a black elongated cylindrical snout, and a long non-prehensile bushy tail, with long, coarse, drooping plume of hair. Jaws completely toothless. Fur mainly grizzled grey-brown to blackish. A black band bordered with white extends from the cheeks to the base of the throat, crossing over the shoulder to the midline. Forefeet whitish, crossed by black band to the wrist, with 3 greatly enlarged claws and 2 smaller claws. Walks on its knuckles. Hindfeet with 5 short claws. SV 1m to 1.9m. Tail length 64cm to 90cm. Max. weight 39kg.

Habitat

Terrestrial. Savannas, open woodland, coastal area, rarely in rainforest.

Remarks

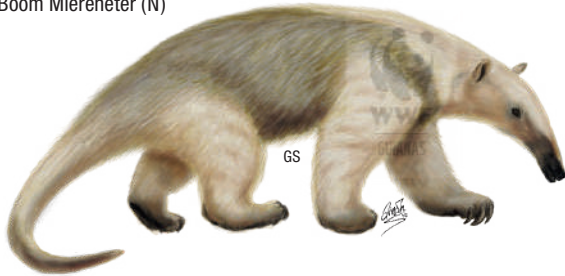
Nocturnal and diurnal. Active mainly during the day. Solitary.

Myrmecophagidae*Tamandua tetradactyla***SOUTHERN TAMANDUA**

Lesser Anteater (G)

Tamandua (S)

Boom Miereneter (N)

**Identification**

Medium-sized anteater with a head and body length ranging from 34cm to 88cm, and a prehensile tail 37cm to 67cm long. Adults weigh from 1.5kg to 8.4kg, no significant difference in size between males and females. Four-clawed digits on the forefeet and five on the hind feet. The underside and the tip of the tail are hairless. The snout is long and decurved with an opening only as wide as the diameter of a stick, from which the tongue is protruded. To avoid puncturing their palms with their sharp claws, they walk on the outsides of their hands. Underside and the end of the prehensile tail are hairless. The snout is long and decurved with an opening only as wide as the diameter of a pencil, from which the tongue is protruded. This species may have lighter markings or be a solid color - black, brown or blond - and have no markings.

Habitat

Inhabits various wet and dry forests, including tropical rainforest, savanna, and thorn scrub. It seems to be most common in habitats near streams and rivers, especially those thick with vines and epiphytes.



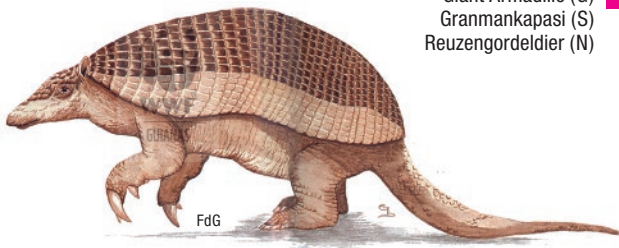
Prionodontes maximus

GIANT ARMADILLO

Giant Armadillo (G)

Granmankapasi (S)

Reuzengordeldier (N)



Identification

An enormous armadillo with a thick armour with 11 to 13 barely distinguishable bands. Grey to brown. Armour looks several sizes too small, does not cover lower sides or legs. Edge on sides of armour pale yellow. Underparts naked (not-armoured), pinkish to yellow-brown. Legs and feet enormous. Forefeet with greatly enlarged, massive claws; 3rd fore-toe largest. Small head and eyes. Small ears set widely apart. Tail long. SV 75cm to 100cm. Tail approx. 50cm. Weight 30kg to 60kg.

Habitat

Terrestrial and subterranean. Primary rainforests. Prefers well-drained soil.

Remarks

Nocturnal. Solitary. Claws on forefeet are the largest in the animal kingdom.

Similar looking species

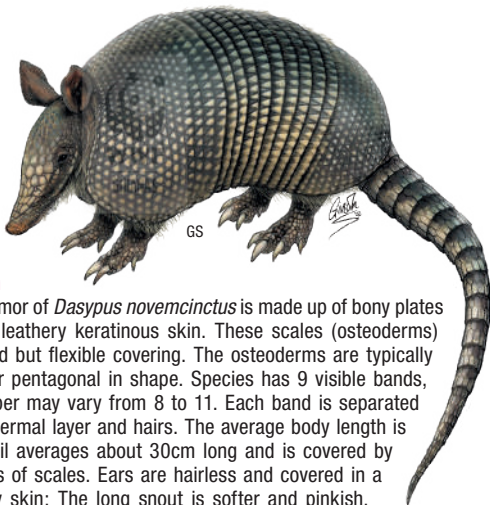
Dasypus kappleri. In this species the ears are set close together, the armour covers the sides, the legs are of normal size.

Dasypodidae*Dasypus novemcinctus***NINE-BANDED ARMADILLO**

Nine-Banded Armadillo (G)

Negi Banti Kapasi (S)

Negen Bandig Gordeldier (N)

**Identification**

Outer body armor of *Dasypus novemcinctus* is made up of bony plates covered in a leathery keratinous skin. These scales (osteoderms) provide a hard but flexible covering. The osteoderms are typically rectangular or pentagonal in shape. Species has 9 visible bands, but this number may vary from 8 to 11. Each band is separated by a thin epidermal layer and hairs. The average body length is 75cm. The tail averages about 30cm long and is covered by 12 to 15 rings of scales. Ears are hairless and covered in a rough, bumpy skin; The long snout is softer and pinkish, appearing almost pig-like with it narrow, tapered shape. The face, neck, and underside are covered in small clusters of hair. Males weigh slightly more than females.

Habitat

Found in bottomland hardwood forests, scrub and brushlands. It prefers areas with soft soil that it can burrow into. It is usually found near water sources like streams, creeks and water holes.



Herpailurus yagouaroundi

JAGUARUNDI

Jaguarundi (G)

Blakatigrikati, Yaguarundi (S)

Jagoearundi (N)



Identification

Medium-sized, unspotted cat, with a long back, slender body, long slender tail and short legs. Coat uniformly colored, varying from grizzled black, yellow-brown to reddish-brown. Head small. Ears small, rounded. Unlike other cats it has a circular pupil. Underparts same color as the back or slightly paler. Small feet, dog-like. Cubs from the same litter sometimes differently colored. SV 50cm to 82cm. Tail length 32cm to 61cm. Weight 4.5kg to 9kg.

Habitat

Terrestrial, but can climb trees. Variety of habitats: most common in dry forests, secondary forests and savannas. Also in rainforest.

Remarks

Mostly diurnal, but also nocturnal. Solitary or in pairs.

Similar looking species

Eira barbara, but this species has a pale spot on the throat and a bushy tail. *Puma concolor*, but this species is much larger, has a dark tail tip and a pale muzzle.

Felidae*Leopardus pardalis***OCELOT**

Ocelot (G)

Heytigrikati (S)

Ocelot (N)

**Identification**

Medium-sized spotted cat with a variable colored coat. Coat varies from grey to yellow to yellowish brown with black markings arranged in longitudinal rows, forming streaks and stripes on the neck, elongated spots on the front half of the body and rosettes on the posterior half. Fur of the neck is “reversed” slanting forwards. Underparts white with black spots. Tail distinctly shorter than hindleg, incompletely banded and spotted black. SV 70cm to 90cm. Tail length 28cm to 45cm. Weight 8kg to 9kg in females, 11kg to 12kg in males.

Habitat

Terrestrial. Primary rain- and savanna forests. Sometimes in cultivated areas.

Remarks

Mainly nocturnal, also diurnal hidden in dense bush. Solitary.

Similar looking species

Panthera onca, but *P. onca* is much larger and has spots in the neck, not stripes. *Leopardus wiedi* or *Leopardus tigrinus*, but these are smaller, with tails longer than the hindlegs.



Leopardus tigrinus

ONCILLA

Oncilla (G)

Tigrikati (S)

Ocelotkat (N)



FAR

Identification

Smallest wild cat in Americas. Built like a house cat. Color variable, upperparts usually orange-brown with rows of tiny spots, sometimes rosettes. Two pairs of distinct black stripes on sides of neck. Small head and feet. Hair on neck not reversed. Male larger than female. Kittens spotted. SV 34cm to 65cm. Tail length 19cm to 33cm. Weight 1.5kg to 3kg.

Habitat

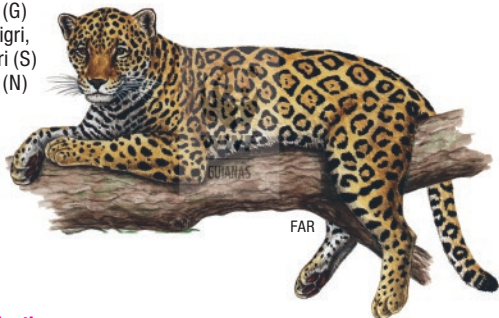
Terrestrial and semi-arboreal.

Remarks

Probably nocturnal. Solitary. Apparently always rare.

Felidae*Panthera onca***JAGUAR**

Jaguar (G)
Pakiratigri,
Penitigri (S)
Jaguar (N)

**Identification**

Large, heavy, spotted cat, with a short back, strongly built body, robust short legs and large feet. Head very large with rounded ears. Powerful jaws. Coat yellow to yellow-brown, with black spots in open circles or rosettes. Neck spotted above and below, not striped. Underparts white with black spots. Tail long, spotted or banded with black. Coat of young spotted and darker than adults. Male larger than female. SV 1.1m to 1.85m. Tail length 44cm to 66cm. Weight 31kg to 158kg.

Habitat

Terrestrial, but climbs low trees. Swims well. Forested areas, usually near water. Also in cultivated areas.

Remarks

Largest carnivore in the Americas. Nocturnal and diurnal. Usually solitary.

Similar looking species

Leopardus pardalis, but these are much smaller and have stripes on the neck.

Canidae

*Speothos venaticus***BUSH DOG**

Bush Dog (G)

Busidagu (S)

Boshond (N)

**Identification**

Odd-looking, stocky dog with extremely short limbs, short tail and small round ears. Head, neck and top of shoulders light brown to reddish brown, gradually darkening to blackish hindquarters. Underparts dark brown or black, sometimes with a white spot on the chest. Fur long and soft. Limbs black or dark-brown. Tail black, thickly furred. Young grey-black. SV 60cm to 75cm. Tail 11cm to 13cm. Weight 5kg to 7kg.

Habitat

Terrestrial. Primary rainforests and woody savannas. Most records from dry forests and forests near savannas. Often near water.

Remarks

Diurnal, but rarely seen. Usually in small groups of 4 to 15, sometimes alone.

Similar looking species

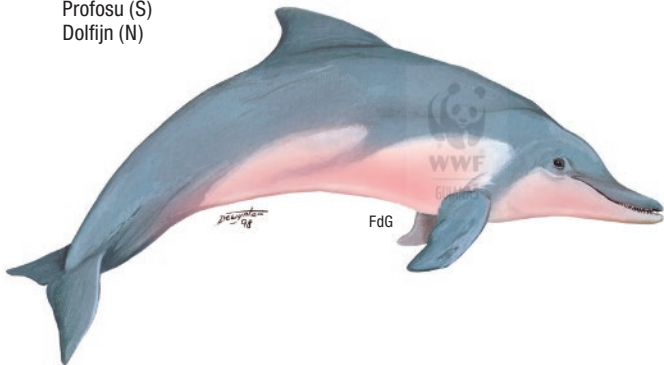
Eira barbara, but this species has a long, bushy tail.

Delphinidae*Sotalia guianensis***GUIANA DOLPHIN**

Guiana River Dolphin (G)

Profosu (S)

Dolfijn (N)

**Identification**

Smallest of dolphins. Head with short beak, small hump on forehead. Dorsal color grey, brown or bluish. Ventral color pale grey, whitish to light-pink. Colors gradually merge into each other. Prominent triangular dorsal fin. Flippers quite short, narrow at junction with body. TL 1.3m to 1.9m. Weight to 53kg.

Habitat

Aquatic. Estuaries and nearby coastal waters, coastal rivers below the first rapids. Both in salt and fresh water.

Remarks

Diurnal. Travels in small groups up to 10 individuals. Sometimes solitary.



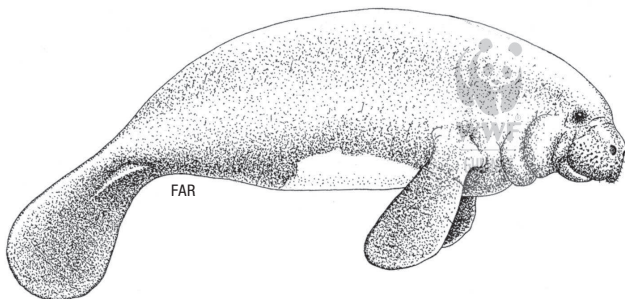
Trichechus inunguis

**AMAZONIAN MANATEE,
SOUTH AMERICAN MANATEE**

Amazonian Manatee (G)

Seku (S)

Lamantijn, Zeekoe (N)



Identification

Body large, cylindrical, grey. Head relatively small, upperlip having a large bristly surface. Forelimbs are short, rounded flippers without nails on tips. No hindlimbs. Chest and abdomen with large irregular whitish patches. Eyes tiny. Length to 2.8m. Weight 350kg to 500kg.

Habitat

Aquatic. Rivers and lakes downstream of any major rapids.

Remarks

Nocturnal and diurnal. Solitary or females with young. Isolated populations in Rupununi and Essequibo rivers of Guyana.

Similar looking species

Differs from *Trichechus manatus*, by the absence of nails on flippers, and its smaller size.

Trichechidae*Trichechus manatus***CARIBBEAN MANATEE,
WEST INDIAN MANATEE**

West Indian Manatee (G)

Seku (S)

Lamantijn, Zeekoe V(N)

**Identification**

Body large, cylindrical, grey. Head relatively small, snout squarish with strong prehensile upperlip. Paddle-like flippers with 3 large, flat nails on each flipper. No hindlimbs. Underparts with grey or pink blotches. Large fleshy tail is dorso-ventrally flattened. TL 2.5m to 4.5m. Weight 200kg to 600kg.

Habitat

Aquatic. Calm creeks and rivers below the first rapids. Fresh and salt water.

Remarks

Diurnal and nocturnal. Solitary or mother with young. Temporarily in groups.

Similar looking species

Differs from *Trichechus inunguis*, by the nails on flippers and its slightly larger size.



Alouatta macconnelli

GUIANAN RED HOWLER

Babun (S)

Rode Brulaap (N)



Identification

Head, shoulders, tail and usually underparts of *Alouatta macconnelli* are dark red to purplish red, the back and sides less red. The head is large, throat swollen and the face is without hairs. Chin with forward growing beard, longer in males. Adult males often have blackish beard, limbs and tail.

Habitat

Arboreal, and in middle and upper level of mature or disturbed forests. Also found in riverside trees.

Atelidae*Ateles paniscus***RED-FACED SPIDER MONKEY**

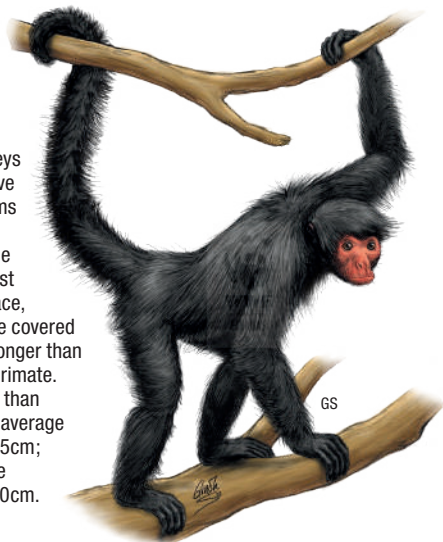
Kwata (S)

Roodgezicht

Slingeraap (N)

Identification

Red-faced spider monkeys have small heads, relative to their bodies. Long arms and legs, and a tail that helps them balance while moving through the forest canopy. Excluding the face, hands, and feet, they are covered in jet-black hair that is longer than that found on a typical primate. Males are slightly larger than females. Males have an average head-body length of 54.5cm; females have an average head-body length of 54.0cm.

**Habitat**

Found in dense forest habitats that are isolated from human populations. Preferred habitat typically includes forests with canopy heights exceeding 25m. Forest habitats bordering large rivers tend to have low population densities.



Saguinus midas

**GOLDEN-HANDED TAMARIN,
MIDAS TAMARIN, RED-HANDED TAMARIN,
YELLOW-HANDED TAMARIN**

“Marmoset” (G)

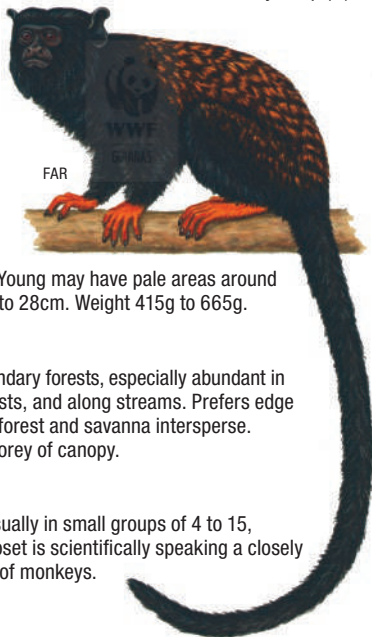
Saguwenke (S)

Surinaamse Zijdeap (N)

Identification

Smallest primate in the Guianas. Head, face and forequarters entirely black. Back black but variegated with yellow or brown-yellow. Hands and feet bright orange yellow (golden-handed).

Tail and underparts black. Young may have pale areas around eyes and mouth. SV 20cm to 28cm. Weight 415g to 665g.



Habitat

Arboreal. Primary and secondary forests, especially abundant in savanna forests, ridge forests, and along streams. Prefers edge habitats, especially where forest and savanna intersperse. In lower crowns or understorey of canopy.

Remarks

Diurnal, but rarely seen. Usually in small groups of 4 to 15, sometimes alone. A marmoset is scientifically speaking a closely related but different group of monkeys.

Cebidae

Cebus apella
Sapajus apella



**BLACK-CAPPED CAPUCHIN,
GUIANAN BROWN CAPUCHIN, TUFTED CAPUCHIN,**

Black Jack, Tufted Capuchin, Ring-Tail Monkey (G)

Keskesi, Pitiko (S)

Mutsaap, Rolstaartaap,

Zwarte Capucijneraap (N)

**Identification**

Body brown. Shoulders yellow-brown.

Hands, hindlimbs, and feet black or darker

than body. Head broad, crown covered with dark brown cap extending down cheeks as a distinct bar in front of ears. Hairs of cap erect, in males forming short tufts on top of head. Face dark brown, pink, or brown mottled pink, fringed yellowish to white. Tail prehensile, black or brown, and darkest at tip. Males larger and darker than females. Much individual variation among members of same troop, esp. in face color. SV 35cm to 49cm. Weight 1.7kg to 4.5kg.

Habitat

Arboreal. Canopy of primary and secondary forests.

Remarks

Diurnal. Groups of 5 to 20, usually about 10. According to Emmons & Feer, 1997, not occurring in northern half of Guyana.

Similar looking species

Cebus olivaceus, but *C. olivaceus* has no dark bars in front of ears and no tufted top of head, but instead it has a V-shaped cap.



Cebus olivaceus

**WEEPER, WEEPER CAPUCHIN,
WEDGE-CAPED CAPUCHIN, WHITE FRONTED CAPUCHIN**

Ringtail (G)

Bergi Keskesi (S)

Grijze Capucijneraap (N)

Identification

Upperparts brown, sometimes frosted with yellow. Head brownish yellow with a distinct V-shaped dark brown to blackish cap, tapering to a very thin stripe down the forehead to the nose. Face pink. Shoulders and upper arms greyish yellow, hands and feet dark brown. Tail prehensile, dark brown, often carried with tip coiled. SV 37cm to 46cm. Weight 2.3kg to 4.2kg.



Habitat

Arboreal. Middle and lower levels of primary rainforests, sometimes even descending to the ground.

Remarks

Diurnal. In groups of 7 to 40 individuals.

Similar looking species

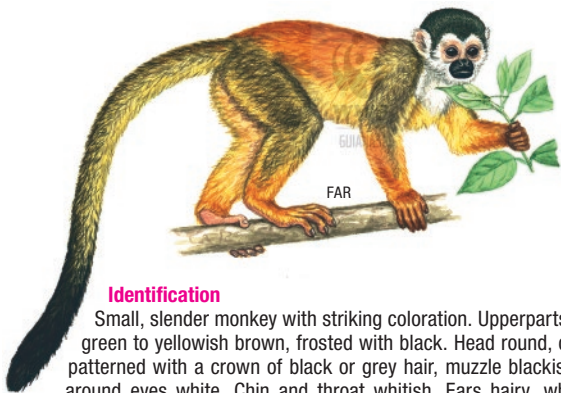
With *Cebus apella*, but *C. apella* has dark bars in front of ears and a tufted top of head.

Cebidae*Saimiri sciureus***COMMON SQUIRREL MONKEY**

Squirrel Monkey (G)

Monkimonki (S)

Doodskopaap, Eekhoornaap (N)

**Identification**

Small, slender monkey with striking coloration. Upperparts greyish green to yellowish brown, frosted with black. Head round, distinctly patterned with a crown of black or grey hair, muzzle blackish, mask around eyes white. Chin and throat whitish. Ears hairy, white with slight, pointed tufts. Sides of neck behind ear white. Chest and belly yellow to orange. Females tend to have darker head and cheeks than males. Forelimbs, hand and feet yellow-orange. Tail nonprehensile, brown-green, ending in a black tip. SV 25cm to 32cm. Weight 0.5kg to 1.4kg.

Habitat

Arboreal. Primary and secondary forests, especially river and lake edges. Even in forest remains in agricultural areas and suburb areas.

Remarks

Diurnal. Large groups of 25 to more than 100. Groups in forest remains are smaller.

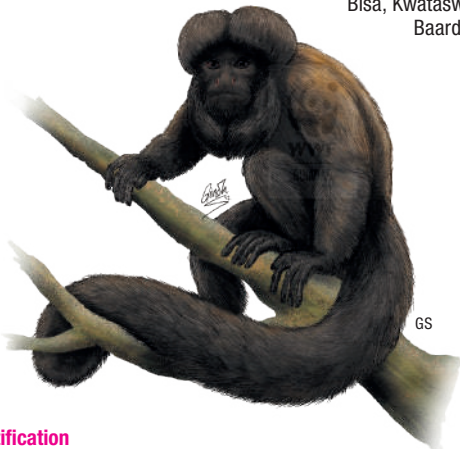


Chiropotes sagulatus

GUIANAN BEARDED SAKI

Bisa, Kwataswagri (S)

Baardsaki (N)



Identification

Guianan bearded sakis are marked by a thick fur, long bushy tails, and short body hair. Identified by their larger black beards and their black noses. Males have distinctive, pink scrota and females have pink vaginal lips. Slightly sexually dimorphic with an average weight of 3kg in males and 2.6kg in females. Head and body length ranges from 327mm to 480mm and tail length from 370mm to 463mm. Hindlimbs slightly longer than their forelimbs.

Habitat

C. sagulatus has been seen in rain forests, mountain savannah forests and occasionally in gallery forests. They rarely descend to lower canopy levels and the forest floor. *C. sagulatus* individuals spend 60% of their time in the middle and upper levels of the forest canopy.

Pitheciidae*Pithecia pithecia***WHITE-FACED SAKI**

Wanaku (S)

Wit-Gezicht Slingeraap,

Witkop Saki (N)

Identification

White-faced saki males have a black coat with white fur that surrounds their face. Female have a shorter, brownish grey coat with two vertical lines from their eyes to their nose.

Females may also have orange brown colored fur that emerges around the chest area and continues down to their abdomen.

At birth males and adult females are very similar in appearance. A gradual color change over 3.5 to 4 years occurs, in which male sakis become all black with bright white faces. Sakis have long bushy tails. White-faced sakis exhibit sexual dimorphism, with larger males, and sexual dichromatism; weight males are around 2.38kg and females are around 1.76kg.

Habitat

White-faced sakis are arboreal and live in both upland and lowland rainforests. Although they can inhabit very wet and very dry forests, they prefer areas with an abundance of fruit trees and watering holes. This species is most common at canopy heights of 15m to 25m.



Mustelidae

*Eira barbara***TAYRA**

Tayra (G)

Ayra (S)

Aira (N)

Identification

Long-legged weasel (much like a small dog) with a long back and long bushy tail. Head and neck usually grey-brown or yellowish. A light yellow to orange spot, often triangular, on chest and throat. Rest of the body including limbs and tail glossy dark brown to black. Young entirely black, sometimes with white throat patch and/or white head. SV 56cm to 71cm. Weight 2.7kg to 7kg.

Habitat

Terrestrial and arboreal. Primary and secondary forests.

Remarks

Diurnal, except near human habitations. Solitary or in pairs that travel together. Color variation: Individuals sometimes completely black and sometimes pale yellow.

Similar looking species

Speothos venaticus, but this species is uniformly brown, has a short tail and has a thick cylindrical body. *Herpailurus yagouaroundi*, but this species is uniformly brown or reddish, has a slender feline (cat) tail and a small head.

Mustelidae*Galictis vittata***GREATER GRISON**

Grison (G)

Weti-Baka Ayra (S)

Grison (N)



FAR

Identification

Short-legged weasel, with a long neck and back and a short tail. Upperparts, including tail, grizzled grey, mixed with dark brown. Head tri colored: crown grey; forehead with broad white band above eyes, across ears, and down side of neck; muzzle to eyes black. Chin, throat and chest, legs and feet black. Rest of underparts grizzled grey. Young are like adults. SV 46cm to 55cm. Weight 1.5kg to 2kg.

Habitat

Terrestrial, but swims well. Rainforest and savannas, near rivers or streams.

Remarks

Nocturnal, with some diurnal activity in the early morning and late afternoon. Solitary and in pairs that travel together or females with young.



Lontra longicaudis

**LONG-TAILED OTTER,
NEOTROPICAL (RIVER) OTTER,
SOUTH AMERICAN (RIVER) OTTER**

South American River Otter (G)

Swampuwatradagu (S)

Zwampotter (SN)



Identification

Medium-sized otter. Upperparts entirely glossy dark or light brown. Throat and belly silvery white to shades of yellow or brown, throat not spotted. Muzzle broad, nose pad completely or partly naked. Tail long, cylindrical, thick at base, tapering to a point. Male larger than female. SV 40cm to 80cm. Tail length 36cm to 57cm. Weight 12kg to 14kg.

Habitat

Semi-aquatic. All kinds of freshwater streams, also swamps. Rare or absent from silt-laden lowland rivers.

Remarks

Diurnal and nocturnal. Solitary or mother with young.

Mustelidae*Pteronura brasiliensis***GIANT (BRAZILIAN) OTTER**

Giant River Otter (G)

Bigiwatradagu (S)

Reuzenotter (N)

**Identification**

Largest fresh-water otter. Fur short, dense, velvety, dark-brown (almost black when wet). Upperlip and throat white with irregular brown patches. Head round, muzzle blunt (short and flat), nose pad completely hairy. Ears small, set low on sides of head. Tail thick at base, tapering to dorso-ventrally flattened tip. Legs short and thick, feet large, toes completely webbed. Male larger than female. SV 1m to 1.5m. Tail approx. 70cm. Weight 24kg to 34kg.

Habitat

Semi-aquatic. Lowland forest rivers and lakes of many types. Most abundant in black-water rivers.

Remarks

Diurnal. In family groups of usually 5 to 9. Rarely solitary. Appears to live in monogamous pairs.



FOUR-EYED OPOSSUM, GREY FOUR-EYED OPOSSUM

Fo-Ai-Awari (S)

Grijze Vieroogbuidelrat (N)

Philander opossum



Identification

Grey coat, with white spots located above each eye of the *Philander opossum*.

The color of their short, straight, soft hair is grey dorsally and off-white to yellow ventrally. Their dorsal pelage

may vary slightly with their location, for instance, individuals in Mexico tend to have pale grey fur, in Central America they have dark grey fur and in Colombia they have dark brown to blackish fur. Their prehensile tail has greyish fur covering the first 50 to 60mm from the base, the tip of their tail is naked and pale as it narrows towards the end. A dark mask is present around their eyes, in contrast to the white coloration of their cheeks and chin. Their large, hairless ears are black along the edges.

Habitat

Grey four-eyed opossums are found mainly in tropical forested areas such as tropical evergreen, secondary growth and gallery forests. These opossums generally prefer damp areas near swamps and streams and usually reside in areas that receive more than 1,000mm of rain per year. Grey four-eyed opossums may also be found in highly disturbed habitats near human structures or within agricultural areas such as orchards and sugar cane fields. These animals generally prefer lowland areas and are usually found below 1,000m in elevation.

Tayassuidae*Pecari tajacu***COLLARED PECCARY**

Pakira (S)

Halsband Peccari (N)

**Identification**

The coat of the *Pecari tajacu* is a grizzled greyish black throughout, except for a yellowish tinge on the cheeks and a whitish to yellowish collar extending the mane, over the shoulders, and to the throat. While males and females are very similar in size and color, young are a yellowish brown color, with a black stripe down the back. Collared Peccaries have short, straight tusks. Shoulder height is 30cm to 50cm. Length is 80cm to 100cm. Weight is 15kg to 25kg.

Habitat

In South and Central America, the Collared Peccary inhabits tropical rainforests.

Similar looking species

Tayassu pecari.

Tayassuidae

*Tayassu pecari***WHITE-LIPPED PECCARY**

Pingo (S)

Witlip Peccari (N)

**Identification**

The *Tayassu pecari* has a pig-like body with a long snout, thick neck, large head, tiny tails and thin, delicate legs.

Head and body length ranges from 750mm to 1000mm, tail length from 15mm to 55mm, shoulder height from 440mm to 575mm, and weight from 25kg to 40kg. Pelage is coarse and covers the entire body. In adults the color is dark brown to black with white areas in the pelvic regions and dorsal side of the neck. The young are distinguishable from adults by their combination of red, brown, black, and cream coat and the white colored legs and undersides of the throat and neck. Adult peccaries have forefeet with two large weight-bearing toes and two smaller toes used only on soft substrates, all toes have hooves. Their hindfeet consist of two large toes and one smaller one. They have large, sharp canines that form a distinct lump under the lips. Males have longer canines and females have a larger braincase.

Habitat

Lives in a variety of habitats, including desert scrub, arid woodland, and rain forest. Thickets, limestone caves, and large boulders serve as shelters. Peccaries tend to live close to the place of their birth, and they rarely travel far from a water source.

Similar looking species

Pecari tajacu.

Procyonidae*Bassaricyon alleni***EASTERN LOWLAND OLINGO**

Allens Slankbeer (N)

**Identification**

Bassaricyon alleni is a medium-sized olingo. Individuals have (externally) more strikingly black-tipped dorsal pelage, giving the pelage a slightly darker appearance, cranially in its proportionally wider and (on average) shorter rostrum, and in having more inflated auditory bullae. *Bassaricyon alleni* tends to have a uniformly colored head to tail. Individuals usually has a darkly pigmented nose. Weight 1.2kg.

Habitat

They are found in closed-canopy tropical forests, including lowland rainforest, montane forest, dry forest, gallery forest, and secondary forest.

Similar looking species

Potos flavus.



Nasua nasua

COATI

Coatimundi, Kibihee (G)

Kwasi Kwasi (S)

Rode Neusbeer (N)



Identification

Coati upper parts are dark brown, grey, or dark or brightly rust colored. The underparts are white. The head is narrow with the nose slightly turned upward and elongated, and is very flexible. The muzzle is brown with pale spots above, below, and behind the eye. The ears are small and fringed with white on the inside rims. The long tails of coatis are black to brown with yellow rings. Individuals have thick, dull fur. The young are not as darkly colored as adults. Adults measure 41cm to 67cm from head to the base of the tail, with the tail adding an additional 32cm to 69cm to their length. These animals are about 30cm tall at the shoulder, and weigh between 3kg and 6kg.

Habitat

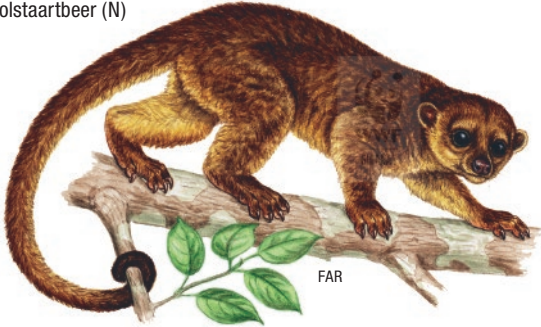
Ring-tailed coatis primarily live in forested areas; deciduous, evergreen, cloud forest, riverine gallery forest. They are found up to 2500m in elevation.

Procyonidae*Potos flavus***KINKAJOU**

Kinkajou (G)

Neti Keskesi (S)

Rolstaartbeer (N)

**Identification**

A short-legged monkey-like animal with a long back and large round eyes that are set wide apart. Head rounded and muzzle short but pointed. Upperparts reddish brown to grey-brown, often with a dark brown stripe on midback. Underparts yellow to orange-brown. Tail brown, long, prehensile and tapered toward tip. SV 39cm to 55cm. Weight 2kg to 3.2kg.

Habitat

Arboreal. Primary and secondary forests.

Remarks

Nocturnal. Solitary, in pairs, or several may congregate in a fruit tree.

Similar looking species

Bassaricyon sp. *Bassaricyon sp.* is smaller (half the weight of Kinkajou), and has a non-prehensile tail with indistinct dark rings.



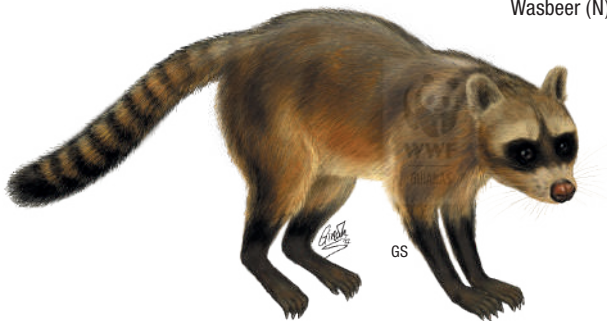
Procyon cancrivorus

CRAB-EATING RACCOON

Raccoon (G)

Krabudagu (S)

Wasbeer (N)



Identification

Body weights of the *Procyon cancrivorus* range from 3kg to 7kg. Body lengths are reported as being between 54cm and 65cm, with the tail comprising 25cm to 38cm of the total length. Males tend to be larger than the females. The black mask of *P. cancrivorus* fades behind the eyes; pelage of *P. cancrivorus* is a fairly uniform brown dorsally. Legs and feet of *P. cancrivorus* are dark brown and slender. The tail makes up approximately 50% of the body length.

Habitat

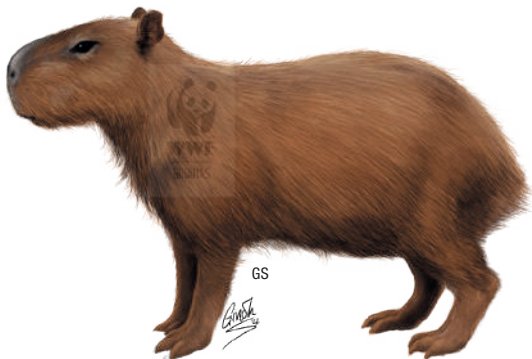
Occupies areas around bodies of water, such as swamps, lakes, lagoons, and ocean beaches.

Caviidae*Hydrochaeris hydrochaeris***CAPYBARA**

Watras (G)

Kapuwa (S)

Capibara (N)

**Identification**

Capybaras weigh from 35kg to 66kg and standing up to 60cm at the shoulder, with a length of about 120cm. The eyes, ears, and nostrils are located on top of the head. Females of this species are slightly larger than males. The fur is coarse and thin, and reddish brown over most of the body, turning yellowish brown on the belly and sometimes black on the face. The body is barrel-shaped, sturdy, and tailless. The front legs are slightly shorter than the hind legs, and the feet are partially webbed.

Habitat

Found only in areas where water is easily accessible: flooded grasslands are a favored habitat, as are marsh edges and lowland forests where grazing is good and there is water year-round. However, they occupy a range of habitats, including dry forest, scrub, and grasslands throughout South America.



Cuniculus paca

AGOUTI, (LOWLAND) PACA

Labba (G)

Hey (S)

Surinaamse Haas (N)



Identification

Heavy, piglike rodent with a large rump. Upperparts red-brown or dark brown, with 3 or 4 lines of white spots on the sides from neck to rump. Head large, cheeks swollen. Tail, a tiny stump hidden beneath rump hair. Underparts white. Young are like adults. SV 62cm to 78cm. Weight 5kg to 13kg.

Habitat

Terrestrial. Primary and secondary forests especially along rivers and creeks.

Remarks

Nocturnal. Solitary (forage alone) or infrequently in pairs (monogamous).

Similar looking species

Juveniles of *Tapirus terrestris*, but these also have white spots on the head and the legs. Juveniles of *Cervidae sp.*, but these have a thin neck, thin legs, and a distinct tail.

Dasyproctidae*Dasyprocta agouti***BRAZILIAN AGOUTI, RED-RUMPED AGOUTI**

Agouti (G)

Konkoni (S)

Surinaams Konijn (N)

**Identification**

A short-eared rabbit-like rodent, with slender legs and a humped back. Head and forequarters vary from (finely grizzled) brownish green to orange-green. Rump orange-brown to red, covered by long straight hairs. Underparts grizzled brownish orange with white midline. The tail is a tiny hairless stub that is usually not visible. SV 49cm to 64cm. Weight 3 to 5.9kg.

Habitat

Terrestrial. Primary and secondary forests, and in cultivated areas near forests.

Remarks

Diurnal. Often in pairs (monogamous), sometimes solitary. According to Emmons & Feer, 1997: Some agoutis from Guyana have a black crest on neck and shoulders.

Similar looking species

Myoprocta acouchy, (not discussed here), but this species is smaller, has a black rump and a distinctive small tail with a white tip.

*Dasyprocta leporina***CRESTED AGOUTI**

Konkoni (S)

Goud Haas (N)

**Identification**

The average *Dasyprocta leporina* weighs approximately between 3kg and 6kg with a body length of about 49cm to 64cm. It has brown fur consisting of darker spots of brown covering their upper body and a white stripe running down the centre of their underside. Sexual dimorphism is present as males are usually smaller in size than the females. Forefeet have four toes while hind feet (usually longer than forefeet) have 3. Small round ears with a short hairless tail not more than 6cm in length.

Habitat

Crested agoutis are terrestrial and found in rainforests and secondary forests in northern South America in Venezuela and the Guianas.

Erethizontidae*Coendou melanurus***BLACK-TAILED HAIRY DWARF PORCUPINE**

Bushy Tailed Porcupine (G)

Dyindyamaka (S)

Harige Dwergstekelvarken (N)

**Identification**

Underparts of the *Coendou melanurus* has soft black hairs, overlaid with scattered, long thin tri-colored bristles. The tip of bristles is yellow white. The rump is covered with thick yellow spines emerging from fur; fur is pale at base. Tail is long, pitch black except above base. Legs and feet are grizzled grey-brown or blackish.

Habitat

Lowland rainforest habitat, could use the forest canopy where it is difficult to detect.



Coendou prehensilis

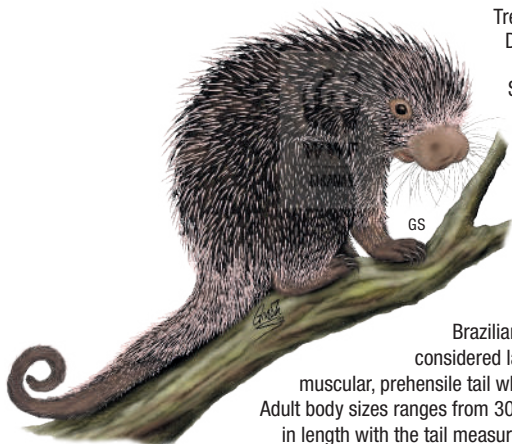
BRAZILIAN PORCUPINE

Tree Porcupine (G)

Dyindyamaka (S)

Grijpstaart

Stekelvarken (N)



Identification

Brazilian porcupines are considered large with a long, muscular, prehensile tail which is unspined. Adult body sizes ranges from 300mm to 600mm in length with the tail measuring an additional 330mm to 485mm. Full grown adult males and females may weigh up to 4.55kg and 5kg, respectively. Adult Brazilian porcupines have skin varying in hue from yellow-orange rust to brownish-black and is covered with long quills on the dorsal side. The semi-hollow quills are tri-colored with white tips terminating in a barbed end. Individuals have small ears, long whiskers, wide nasal openings and specialized procumbent upper incisors. The eyes are encircled by a thin band of bare skin in the coat of spines that extends all the way to the nose.

Habitat

Mostly occupy old growth forests where trees for foraging and dwelling are abundant, they also inhabit humid mountainous highlands, riverine llanos (vast tropical grasslands), and even a few croplands.

Bradypodidae*Bradypus tridactylus***PALE-THROATED SLOTH**

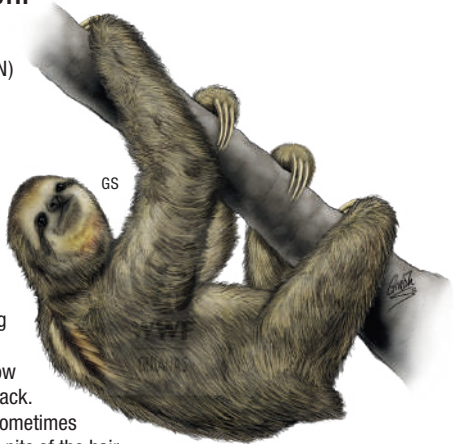
Three-Toed Sloth (G)

Son Loiri (S)

Drie Vingerige Luiaard (N)

Identification

The pale-throated sloth has almost no tail or external ears, and its head is slightly rounded with a blunt nose. The body is covered with long and coarse hair. Male sloths have a bright yellow or orange patch on the back. Very small green algae sometimes live mutualistically in the pits of the hair, which gives the sloth an overall greenish appearance. The females have two mammae in the chest region. The three-toed sloth is armed with long, compressed, arched, hollowed claws, of which the middle claw is the largest. The anterior extremities are nearly double the length of the posterior.

**Habitat**

The three-toed sloth lives high in the canopy of tropical rainforests.



Choloepus didactylus

TWO-TOED SLOTH

Two-Toed Sloth (G)

Skapu Loiri (S)

Twee Vingerige Luiaard (N)



Identification

The two-toed sloth has four long limbs of equal length, ending in two curved claws. The head is short and flat, with a snub nose, rudimentary ears, and large eyes. It is covered in long brownish-grey hair that curves from stomach to back, opposite that of most mammals. Each strand of fur has grooves which collect algae, giving the sloth a greenish tint.

Habitat

Choloepus didactylus is strictly arboreal, staying high in the canopy of the tropical rain forests, and maintaining a range of about 10-acres.

REPTILES



Alligatoridae

Caiman crocodilus



SPECTACLED CAIMAN

Spectacled Caiman (G)

Wetiberekayman (S)

Brilkaaiman (N)

REPTILES
CAIMANS



Identification

Bony ridge between eyes. Dorsal color yellowish green to brown. Ventrally white to yellow-white. Jaws have no dark markings. TL 1.4m to 2.0m. Max. TL 2.5m.

Habitat

Aquatic, sometimes sunning on shore. Sunny streams, swamps and trenches, including cultivated areas.

Remarks

Mostly nocturnal.

Similar looking species

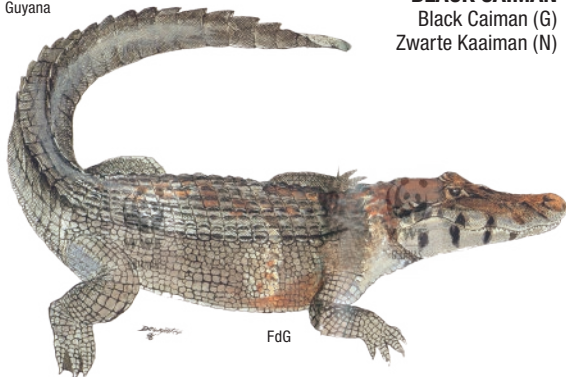
Paleosuchus trigonatus, but this species has dark markings on the lower jaw and has no bony ridge between the eyes.



Guyana

*Melanosuchus niger*

BLACK CAIMAN
 Black Caiman (G)
 Zwarte Kaaiman (N)



Identification

Largest caiman. Snout broad, blunt. Upper and lower jaw with black markings. Bony ridge between eyes. Dorsal color yellow-brown to dark brown. Ventral color white to pale brown. Juveniles black with yellow transverse bands on back and flanks. TL 3m to 6m.

Habitat

Semi-aquatic. Large rivers and streams, oxbow lakes and flooded savannas. Sometimes in swamps. Not present in Suriname.

Remarks

Nocturnal, sometimes diurnal. Solitary, but may congregate in larger groups.

Similar looking species

Caiman crocodilus, which, however, is much smaller. The young are not black and it lacks the dark markings on the jaws.

Alligatoridae

Paleosuchus palpebrosus



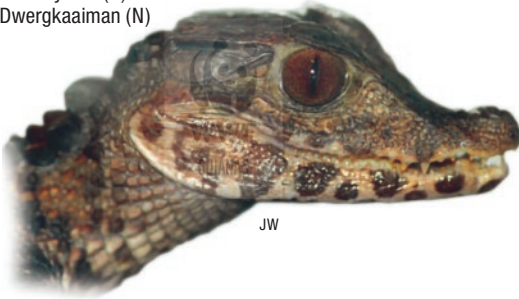
CUVIER'S SMOOTH-FRONTED CAIMAN, DWARF CAIMAN

Smooth-Fronted Caiman (G)

Redikayman (S)

Dwergkaaiman (N)

REPTILES
CAIMANS



JW

Identification

No bony ridge between eyes. Dorsally usually reddish brown. Ventral coloring yellow-white with dark blotches. Lower jaw with dark markings. Four dorsal scales between hind legs. Length adults 1.2m to 1.5m. Max. 1.8m.

Habitat

Aquatic, sometimes on shore. Small streams in and draining from savanna areas. Usually resting in very shallow water.

Remarks

Mostly nocturnal.

Similar looking species

Paleosuchus trigonatus, but in *P. trigonatus* dorsal color is usually dark brown and there are two dorsal scales between the hindlegs.



Paleosuchus trigonatus

SCHNEIDER'S SMOOTH-FRONTED CAIMAN

Wedge-Headed Caiman (G)

Bergikayman (S)

Wigkopkaaiman (N)



Identification

No bony ridge between eyes. Dorsal coloring usually dark-brown. Ventral coloring yellow-white with dark blotches. Lower jaw with dark markings. Two dorsal scales between hind legs. Neck scales almost horizontal. Length adults 1.2m to 1.7m. Max. 2.3m.

Habitat

Semi-aquatic, often on shore. Primary rainforest streams, even in very small ones.

Remarks

Nocturnal.

Similar looking species

Paleosuchus palpebrosus, but in *P. palpebrosus* the dorsal color is usually reddish brown and it has four dorsal scales between the hind legs. *Caiman crocodilus*, but *C. crocodilus* has no dark blotches on lower jaws and has a bony ridge between eyes.

Dactyloidae

Anolis punctatus



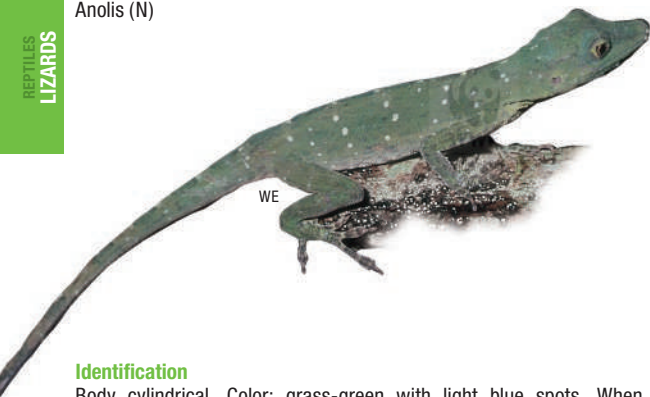
AMAZON GREEN ANOLE

South American Green Anole (G)

Agama, Legwana (S)

Anolis (N)

REPTILES
LIZARDS



Identification

Body cylindrical. Color: grass-green with light blue spots. When disturbed or exposed to sunlight, the color changes into purple-blue. Dewlap yellow to orange. Males have a bulge on the snout. Max. SV 8.5cm.

Habitat

Arboreal. In canopy of primary and secondary forests.

Remarks

Diurnal.



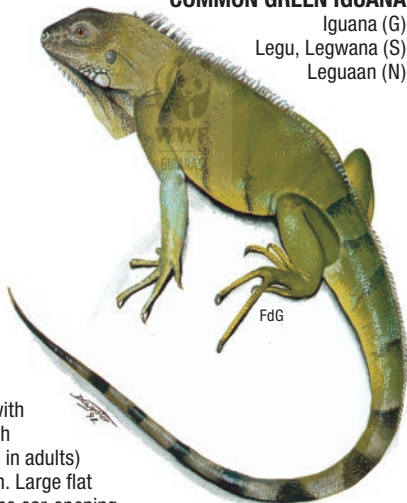
Iguana iguana

COMMON GREEN IGUANA

Iguana (G)

Legu, Legwana (S)

Leguaan (N)



Identification

Large green lizard with cylindrical body. High vertebral crest (esp. in adults) and a large gular fan. Large flat round scale below the ear-opening.
Max. TL 1.8m.

Habitat

Arboreal. All kind of forests, usually along streams. Common in cultivated areas.

Remarks

Diurnal. Largest iguanid in northern South America.

Phyllodactylidae

Thecadactylus rapicauda



TURNIP-TAILED GECKO

Knot-Tailed Lizard (G)

Kwa-Kwa Sneki (S)

Gecko (N)

REPTILES
LIZARDS



Identification

Relatively large gecko with the body and the head depressed, and with a short conical tail. Entire digits strongly dilated, connected by a basal web. Dorsally dark to light grey or brown with black and white markings. Ventrally cream. Lips white, with black edges. Pupil vertical. Tail when regenerated, with a typical shape: swollen and wider than the base of the tail. Max. SV 12cm.

Habitat

Arboreal. Primary and secondary forests, also in open areas with scattered trees, or inside houses, not far from forests.

Remarks

Nocturnal.



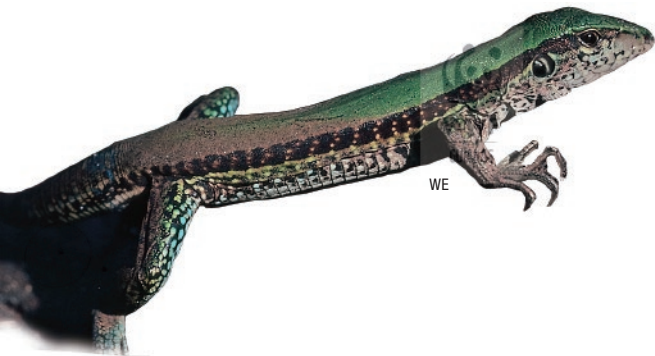
Ameiva ameiva

AMAZON RACERUNNER, GIANT AMEIVA

Luboo Lizard (G)

Lagadisa (S)

Gewone Tuinhagedis (N)



Identification

Cylindrical body, part of the back green, flanks with dark brown longitudinal bands and greenish white lines. Adult males with creamy spots on flanks. Snout rather pointed. Max. SV 17cm.

Habitat

Terrestrial. Sunny areas with some cover: gardens, roadsides, gaps in forests, creek banks, savannas, ridges. Very common.

Remarks

Diurnal.

Teiidae

*Cnemidophorus lemniscatus**



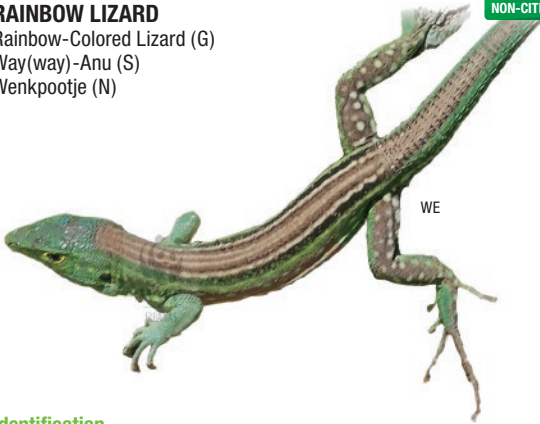
RAINBOW LIZARD

Rainbow-Colored Lizard (G)

Way(way)-Anu (S)

Wenkpootje (N)

REPTILES
LIZARDS



Identification

Cylindrical body, brown to grey above, usually with nine or ten cream colored and black stripes. Females and juveniles with 6-11 light longitudinal stripes, which may be almost completely lost in adult males. In males, the flanks and belly are grey to brownish red and the head and tail sky-blue or green. Max. SV 9cm.

Habitat

Terrestrial. Sunny areas: beaches, gardens, roadsides, savannas, ridges.

Remarks

Diurnal.

**Cnemidophorus lemniscatus* is part of a complex of at least two bisexual and two parthenogenetic species which are very similar in appearance.



Copeoglossum nigropunctatum

BLACK-SPOTTED SKINK, SOUTH AMERICAN SKINK

Skink Lizard (G)

Zwart Gevlekte Skink (N)



WE

Identification

Cylindrical body with short legs and short tail. Body glossy brown with large shiny scales. On each side is a dark brown to black lateral band. Max. SV 10cm.

Habitat

Terrestrial. Sunny areas in forests or in forest-edge situations. Also in cultivated areas.

Remarks

Diurnal.

Teiidae

Polychrus marmoratus



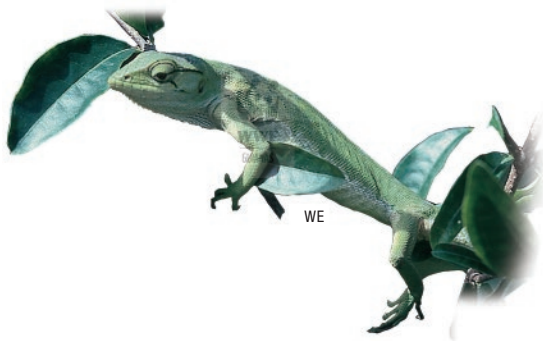
COMMON MONKEY LIZARD

Polychrus Lizard (G)

Agama (S)

Marmarleguaan (N)

REPTILES
LIZARDS



Identification

Body laterally compressed. Color of adult is lime green with 5 or 6 oblique yellow bands. Three black lines behind eyes. Eyes can move independently. Body color can change very fast into brown or intermediate color stages. Juveniles are uniform green. Max. SV 14cm.

Habitat

Arboreal. Edge of primary and secondary forests and bushes in cultivated areas.

Remarks

Diurnal.



Tupinambis nigropunctatus
Tupinambis teguixin

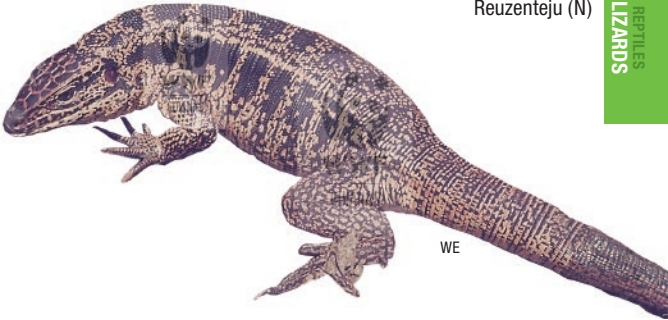
GOLD TEGU

Salipenter Lizard (G)

Sapakara (S)

Reuzenteju (N)

REPTILES
LIZARDS



Identification

Large lizard with cylindrical body, without crest and smooth scales. Dorsal coloring black with transverse lighter (yellow-whitish) markings. TL about 1m.

Habitat

Terrestrial. Forest edges and forest gaps, shrubland. Common in cultivated areas.

Remarks

Diurnal.

Tropiduridae

Plica plica

TREE RUNNER

Plica Lizard (G)

Agama (S)

Steltloperleguaan (N)



Identification

Body and head dorso-ventrally depressed. Color greyish green with a black pattern usually forming spotted transverse “V”-shaped bands on body.

Head may be completely or partially covered by a pinkish or light orangish hue. Several tufts of spiny scales on neck. Low vertebral crest. Max. SV 14cm.

Habitat

Arboreal. Primary forests, usually on large tree trunks.

Remarks

Diurnal.



Plica umbra

**NEOTROPICAL TREE AGAMA,
BLUE-LIPPED TREE LIZARD**

Plica Lizard (G)

Agama (S)

Plica Hagedis (N)

REPTILES
LIZARDS



Identification

Body roughly cylindrical, no tufts of spiny scales on neck. Mottled green and brown, one or the other color predominating. Transverse dark, spotted bands may be present, most distinct in the neck. Low vertebral crest. Max. SV 10cm.

Habitat

Arboreal. Primary and secondary forests, usually on medium-sized tree trunks or branches.

Remarks

Diurnal.

Tropiduridae

Tropidurus hispidus



TROPIDURINE LIZARD

Collared Lizard (G)

Agama (S)

Kielstaartleguaan (N)

REPTILES
LIZARDS



Identification

Body depressed, no vertebral crest. Grey or dark brown above with two longitudinal rows of black spots. A black, complete or incomplete collar. Throat mottled or completely black in adults, bluish with light spots in juveniles. In adult males, pre-anal plate and ventral surface of thighs black. Max. SV 12cm.

Habitat

Terrestrial. Primary forest, particularly in sun-drenched open sandy or rocky areas, which are surrounded by savanna-like vegetation.

Remarks

Diurnal.



Uranoscodon superciliosus

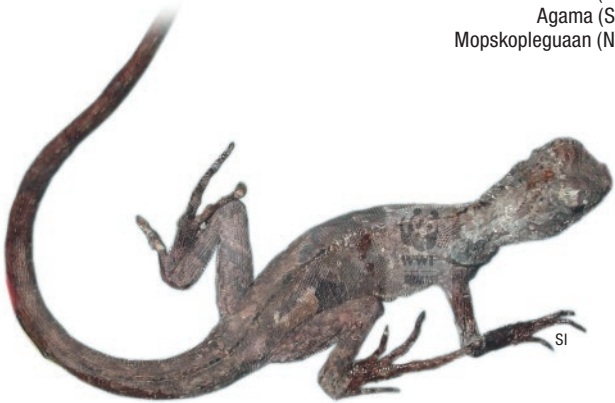
MOPHEAD IGUANA

Brown Tree-Climber (G)

Agama (S)

Mopskopleguaan (N)

REPTILES
LIZARDS



Identification

Body laterally compressed. Head short, with conspicuous eyebrows. Dorsal crest present from neck to tail. Dull green, to dark brown above with creamy undulating lateral bands. Max. SV 14cm.

Habitat

Semi-arboreal. Only along forested banks of streams, on lower part of trees near water's edge.

Remarks

Diurnal.

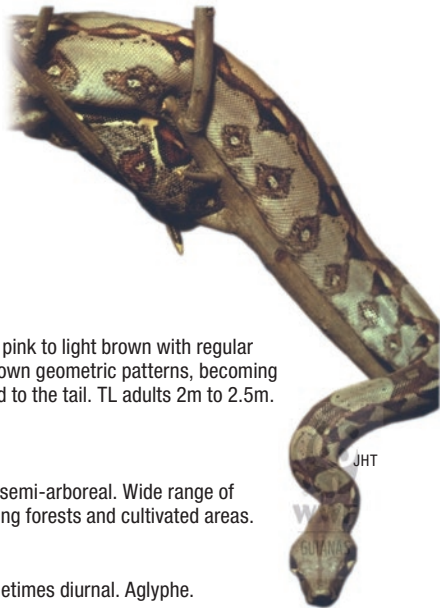
Boidae

Boa constrictor**BOA CONSTRICTOR**

Land Camudi (G)

Dagwe Sneki (S)

Tapijtslang (N)

REPTILES
SNAKES**Identification**

Dorso-laterally pink to light brown with regular white-black-brown geometric patterns, becoming white-black-red to the tail. TL adults 2m to 2.5m. Max. TL 4.5m.

Habitat

Terrestrial and semi-arboreal. Wide range of habitats including forests and cultivated areas.

Remarks

Nocturnal, sometimes diurnal. Aglyphe.

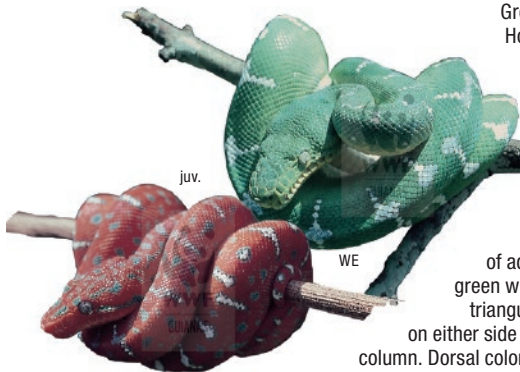


Corallus caninus

EMERALD TREE BOA

Emerald Boa (G)
Bigi Popokaysneki (S)
Groene Boomboa,
Hondskopboa (N)

REPTILES
SNAKES



Identification

Dorsal coloring of adults is emerald green with more or less triangular white spots on either side of the vertebral column. Dorsal coloring of juveniles is red, green or yellow with white spots.

Ventral coloring white-yellow. Sensory grooves in labial scales. TL adults 1m to 1.5m. Max. TL 1.95m.

Habitat

Arboreal. Primary and secondary rainforest.

Remarks

Nocturnal. Aglyphe.

Similar looking species

Bothrops bilineatus, which is solenoglyph and has large pits between the eyes and the nostrils and adults are distinctly smaller: 60cm to 80cm, max. 1m. *Corallus caninus* of this size are juveniles, which are colored red, green or yellow with white spots.

Boidae

Corallus hortulanus



AMAZON TREE BOA, GARDEN TREE BOA

Cook's Tree Boa (G)

Takrutitey (S)

Slanke Boomboa (N)

REPTILES
SNAKES



Identification

Large variations in dorsal coloring: Specimens can be light-brown, yellow, orange, beige, with or without brown-black patterns. Patterned specimens usually with diamond-shaped figures over the vertebral column and along the sides of the body. Sensory grooves in labial scales. TL adults 1m to 1.5m. Max. TL 1.9m.

Habitat

Arboreal. Primary and secondary rainforest especially along streams.

Remarks

Nocturnal. Aglyphe.



Epicrates cenchria

RAINBOW BOA

Rainbow Boa (G)
Heygron Aboma (S)
Regenboogboa (N)



JdB

REPTILES
SNAKES

Identification

Dorsal pattern: a rainbow-like glow on an orange-brown ground color with oscillated bluish black circular markings distributed over the vertebral column. Black yellowish eye-like spots along the sides, laterally. Sensory grooves in labial scales. TL adults 1.2m to 1.5m. Max. TL 1.7m.

Habitat

Terrestrial. Primary and secondary forests.

Remarks

Nocturnal. Aglyphe.

Boidae

Epicrates maurus



BROWN RAINBOW BOA

Rainbow Boa (G)

Heygron Aboma (S)

Regenboogboa (N)

REPTILES
SNAKES



Identification

Dorsal pattern: a beige to brown ground color dashed with lighter brown spots over the vertebral column. The dorsal area and the sides are bordered by a fractured creamy-white line. Coloring and patterns more distinct in juveniles. Sensory grooves in labial scales. TL adults 0.8m to 1.2m.

Habitat

Terrestrial. Only in savannas.

Remarks

Nocturnal. Aglyphe.



Eunectes murinus

(GREEN) ANACONDA

Water Camudi (G)
Aboma, Watra-Aboma (S)
Anaconda (N)

REPTILES
SNAKES



LGI

Identification

Dorsal coloring being dominated by olive-green to greenish brown with black circular spots on either side along the spinal axis. Laterally: black bordered yellow spots. TL adults 4m to 6m. Max. TL 9m.

Habitat

Semi-aquatic. Along banks of or in all types of streams and swamps.

Remarks

Nocturnal, sometimes diurnal. Aglyphe.

Colubridae

Chironius carinatus**AMAZON WHIPSNAKE, SIPO**

Black Racer, Fire Snake (G)

Lektère, Reditere (S)

Slang (N)

REPTILES
SNAKES**Identification**

Dorsally olive-green to dark brown, sides bluish, and ventrally yellow to orange. TL adults 1.3m to 1.8m. Max. TL 2.2m.

Habitat

Terrestrial and semi-arboreal. Primary and secondary rainforest, savannas, cultivated land.

Remarks

Diurnal. Aglyphe.



Helicops angulatus

BROWN-BANDED WATERSNAKE

Green Water Snake (G)

Watra Sneki (S)

Water Slang (N)

REPTILES
SNAKES



Identification

Dorsally dark grey to brown, with dark transverse bands. Ventrally bright red to yellow-green with dark blotches. Eyes located high on the head. TL adults 0.6m to 0.8m. Max. TL 1m.

Habitat

Semi-aquatic. Marshes, ditches and streams with a weak current.

Remarks

Nocturnal. Aglyphe.

Colubridae

*Hydrodynastes gigas****FALSE WATER COBRA**

Water Cobra* (G)

Anyumarasneki (S)

Valse Watercobra (N)

REPTILES
SNAKES

PV

Identification

Dorsal coloring ranges from light brown to beige and is lined with fine dark brown rings. In adults the coloring tends to darken, becoming uniformly dark green. TL adults 1.5m to 2m. Max. TL 2.3m.

Habitat

Aquatic. Marshes and slow moving streams in forested areas.

Remarks

Diurnal. Aglyphe. *Guyana export list: *Cyclagras gigas* according to CITES list (*Cyclagras gigas* = former scientific name).

Similar looking species

**Hydrodynastes bicinctus*, another aquatic species which is light brown to yellow with 12 to 17 brown-black complete but irregular rings. Head yellow-beige with a longitudinal black band behind each eye.



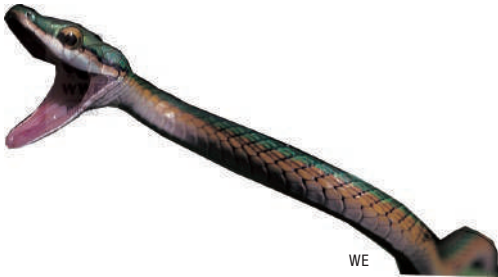
Leptophis ahaetulla

PARROT SNAKE, LORA

Parrot Snake (G)

Swipi (S)

Zweepslang (N)



Identification

Slender snake. Dorsal coloring green. Sides yellow. Ventral coloring white. TL adults 1.0m to 1.3m. Max. TL 1.5m.

Habitat

Arboreal. Primary and secondary forests and cultivated areas, usually in bushes.

Remarks

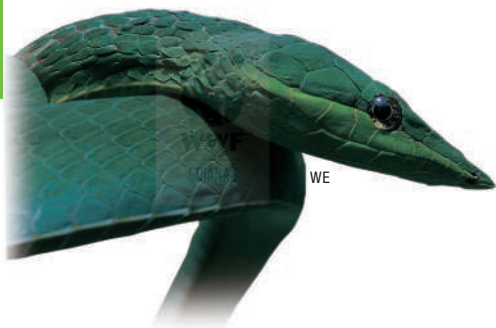
Diurnal. Aglyphe. If provoked, opens mouth.

Colubridae

Ahaetulla nasuta**GREEN VINE SNAKE**

Vine Snake (G)

Groene Spitsneus Slang (N)

REPTILES
SNAKES**Identification**

Slender snake with a pointed snout. Dorsal coloring: bright almost fluorescent green. Ventral coloring: light green to yellow with white longitudinal lateral lines. TL (adults) 1.0m to 1.6m. Max. L 1.8m.

Habitat

Semi-arboreal. Edge of primary and secondary forests.

Remarks

Diurnal. Opisthopharynx (venomous, bite can be dangerous).



Spilotes pullatus

CHICKEN SNAKE, YELLOW RAT SNAKE

Salipenter Snake (G)

Sapakarasneki (S)

Kippenslang (N)



Identification

Dorsal coloring: shiny black with irregular yellow bands in the mid-section, starting from the yellow belly. Ventral coloring is yellow. Tail is black. TL adults 1.5m to 2.0m. Max. TL 2.5m.

Habitat

Terrestrial and semi- arboreal. Primary and secondary forests as well as in agricultural zones.

Remarks

Diurnal. Aglyphe. If provoked, swells its neck.

Colubridae

Spilotes sulphureus**AMAZON PUFFING SNAKE**

Pseustes (G)

Lima, Trangabaka Sneki (S)

**Identification**

Dorsally yellow with dark grey irregular oblique bands along anterior half of body. Posterior half generally fades into uniform black. Ventrally yellow with dark markings along the anterior one third of the body, the posterior two-thirds fading into black. TL adults 1.5m to 2.2m. Max. TL 2.7m.

Habitat

Terrestrial and semi-arboreal. Primary and secondary forests, as well as in agricultural zones.

Remarks

Diurnal. Aglyphe. If provoked, swells its neck.



Micrurus surinamensis

AQUATIC CORAL SNAKE

Coral Snake (G)

Krara Sneki (S)

Surinaamse Koraalslang (N)



Identification

One of the largest and most unmistakable species of coral snakes. Dorsal pattern is tri-colored: red, yellow and black, with the black rings forming triads on the body. The red cephalic scales in contradiction to the red dorsal scales, are all black bordered. Overall smooth scaled. TL adults 0.8m to 1.2m. Max. TL 1.4m.

Habitat

Terrestrial. Primary and secondary forests, savannas, swamps and cultivated areas. Usually near water.

Remarks

Nocturnal. Solenoglyph (venomous and dangerous, bite can be fatal).

Viperidae

Bothrops atrox



COMMON LANCEHEAD, FER-DE-LANCE

Brown Labarya (G)

Labariya, Owrukuku, Rasper (S)

Lanspuntslang (N)

REPTILES
SNAKES



JW

Identification

A pit viper with a distinctive lance-shaped head and deep sensory pits between eyes and nostrils. Overall roughly scaled. A wide, dark brown stripe passes from behind the eye to the angle of the mouth where it is usually curved downward. Dorsal pattern is diffuse, it varies from olive (greyish green), brown, grey, yellow to rusty, with rectangular or trapezoidal pale-bordered blotches laterally, that alternate or are opposite each other mid-dorsally. Ventral pattern white, cream or yellowish grey with dark spots, increasing posteriorly. TL adults 0.7m to 1.2m. Max. 2.0m.

Habitat

Terrestrial. Primary and secondary forests, savannas, swamps and cultivated areas. Usually near water.

Remarks

Nocturnal. Solenoglyph (venomous and dangerous, bite can be fatal).



Bothrops bilineatus

**GREEN FER-DE-LANCE,
GREEN JARARACA**

Green Labarya (G)
Popokaysneki (S)
Papegaaislang (N)

REPTILES
SNAKES

Identification

A green prehensile-tailed pit viper with large sensory pits between eyes and nostrils. Dorsal pattern is light green with little diamondshaped, tan to reddish brown marks, spread out in zig-zag form along either side of the spinal cord. Scales are rough and dashed with minuscule dark grey or reddish brown spots, particularly on the head. Ventral pattern: yellow-green, separated from the sides by a creamy yellow line. TL (adults) 0.6m to 0.8m. Max. TL 1.0m.

Habitat

Arboreal. Primary and secondary rainforests.

Remarks

Nocturnal. Solenoglyph (venomous and dangerous, bite can be fatal).

Similar looking species

Corallus caninus which has smooth scales and sensory pits in labials. Adults *C. caninus* are much larger (1m to 1.5m), while young can be red, green or yellow with white spots. Is aglyph. *Xenodon werneri* (not discussed), which is bluish green and each scale is dotted with extremely fine black spots. Belly is light yellow. Is diurnal, terrestrial, and aglyph.

Viperidae

Crotalus durissus
**CASCABEL RATTLESNAKE,
NEOTROPICAL RATTLESNAKE**

Rattlesnake (G)

Sakasneki (S)

Zuid-Amerikaanse Ratelslang (N)

 REPTILES
 SNAKES

Identification

Pit viper with a distinctive rattle on the end of the tail, large sensory pits between eyes and nostrils, overall roughly scaled, and in large adults a conspicuous spinal ridge, most evident on the anterior part of the body. Dorsal pattern brown, grey, yellow or nearly black, with diamond-shaped brown-black blotches which are bordered white to cream. Anterior half of the body marked with fine dark and light longitudinal lines. Posterior half becomes grey towards the tail and dark grey near the rattle. The rattle is brownish or greyish. TL adults 0.75m to 1.1m. Max. 1.4m.

Habitat

Terrestrial. Absent from rainforest. Mainly in coastal savannas and savannas bordered by rainforest.

Remarks

Nocturnal. Solenoglyph (venomous and dangerous. Bite can be fatal).



Lachesis muta muta

BUSHMASTER

Bushmaster (G)
Kapisisneki, Makasneki (S)
Bosmeester (N)



Identification

Longest of all vipers and largest venomous snake of South America, with large sensory pits between eyes and nostrils, a mid-dorsal ridge and rough scales. The head is broad and round. Dorsal pattern beige to orange-brown, with brown-black diamond-shaped blotches along the spinal cord, forming triangles laterally which are narrowly bordered by yellow or cream. Ventral color yellowish. Tip of tail has a spine. TL adults 1.2m to 2.5m, reaching or exceeding 3.6m.

Habitat

Terrestrial. Primary and secondary rainforests.

Remarks

Nocturnal. Solenoglyph (venomous and dangerous. Bite can be fatal).

Chelidae

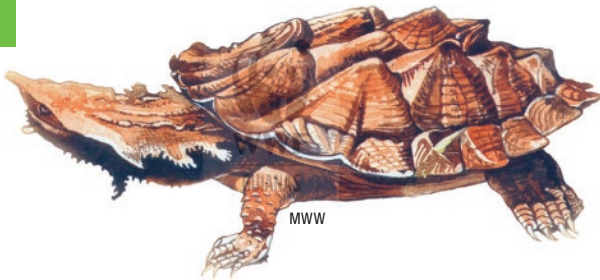
Chelus fimbriata
Chelus fimbriatus



MATAMATA

Mata Mata Turtle (G)
Matamata (S)
Matamata (N)

REPTILES
TURTLES



Identification

Head and neck characterized by the ability to fold away laterally within shell. Carapace flattened with each scute raised. Plastron rather narrow. Head extremely broad and flat, with fleshy flaps and filaments. Eyes tiny. A tubular-shaped (snorkel-like) snout. Dorsal side brown, ventral side yellow to yellowish brown. Largest South-American chelid. Can reach a carapace length of more than 40cm.

Habitat

Aquatic. Still waters in ox-bow lakes and ponds and small, slow moving creeks.

Remarks

Nocturnal.



Mesoclemmys gibba

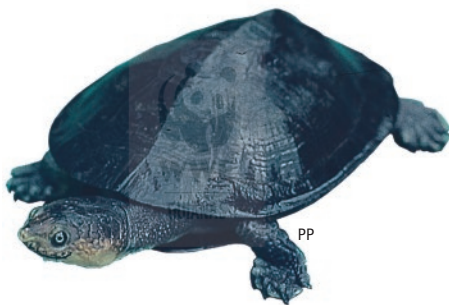
GIBBA (TOADHEAD) TURTLE

Side-Necked Turtle (G)

Kron Neki (S)

Bochelschildpad (N)

REPTILES
TURTLES



Identification

Head and neck characterized by the ability to fold away laterally within the shell. Small sideneck turtle with broad, dark brown or black carapace. Skin dark on all dorsal surfaces, head much smaller than other *Mesoclemmys* species, jaws with yellow ground color and dark markings. Carapace 16cm to 27cm.

Habitat

Semi-aquatic. In marshes and slow flowing creeks of forested areas.

Remarks

Nocturnal.

Chelidae

Mesoclemmys nasuta



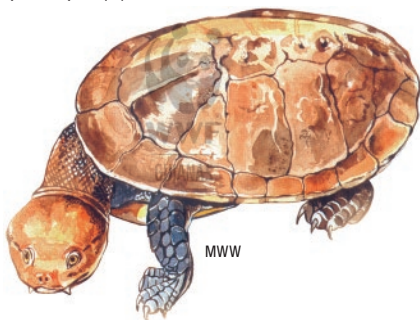
COMMON TOADHEADED TURTLE

Toad-Headed Turtle (G)

Kron Neki (S)

Kikkerkopschildpad (N)

REPTILES
TURTLES



Identification

Head and neck characterized by the ability to fold away laterally within the shell. Large sideneck turtle. Large and deep head. Jaws uniformly yellow or tan. No linear pattern on head and neck. Plastron unspotted. Carapace 17cm to 32cm.

Habitat

Semi-aquatic. In small streams, ponds and inundated woodlands.

Remarks

Nocturnal.

Similar looking species

Mesoclemmys gibba (see description). *Phrynops Geoffranus* (see description).



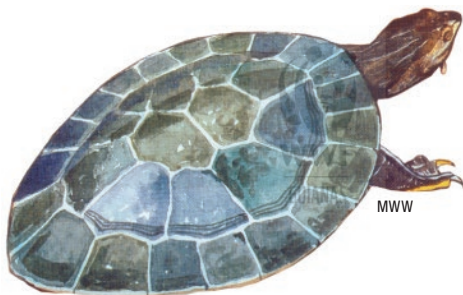
Phrynops geoffroanus

GEOFFROY'S SIDE-NECKED TURTLE

Side-Necked Turtle (G)

Kron Neki (S)

Geoffroys Kikkerkopschildpad (N)



Identification

Head and neck characterized by the ability to fold away laterally within the shell. Ventral side of juveniles with a pattern of black and red markings. Adults have long chin barbels (at least as long as diameter of the eye) and are much larger than *Mesoclemmys gibba* adults. Carapace 24cm to 39cm.

Habitat

Semi-aquatic. In creeks, freshwater lagoons to large rivers.

Remarks

Restricted to a small area in the west of Guyana. Diurnal, occasionally nocturnal.

Chelidae

Platemys platycephala



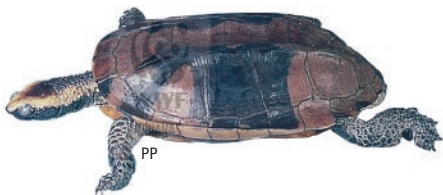
(WESTERN) TWIST-NECK TURTLE

Twist-Necked Turtle (G)

Kron Neki (S)

Roodkopdeukschildpad (N)

REPTILES
TURTLES



Identification

Head and neck characterized by the ability to fold away laterally within the shell. Very small species with a flat, orange (dorsal) head, and flat shell with a distinct median groove. Carapace less than 17cm.

Habitat

Semi-aquatic. In shallow water of temporary puddles, marshes, ponds and creeks of primary forests.

Remarks

Nocturnal, sometimes diurnal.

Similar looking species

Can be mistaken for *Mesoclemmys gibba* and/or *Phrynops geoffroanus*. Can be distinguished from *M. gibba* by its larger adult size, larger head, jaws uniformly yellow or tan and from *P. geoffroanus* by larger and deeper head, unspotted plastron, absence of black and red pattern on head and neck. (See pg. 81)

Cheloniidae



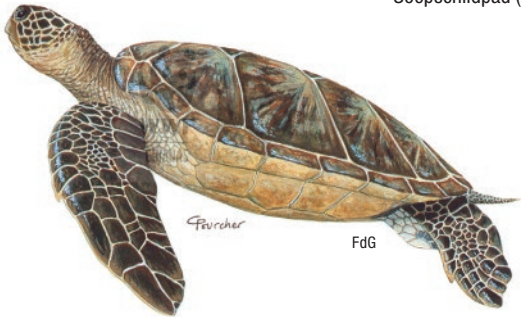
Chelonia mydas

GREEN TURTLE

Green Turtle (G)

Krape (S)

Soepschildpad (N)



REPTILES
TURTLES

Identification

Very large sea turtle. Shell smooth, hind margin not strongly serrated, four costal scutes on each side. Head relatively small, anteriorly rounded. Adults highly variable in color, ranging from brown to green to almost black. Plastron yellowish. Dorsal head scales brown with light borders. One pair of prefrontal scales on head. Male has longer and thicker tail than female, with a claw-like terminal structure, and has the claws of the forelimbs strongly curved. Hatchlings: carapace and dorsal surfaces greyish black. Plastron white. Carapace 85cm to 140cm.

Habitat

Aquatic. In all tropical seas. Nests preferably on sandy beaches with vegetation.

Similar looking species

Eretmochelys imbricata, but this species has two pairs of prefrontal scales.

Cheloniidae

Eretmochelys imbricata

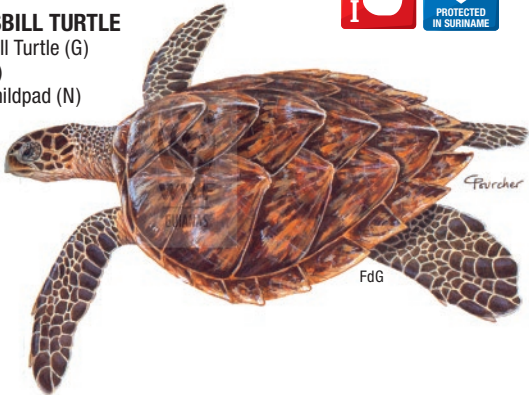


HAWKSBILL TURTLE

Hawksbill Turtle (G)

Karèt (S)

Karetschildpad (N)



REPTILES
TURTLES

Identification

Rather small marine turtle. Scutes of shell overlapping (except in hatchlings and old adults). Hind margin of shell strongly serrated. Four costal scutes on each side of the carapace. Carapace “flame” patterned, ranging from light brown to red-brown to black. Head elongated, narrow, anteriorly pointed, pale yellow with a large black blotch on each of the scales. Two pairs of prefrontal scales on head. Male with elongated, relatively thin tail, and narrower carapace than female. Hatchlings with brown carapace and dark brown plastron. Carapace less than 95cm.

Habitat

Aquatic. In shallow tropical seas with rocks or coral bottoms. Nests on well-developed sandy beaches.

Similar looking species

Chelonia mydas, but *C. mydas* has only one pair of prefrontal scales, and the scutes do not overlap. Hatchlings have white plastron.

Cheloniidae



Lepidochelys olivacea

OLIVE RIDLEY

Olive Ridley Turtle (G)

Warana (S)

Warana (N)



REPTILES
TURTLES

Identification

Smallest sea turtle. Relatively wide carapace with 5 to 9 costal scutes on each side. Adults dark- to light-olive green dorsally, light yellow to white ventrally. Head triangular. Male has one of the two claws of each forelimb enlarged and strongly curved. Hatchlings are uniformly grey-black with 3 dorsal and 2 ventral keels. Carapace 65cm to 70cm.

Habitat

Aquatic. Along mainland shores of tropical oceans.

Dermochelyidae

Dermochelys coriacea



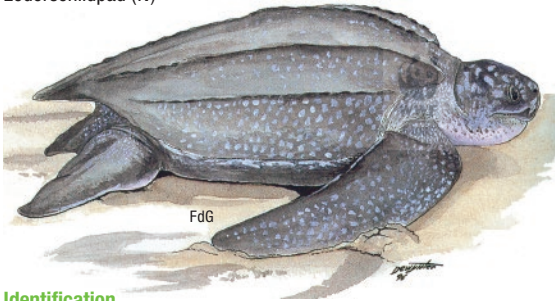
LEATHERBACK

Leatherback Turtle (G)

Aitkanti (S)

Lederschildpad (N)

REPTILES
TURTLES



Identification

Giant marine turtle with a leathery scale-less and scute-less shell. Claws completely absent. Carapace bears 5 dorsal longitudinal ridges with an additional ridge on each side, and is covered with black, often white spotted skin. Tail relatively long, prehensile. Males can be distinguished by their narrower shell, longer tail, depressed carapace and absence of a pink splash on the crown of the head. Hatchlings are covered by tiny scales, are greyish blue to greyish black with white lines along the ridges of the carapace and margins of flippers. Carapace up to 1.8m.

Habitat

Aquatic. Pelagic, in tropical and subtropical seas. Nests on tropical and near-tropical shell and sandy beaches, preferably without much vegetation.

Remarks

Largest living marine turtle.



Rhinoclemmys punctularia

SPOT-LEGGED WOOD TURTLE

Labarya Turtle (G)
 Peni-Ede Arakaka (S)
 Moerasschildpad (N)



MWW

REPTILES
 TURTLES

Identification

Head small with conspicuous anteriorly converging orange to red dorsal streaks. Retractable head and neck. Dark, often black carapace and plastron. Plastron with yellow borders. No chin barbels. Carapace 15cm to 20cm.

Habitat

Semi-aquatic. Wide variety of habitats: coastal swamps, flooded savannas, ditches, ponds and streams.

Remarks

Diurnal.

Kinosternidae

Kinosternon scorpioides



SCORPION MUD TURTLE

Scorpion Mud Turtle (G)

Arakaka (S)

Modderschildpad (N)

REPTILES
TURTLES



PP

Identification

Carapace somewhat elevated/dome-shaped. Two hinges across plastron that allow anterior and posterior lobes to be raised. Head rather large with strongly hooked jaws in males. Short chin barbels. Carapace 12cm to 17cm.

Habitat

Aquatic. Found in both still and moving waters: ditches, rice fields, ponds and streams.

Remarks

Nocturnal.



Podocnemis erythrocephala

RED-HEADED AMAZON SIDE-NECKED TURTLE

Red-Headed Amazon/ River Turtle, Side-Necked Turtle (G)
Kron Neki (S)
Halswender (N)



Identification

Carapace dorso-ventrally flattened, dark brown to black. Bright red band extending across the back of the head (except in old females). One pair of chin barbels. Max. carapace length 32cm.

Habitat

Semi-aquatic. Black-water rivers (Rio Negro and tributaries).

Remarks

Occurring in Venezuela and Brazil, not in Guyana (Pritchard & Trebbau, 1984).

Podocnemididae

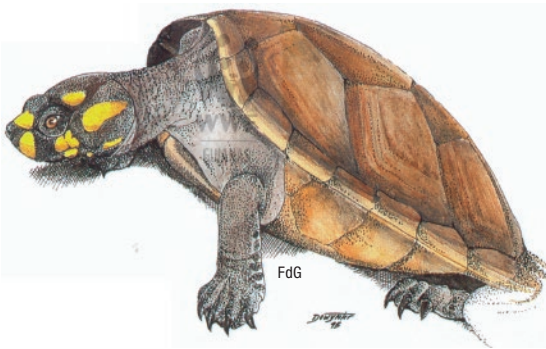
Podocnemis unifilis



YELLOW-SPOTTED AMAZON RIVER TURTLE

Geelkopschildpad (N)

REPTILES
TURTLES



Identification

Carapace 45cm long with a low keel which is most pronounced on the 3rd vertebral scute. Juveniles have a distinct orange-yellow spot on the head. Usually only a single barbels under the chin.

Habitat

Aquatic. Rivers and large creeks in primary forests.

Remarks

Diurnal.



Chelonoidis carbonarius

RED-FOOTED TORTOISE

Red-Footed Tortoise (G)

Sabana Sekrepatu (S)

Savanneschildpad (N)



Identification

Carapace round and black. Center of scutes yellow. Limbs black with red scales. Carapace 25cm to 37cm. Max. 51cm.

Habitat

Terrestrial. Savannas and forested areas adjacent to savannas.

Remarks

Diurnal.

Testudinidae

Chelonoidis denticulatus



YELLOW-FOOTED TORTOISE

Yellow-Footed Tortoise (G)

Busi Sekrepatu (S)

Bosschildpad (N)

REPTILES
TURTLES



Identification

Carapace round and brown. Center of scutes light brown. Limbs black with scales ranging from yellow to orange in color. Carapace 29cm to 44cm. Max. 82cm.

Habitat

Terrestrial. Primary and secondary forests (humid and shady).

Remarks

Diurnal.



Amphisbaena fuliginosa

SPECKLED WORM LIZARD

Legless Lizard (G)

Tu Ede Sneki, Krarasneki (S)

Gevlekte Wormhagedis (N)



Identification

Worm- or snake-like lizard, an amphisbaenian, with a cylindrical body, very tiny eyes and a blunt tail. Black with white blotches in an irregular pattern. Head, belly and tail pinkish white, with or without black spots. Max. TL 30cm to 50cm.

Habitat

Fossorial. Forests and cultivated areas, usually under leaves or dead woody debris.

Remarks

Nocturnal. Head and tail often look alike, which is why it is called “two headed snake”.

AMPHIBIANS



JdB

Bufonidae

Rhinella marina



CANE TOAD, GIANT TOAD

Land Toad (G)

Bigitodo, Krastodo (S)

Reuzenpad (N)



WE

Identification

Largest anuran in Guianas. Can grow up to 25cm in length and more than 1kg in weight. Skin dry, warty with large triangular shaped parotoid glands. Dorsal side brown with black markings. Tips of warts black. Bony ridges above eyes. Max. SV 25cm. The SV-length may even exceed 30cm, but specimens that large are rare.

Habitat

Terrestrial. Wide variety of habitats, but seldom encountered far from water. Open habitats such as human populated areas and savannas. Also in primary and secondary forests.

Remarks

Nocturnal. In contradiction to its scientific name *marinus* which suggests living at sea, this toad lives everywhere in tropical lowlands and far in the interior.



Allobates femoralis

BRILLIANT-THIGHED POISON FROG

Brilliant-Thighed Frog (G)

Tide-Tide (S)

Grote Dijvlek Gifkikker (N)



Identification

Back and flanks black to darkbrown colored.

A dorso-lateral narrow, bronze to golden stripe from snout to groin.

A white stripe under the eye, continuing over the forelegs and ventro-lateral to the groin. This stripe meets with the dorso-lateral stripe on the snout. Usually a bright yellow spot at the base of each arm and an orange to red spot on the thigh and in the groin. Skin quite granular. Adults range from 2cm to 3.4cm in length.

Habitat

Terrestrial. Primary humid forests, very local. Found on leaf litter, usually in dense vegetation.

Remarks

Diurnal.

Similar looking species

Amerega picta, (see description).

Dendrobatidae

Ameerega picta



SPOT-LEGGED POISON FROG

Spotted-Legged Frog (G)

Okopipi, Tide-Tide (S)

Gifkikker (N)



JdB

AMPHIBIANS
FROGS

Identification

Back dark brown with dorso-lateral and ventro-lateral white stripes that do not meet on the snout. Bright spot in the armpits and on top of the thighs. Also a bright spot, usually yellow to red under the base of the shank. Belly black-blue-white marbled. Skin quite granular. Max. SV 2.4cm.

Habitat

Terrestrial. Primary humid forests, very local. Found on leaf litter, usually in dense vegetation.

Remarks

Diurnal.

Similar looking species

Allobates femoralis (see description).



Ameerega trivittata

THREE-STRIPED POISON FROG

Poison Arrow Frog (G)

Tide-Tide (S)

Groengestrepte Gifkikker* (N)



Identification

Large black, green- to yellow-striped poison frog. Much variation in patterns and colors. Generally the back, sides and most of the belly are deep black. Back relatively smooth though covered with fine granules. Belly smooth, covered with large irregular green or blue-green spots. Dorso-lateral stripes, usually green or yellow-green, but sometimes pure yellow, running from groin to eye, continuous across the snout. A creamy yellow to green stripe runs from the upper lip to the arm and then along the top of the arm. Usually a white to green ventro-lateral stripe present. Adults about 3.1cm to 5.0cm.

Habitat

Terrestrial. Various types of primary and secondary forest, even quite far from streams.

Remarks

Diurnal. Much variation in patterns and color, for instance a mid-dorsal stripe that is green or yellow may be present, complete or broken into spots or even expanded to cover most of the middle of the back. Most specimens have green stripes. Specimens with yellow stripes are exceptions.

Dendrobatidae

Dendrobates tinctorius



BLUE POISON ARROW FROG

Blue Poison Arrow Frog (G)

Okopipi (S)

Blauwe (Pijl) Gifkikker (N)



Identification

Color of the legs dark blue. Flanks light blue with hardly any markings. Head and back also light blue, with large and small black (round) spots. Underside pale blue with a varied arrangement of black spots, especially on the breast. Males have wider digits than females. In a relaxed sitting pose, (shows) a distinct hunch back. Adults 3.8cm to 4.4cm.

Habitat

Usually terrestrial, but may climb trees to a height of 5m. Occurring near rocky streams in isolated, humid forest islands of the Sipaliwini savanna in Suriname.

Remarks

Diurnal. Endemic, restricted to Sipaliwini savanna in Suriname.

Dendrobatidae

*Dendrobates tinctorius***DYEING POISON FROG**

Blue and Yellow Poison Arrow Frog (G)

Okopipi (S)

Blauwgele (Pijl)Gifkikker (N)

**Identification**

One of the largest and most brightly colored poison frogs. Smooth-skinned. Much variation in pattern and color. Usually the back from the snout to the tail is yellow to yellow-white (exceptionally orange) reticulated on a black background. Flanks black with yellow or yellow-white, legs dark blue with black spots. Adults 3.4cm to 5.0cm long.

Habitat

Mostly terrestrial, but can also climb up to 5m in trees. Primary humid forests. Usually not very far from a stream.

Remarks

Diurnal. Much variation in pattern and color, including specimens without any blue, which are predominantly yellow or black, or specimens that are orange reticulated on a black background.

Hylidae

Boana boans



GIANT GLADIATOR FROG, RUSTY TREE FROG

Green Frog (G)

Papitodo*, Plaktodo (S)

Reuzenboomkikker (N)



WE

Identification

Largest treefrog in Guianas. Palpebral membrane of eyes distinctly reticulated. Dorsal side brow, rarely with vertebral stripe. Fingers fully webbed; webbing between fingers and toes dark grey to black. Max. SV 12cm.

Habitat

Arboreal. Primary rainforest, near streams with a bank of sand or gravel.

Remarks

Nocturnal. In daytime motionless. Nesting is achieved by first raising a barricade of sand to dam up the “water-filled basin” to lay the eggs.



Hypsiboas crepitans

EMERALD-EYED TREE FROG

Tree Frog (G)

Papitodo, Plaktodo (S)

Gewone Surinaamse Boomkikker (N)



Identification

Medium to large tree frog without reticulations on the palpebral membranes of eyes. Muzzle slightly angular. No dermal appendages on the heels. No conspicuous thigh patterns, fingers webbed only at the base. Ventral color bright orange-yellow. Max. SV 7.5cm.

Habitat

Arboreal. Primary and secondary rainforest.

Remarks

Nocturnal.

Hylidae

Pseudis paradoxa

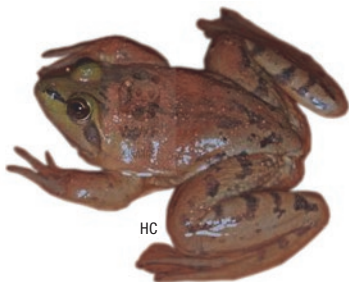


PARADOXICAL FROG

Green and Black Frog (G)

Todo Dyaki (S)

Paradoxale Kikker (N)



Identification

Dorsal side greenish grey. Belly white. Skin rather smooth. Toes almost fully webbed. SV approx. 7.5cm.

Habitat

Semi-aquatic. Mostly in swamps, lagoons and ditches of the coastal area.

Remarks

Diurnal. Adults much smaller than tadpoles, which are extremely large, max. 25cm.

Hylidae



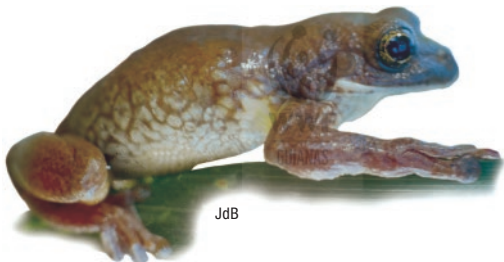
Trachycephalus spp. (3)

TREEFROGS

Tree Frogs* (G)

Merkitodo* (S)

Melkboomkikkers* (N)

**Identification**

Tip of toes and fingers with round enlarged discs. Toes webbed. Pupil in daytime horizontal. Skin thick. Males with a vocal sac on each side of the head. Color at night generally brown and or brown greenish tones, sometimes with brown-grey patterns. Color can turn pale in daytime. SV of adult specimens depending on species 6cm to 10cm.

Habitat

Arboreal. Primary rainforest, near streams with a bank of sand or gravel.

Remarks

Nocturnal. *Name is used for more species of the same group.

Leptodactylidae

Leptodactylus pentadactylus



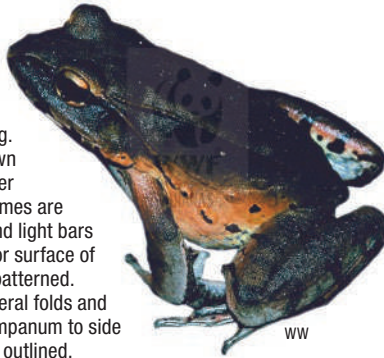
SOUTH AMERICAN BULLFROG

Mountain Chicken (G)
 Todo (S)
 Reuzen Fluitkikker (N)

AMPHIBIANS
 FROGS

Identification

Largest whistling frog. Color on back is brown with transverse darker bands, which sometimes are edged black. Dark and light bars on upper lip. Posterior surface of thighs black-brown patterned. Belly light. Dorsal lateral folds and a fold from above tympanum to side of body, usually dark outlined. Max. SV 18cm.



Habitat

Terrestrial. Primary rainforests including savanna forests.

Remarks

Nocturnal. Foam-nesting, usually in small pools.

Similar looking species

**Leptodactylus knudseni* (not discussed), but this species has the posterior surface of thighs uniform black and has no folds from above tympanum to sides of body.



Pipa pipa

SURINAME TOAD

Suriname Toad (G)

Pipatodo (S)

Surinaamse Pad (N)



Identification

Large flattened toad-like frog with long flexible fingers and starlike fingertips. Toes fully webbed. Snout pointed, with conspicuous branched appendages at the corners of the mouth. Dorsal side brown-greenish, slightly warty. SV 12cm to 20cm.

Habitat

Aquatic. Swamps and slow moving creeks. Usually near aquatic vegetation or submerged roots or branches.

Remarks

Nocturnal.

Similar looking species

Reproductive females have thickened dorsal skin with honeycomb-like holes in which the eggs incubate.

Phyllomedusidae

Phyllomedusa bicolor

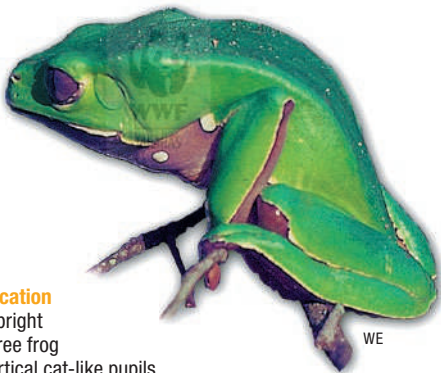


GIANT LEAF FROG, GIANT MONKEY FROG

Green Tree Frog (G)

Wiriwiritodo (S)

Reuzen Makikikker (N)



Identification

Large, bright green tree frog

with vertical cat-like pupils.

White circular spots on flanks.

Opposable first finger and first toe as prehensile organs.

First toe shorter than the second. Absence of dark vertical bars on the posterior surface of the thighs. This tree frog seems to move in slowmotion. Max. SV 14cm.

Habitat

Arboreal. Primary rainforest, mostly on outskirts of savannas.

Remarks

Nocturnal. Females lay their eggs in funnel-like rolled up leaves hanging above water. They moisten the eggs with their urine.

ARTHROPODS



GS

Theraphosidae

Avicularia avicularia



PINKTOE TARANTULA, GUYANA PINKTOE

Busi-Anansi, Redi Futu Anansi (S)

Roodteenvogelspin, Amazone-Roodteenvogelspin (N)



Identification

Tarantula adult females have a body length of 7cm, with a leg span of 11cm to 13cm. Males have a leg span of 9cm. Dark-colored body and pinkish feet. Males are typically smaller with longer and thinner legs and darker abdomen than females. Juvenile specimens, have pinkish bodies and dark-colored feet. They undergo a reversal in their coloration as they approach adulthood at 4 to 5 years.

Habitat

All forest types and urban areas, preferring tree crevices, hollow branches, palm leaves and buildings.

Theraphosidae



Theraphosa blondi

BIRD EATING TARANTULA

Tarantula (S)

Goliath Vogelspin (N)



Identification

The bird eating tarantula has a body length of 11cm to 13cm. Diagonal leg span is 28cm to 30cm, weight can be up to 175g. Hisses when feeling threatened. Mostly tan to light brown and golden-hued. Upper legs often have the trademark twin vertical white stripe along the second segment. Abdomen is lighter cream colored nearby spinnerets.

Habitat

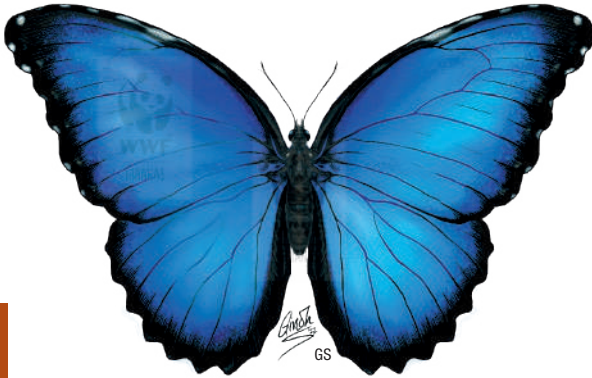
Abandoned burrowings in marshy or swampy areas.

Nymphalidae

Morpho menelaus

BLUE MORPHO BUTTERFLY

Blauwe Morfo (N)



Identification

Morpho menelaus has a wingspan of approximately 12cm, with dorsal forewings and hindwings bright, iridescent blue edged with black. Ventral wing sides of all Morpho butterflies have eye-spots, often with a mixture of brown, grey, black and red. Males are more vividly colored than females.

Habitat

Primary rain forests, secondary forests, savanna forests and swamp forests.

BIRDS



BoS

Anatidae

Anas bahamensis

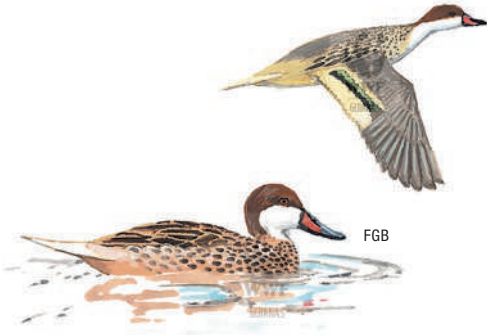


WHITE-CHEEKED PINTAIL

Stieldock (G)

Anaki (S)

Bahama Pijlstaart (N)



Identification

Anas bahamensis has a length between 41cm to 46cm, around 480g weight and identified by the white spot located on their cheeks, having a grey-blue bill, with a red spot at the base. Brown feathers and black spots on their chest, breast, and sides. The sides of head and throat are white. Grey legs and red to red-brown eyes. Compared to males, females are smaller, have a shorter tail length, and are not as brightly colored.

Habitat

Tidal mudflats, coastal lagoons and swamps.

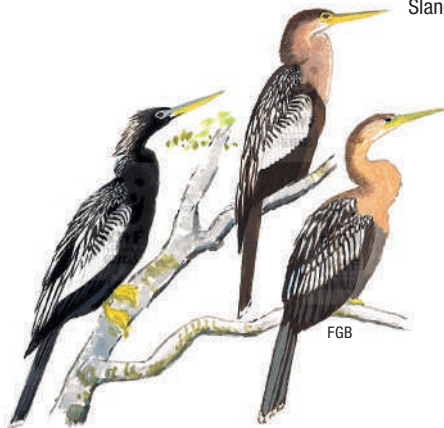
Anhingidae

*Anhinga anhinga***ANHINGA**

Doiklari, Duikelaar (S)

Amerikaanse

Slangenhalsvogel (N)

**Identification**

Anhinga anhinga has a body length of 81cm to 91.5cm, a weight of 1.2kg, wingspan of 117cm, and a long pointed bill of 81mm. The head is small, with long snake-like neck. Males are greenish-black plumage overall, accentuated by silver-grey feathers on the upper back and wings edged with long white plumes, also black crests. Females are brown with a lighter brown head and neck; juveniles have a uniform brown color.

Habitat

Coastal swamps with large areas of open water, large rivers.

Phalacrocoracidae

Phalacrocorax olivaceus



NEOTROPICAL CORMORANT

Doiklari, Duikelaar (S)

Bigua-Aalscholver (N)



Identification

Phalacrocorax olivaceus' body is 64cm long with a 100cm wingspan. Adult males have a weight of 1.1kg to 1.5kg, adult females weigh 50g to 100g less. It has a long tail and frequently holds its neck in an S-shape. Adult plumage is mainly black, with a yellow-brown throat patch. During breeding, white tufts appear on sides of the head and the neck, throat patch develops a white edge. Upper wings are greyer than the rest of the body. Juveniles are brownish in color.

Habitat

Coastal swamps with large areas of open water, large rivers, mainly in the west of Suriname.



Gallinago paraguaiiae

SOUTH AMERICAN SNIPE, GALLINAGO

Snip (S)

Grassnip, Rijst Snip,

Zuid-Amerikaanse Snip (N)



Identification

Gallinago paraguaiiae has short greenish yellow legs and a short neck, wingspan is between 39cm to 45cm, average body length is 23cm to 28cm. Long slender bill of 6.4cm to 7.8cm. Juveniles are black and/or brown patterned with yellow tinted stripes down dorsal sides with white ventral feathering losing their yellow tint when maturing, going towards brown with black stripes, and white ventral feathers.

Habitat

Freshwater wetlands, marshes, banks and wet meadows and anthropogenic habitats like rice fields.

Cotingidae

Cotinga cayana



SPANGLED COTINGA

Spangled Cotinga (G)
Halsbandcotinga (N)

Identification

Male: mainly light green-blue, spangled with black. Wings and tail black, wing-coverts broadly edged green-blue. Throat and upperbreast purple-red. Female & young: upperparts dark brown, feathers with narrow white edges. Breast and flanks like upperparts, but less dark. Underparts light grey-brown. Throat grey. Bill of both sexes: maxilla mainly black, grey at base. Mandible mainly grey, blacker at tip. TL 22cm.



BoS

Habitat

Savanna forests and rainforests. Often high in tree tops.

Remarks

In small groups.



Cotinga cotinga

PURPLE-BREASTED COTINGA

Purple-Breasted Cotinga (G)

Purperborstcotinga (N)



Identification

Male: upperparts, sides of head, flanks and undertail-coverts purple-blue. Back spangled with black. Throat, breast and center of belly red-purple. Wings and tail black, wing-coverts edged purple-blue.

Female: dark brown above with a green-blue gloss, feathers tipped white, giving it a speckled appearance. Underparts brown, feathers also edged white, under tail-coverts yellow-brown. Bill of both sexes: maxilla mainly black, grey at base, mandible mainly grey, blacker at tip. TL 19cm.

Habitat

Savanna forests and rainforests. Often high in tree tops.

Remarks

In small groups.

Cotingidae

Gymnoderus foetidus



BARE-NECKED FRUITCROW

Bare-Necked Fruitcrow (G)

Blawdoyfi (S)

Kaalnekvruchtenkraai (N)

Identification

Male with mainly bare and grey-blue neck. Crown, chin and subocular region covered with black, plush-like feathers. Back and underparts black and grey. Wings silvery and black-grey. Tail black. Female almost entirely dark grey, head almost black. Throat and sides of neck more feathered than in male. Greyer on abdomen. Young males different from adults of either sex: general plumage grey, black-grey on the head. Wings with white patches. Bill of both sexes basally grey, black at the tip. TL 38cm.



Habitat

Rather wet forests along rivers and forests on sand-ridges. High in treetops.

Remarks

In pairs or small groups.

Cotingidae



Lipaugus vociferans

SCREAMING PIHA

Screaming Piha (G)
 Busiskowtu, Kwetikwetiyaaba,
 Peepeeyu (S)
 Groenhartvogel (SN)
 Schreeuwpiha (N)

**Identification**

Upperparts grey. Wings and tail brown-grey. Underparts a little lighter than upperparts. Tail rather long. Bill black, base of mandible brown. Sexes are alike. Young birds of both sexes differ by having the greater wing-coverts orange-brown. TL 23cm.

Habitat

Savanna forests and rainforests and forests on sand-ridges. Not in cultivated areas.

Remarks

Very characteristic display song at lek only.

Cotingidae

Perissocephalus tricolor



CAPUCHINBIRD

Capuchin Bird (G)

Busikaw (S)

Capuchonvogel (N)

Identification

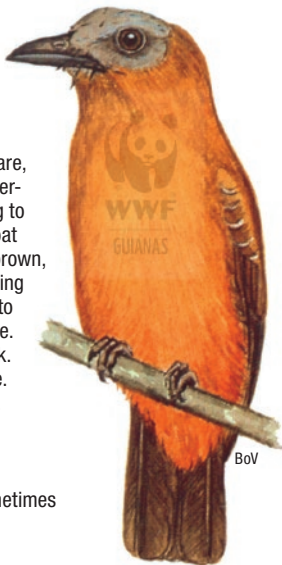
Crown and sides of the head bare, blue-grey. Nape, neck and upper-mantle range brown, darkening to red-brown on lower back. Throat and upperbreast also orange-brown, towards the underparts becoming red-brown. Wings dark brown to black. Underwing-coverts white. Tail and uppertail-coverts black. Bill: maxilla black, grey at base. Mandible grey. Sexes are alike. TL 36cm.

Habitat

Rainforests of the interior. Sometimes seen in forests of sand-ridges. High in tree tops.

Remarks

In pairs or in small groups.



BoV

Cotingidae



Phoenicircus carnifex

GUIANAN RED-COTINGA

Guianan Red Cotinga (G)

Rode Cotinga (N)



Identification

Male: upperparts mainly dark red to brown-red. Crown light red with long feathers, forming a short crest. Rump, uppertail-coverts and tail bright red. Tail tipped dark brown-red. Throat and upperbreast also dark brown-red and light red towards the abdomen. Female and immatures: crown and tail red.

Back and rump olive-toned, streaked with red. Underparts pink-red. Bill of both sexes: short, light brown, usually with a streak of brown grey along the ridge of the culmen.

TL 20cm.

Habitat

Rainforests of the interior.

Remarks

Alone or in pairs. Gather together in groups to sing.

Cotingidae

Querula purpurata



PURPLE-THROATED FRUITCROW

Purple-Throated/ Breasted Fruitcrow (G)
Purperkeelvruchtenkraai (N)



Identification

Male: glossy black all over, with a large shining red patch on the throat and upperbreast. Female entirely black, lacks the patch. Bill of both sexes: grey blue. TL 25cm.

Habitat

Forests of sand-ridges, savanna and rainforests. In tree tops.

Remarks

In pairs or small groups. Noisy.



Rupicola rupicola

GUIANAN COCK-OF-THE-ROCK

Cock-of-the-Rock (G)

Rotshaan (SN)

Oranje Rotshaan (N)



BoS

Identification

Male: except for the wings, entirely bright orange. Head decorated by a large compressed fan-shaped crest stretching from the bill to the nape. Crest narrowly bordered dark red. Wings brown-black, edged with light orange. Outer webs of inner remiges ending in long orange filaments. White wing-speculum. Feathers of lower rump and upper tail-coverts long, broad at the end, with tips turned upwards.

Tail short, basally orange, distally dark brown, tipped light orange. Bill deep orange with yellow tip.

Female and immatures: dark olive-brown with browner wings and tail. Crest small. Bill black with yellow. TL 33cm.

Habitat

Forests of the interior. In areas with rock outcrops or large boulders.

Remarks

In groups, especially congregating during the breeding season.

Cotingidae

Xipholena punicea



POMPADOUR COTINGA

Pompadour Cotinga (G)

Pompadourcotinga (N)

Identification

Male: mainly shining dark purple-red. Upperwing-coverts lengthened with white shafts.

Primaries white, feathers tipped black.

Tail pink-red. Female: upperparts brown-grey.

Inner and outer remiges and rectrices are black-brown.

The wing-coverts and inner remiges are broadly edged white.

Throat and breast grey, fading to white on belly.

Undertail-coverts pink. Eyes of adults yellow. Eyes of immatures dark brown.

Bill of both sexes: dark brown. TL 19cm.



Habitat

Savanna forests and rainforests of the interior. In tree tops.

Remarks

Displays in small groups with audible wing beats.



Ortalis motmot

VARIABLE CHACALACA

Wakago (S)

Kleine Chacalaca (N)

Identification

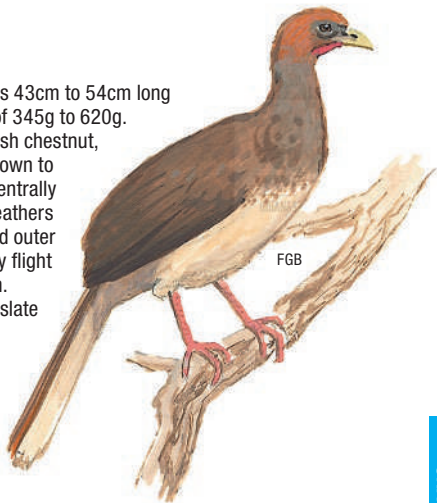
Chacalaca's body is 43cm to 54cm long and has a weight of 345g to 620g.

Head color is reddish chestnut, dorsally reddish brown to grey-brown, and ventrally grey. Central tail feathers are grey-brown and outer ones rusty. Primary flight feathers are brown.

Facial skin is dark slate grey.

Habitat

Savanna, forest edges and in dense scrubs in urban areas.



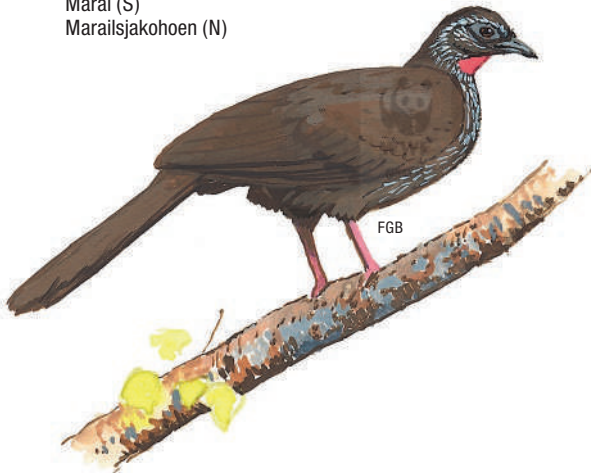
Cracidae

Penelope marail

MARAIL GUAN

Marai (S)

Marailsjakohoen (N)



Identification

Penelope marail's body is 63cm to 68cm long. Males' weight are 772g to 1310g and females' 770g to 1450g. The back wings and central tail feathers are dark with a greenish olive gloss. The outer tail feathers are bluish black. Its throat and chest are dark with white speckles and the belly is reddish brown. It has a red dewlap.

Habitat

Undisturbed high dryland forest and secondary forest.



Crax alector

BLACK CURASSOW

Powisi (G)

Powisi (S)

Zwarte Hokko (N)

Identification

Entirely glossy black with a purplish blue sheen, except for white abdomen and white under tail-coverts. Head crested: Feathers of the crown and nape are long and curled forward. Bill black-orange on the fleshy base of upper mandible. Legs blue-grey. Sexes are alike, except that the female has a few narrow white cross-bars in the feathers of the crest, which are entirely black in the male. In immatures the black areas are mottled red-brown and brown-yellow. TL 96cm.

Habitat

Primary forests. Arboreal.

Remarks

Alone or in pairs.

Joins *Psophia crepitans* on the ground.



Accipitridae

Harpia harpyja

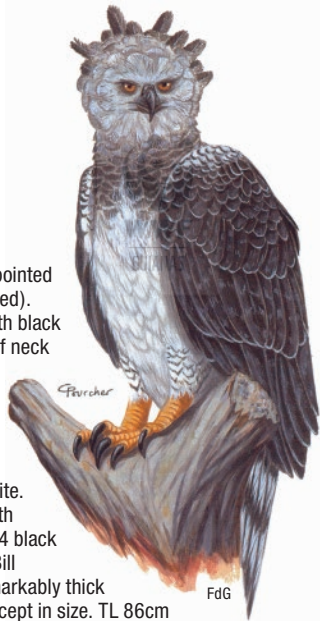


HARPY EAGLE

Harpy Eagle (G)
Gonini, Loyri-Aka (S)
Harpij(Arend) (N)

Identification

Very large eagle. Bushy, double-pointed black crest (horn-like when erected). Grey head and throat contrast with black chest, neck and back. Feathers of neck form a nuchal ruff. Wings rather short, rounded, above black indistinctly barred dark grey, below whitish with dark bands and wing-linings. Bend of wing white. Lower breast and belly white. Thighs white, narrowly barred with black. Tail moderately long, with 4 black and 3 grey bands and white tip. Bill massive, greyish black. Legs remarkably thick and powerful. Sexes are alike, except in size. TL 86cm in male, 93cm in female. Immatures much paler than adults.



Habitat

Undisturbed rainforests of the interior.

Remarks

Largest and fiercest eagle of the world. Solitary.



Falco peregrinus

PEREGRINE FALCON

Peregrine Falcon (G)

Onti Aka (S)

Slechtvalk (N)

Identification

Falcon with long pointed wings. Upperparts mainly dark blue grey with indistinct bars. Crown, hind-neck and a moustache-like patch extending down over the eye to cheek, black. Bare orbital skin and cere bright yellow. Forehead, sides of head, throat and upperbreast white. Lower underparts creamy white with small black bars.

Tail with 5 to 6 dark bars and white tip. Sexes differ in size, female may have darker lower back and rump and large drop-shaped marks on upperbreast. Bill blue dark grey. Immatures brown above with feathers margined with light brown or yellow. Underparts brown-yellow, heavily streaked black-brown. Bare orbital skin and cere green. TL 38cm to 51cm.



Habitat

Coastal mudflats, coastal lagoons and estuaries of large rivers.

Remarks

Migrant from the North. Solitary.

Fringillidae

Euphonia cayennensis



GOLDEN-SIDED EUPHONIA

Golden-Sided Euphonia (G)

Grangrandir(Kanari) (S)

Cayenne-Organist (N)

Identification

Male: glossy purple-black, with golden yellow pectoral tufts, tipped red. Female: above dark yellow-olive, chin and sides of the body lighter in color. Underparts grey. Bill of both sexes: black, base of mandible blue-grey. TL 11.5cm.

Habitat

Edges of rainforest and savanna forests. Predominantly in treetops.

Remarks

Not common.

In small groups.



BoS



Euphonia finschi

FINSCH'S EUPHONIA

Finsch's Euphonia (G)
 Blauwdas(Kanarie) (SN)
 Finsch' Organist (N)

Identification

Male: forehead and front part of the crown orange-yellow. Rest of the crown, throat, sides of the head, back, wings and tail metallic black, with a wine-red gloss. Breast, belly and under tail-coverts orange-yellow. Female: olive-green above, forehead golden-yellow, below olive-yellow. Bill of both sexes: black. TL 9cm.

Habitat

Edge of savannas.

Remarks

Sometimes alone or in small groups, together with other members or species of the *genus Euphonia*.



Fringillidae

Euphonia minuta



WHITE-VENTED EUPHONIA

White-Vented Euphonia (G)
Wetitere (Kanari) (S)
Witbuikorganist (N)

Identification

Male: forehead, breast and belly golden yellow. Crown, throat and sides of head purple-black, becoming green-black on back, wings and tail. Under tail-coverts white. Female: mossy green on upperparts, wings and tail darker, edged olive. Throat, center of abdomen and under tail-coverts grey. Breast and sides of the body olive-yellow. Bill of both sexes: black. TL 9cm.

Habitat

Along edges of rain- and savanna forests, secondary forests, clearings, and gardens. High in the trees.

Remarks

In pairs or in small groups.





Euphonia plumbea

PLUMBEOUS EUPHONIA

Plumbeous Euphonia (G)

Sabanablawdaskanari (S)

Savanneblauwdas (Kanarie) (SN)

Grijze Organist (N)



Identification

Male: upperparts, throat and sides of the head glossy dark blue-grey. Wings and tail black, feathers edged grey. Underparts: orange-yellow. Bill: black, basal part of mandible grey. Female: is like male, but paler in color. TL 9cm.

Habitat

Rainforest, edge of savannas and open vegetation.

Fringillidae

Euphonia violacea



VIOLACEOUS EUPHONIA

Violaceous Euphonia (G)

Geeldas(Kanarie) (SN)

Violette Organist (N)

Identification

Male: forehead yellow.

Crown, sides of the head, nape, back, wings and tail purple-black. Underparts bright orange-yellow.

Under tail-coverts

yellow. Female:

olive-green

above, under-

parts yellow. Bill of

both sexes black. TL 10cm.



Habitat

Forest edges, clearings in forests, savannas, cultivated areas incl. gardens. Forages in the foliage from low levels to tree tops.

Remarks

Alone or in small groups.



Caryothraustes canadensis

YELLOW-GREEN GROSBEEK

Yellow-Green Grosbeak (G)

Sabanatwatwa (S)

Gele Vinktangara (SN)

Geelbuikkardinaal (N)

Identification

Mainly olive-yellow with a black face. Lores, ocular region and throat black. Crown and nape olive-yellow, becoming slightly darker on the rest of the upperparts. Underparts olive-yellow. Sexes are alike. Bill: basal half blue grey, distal end black. TL 16.5cm.

Habitat

Savanna forests and rainforests of the interior. In tree tops.

Remarks

In small groups. Noisy.



Cardinalidae

*Cyanoloxia cyanoides**



BLUE-BLACK GROSBEAK

Blue-Black Grosbeak (G)

Bergitwatwa (S)

Blauwrugbisschop (N)



Identification

Male: mainly dark grey-blue. Lores and feathers at the base of the bill are black. Forehead, eye-brow, spot at base of mandible light glossy blue. Wings and tail black, feathers edged blue. Female and immatures uniform dark red-brown. Bill of both sexes: thick and black. TL 15cm.

Habitat

Savanna forests and rainforests, forests on sand-ridges. Usually near creeks and other wet places, in undergrowth.

Remarks

*Scientific name has been changed various times. Stays well covered, easier to hear than to see.

Opisthocomidae

*Opisthocomus hoazin***HOATZIN**

Canje Pheasant (G)

Hoatzin, Zigeunerhoen (N)

**Identification**

Unique, rather pheasant-like bird. Head crowned with a long, ragged, upstanding crest, with orange-brown feathers with blackish tips. Bare sides of head blue. Upperparts mostly olive-brown, streaked brownish yellow on hind neck and upper back. Wing-coverts tipped pale yellow. Throat and breast brownish yellow, rest underparts red-brown. Long, rounded tail darker than upperparts, with cream-colored terminal band. Bill black. Sexes are alike. Juveniles have 2 pairs of claws at the bend of each wing. TL 60cm.

Habitat

Swampy, scrubby riverbanks. Among bushes and low trees.

Remarks

Juveniles are excellent swimmers. Lose ability to swim and lose claws on wings 2 to 3 weeks. Adults are weak flyers. Also have weak legs, clumsy in vegetation. Produce a strong musty smell. Occurs in groups.

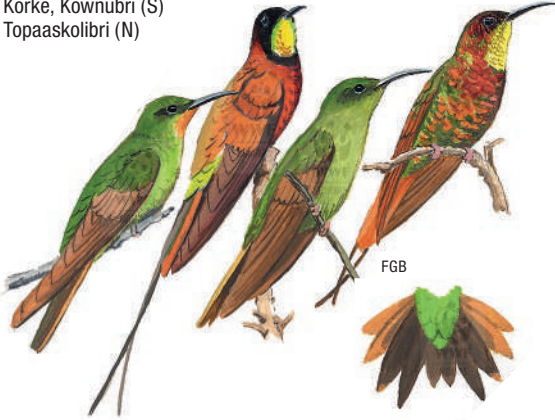
Trochilidae

Topaza pella

CRIMSON TOPAZ

Korke, Kownubri (S)

Topaaskolibri (N)



Identification

Topaza pella males have a length of 21cm to 23cm including bill (5cm) and tail (8.6cm to 12cm), weighing 11g to 18g. Females' length is 13cm to 14cm, weighing 9g to 12.5g, both with straight to slightly decurved bill. Male's head, face, and sides of neck are velvety black. Back iridescent crimson to gold uppertail. Central tail feathers are bronzy green, outer ones chestnut, with two elongated and crossed feathers. Throat golden green, surrounded by a black band, underparts bright red. Wings are brown colored. Female's head and back are dark green, underparts lighter green with golden green inclusions; throat is green with crimson inclusions. Central tail feathers are bronzy, middle pair violet, outer pair chestnut, none elongated like the male's.

Habitat

High dryland forests, often near creeks.

Threskiornithidae



Eudocimus ruber

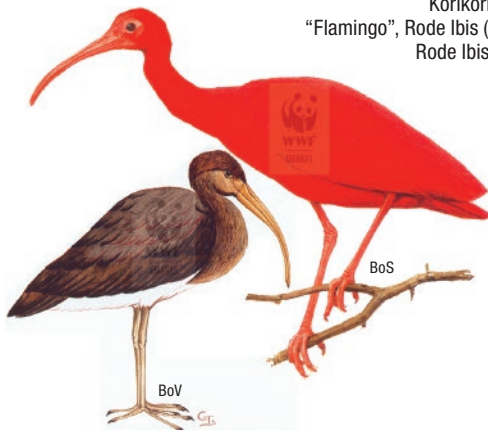
SCARLET IBIS

Korikori, Scarlet Ibis (G)

Korikori (S)

“Flamingo”, Rode Ibis (SN)

Rode Ibis (N)



Identification

Bright red (scarlet) shorebird. Wingtips black. Face, bill and legs pinkish red. Immatures greyish brown, except white rump and underparts, later becoming patched with pink. Legs grey. Bill pinkish. TL 58cm.

Habitat

Mudflats and lagoons in the outer mangroves along the coast.

Remarks

Usually in flocks up to 30, sometimes more. The name Flamingo is frequently used for this species, but in fact belongs to *Phoenicopterus ruber*, locally called Segansi (S).

Icteridae

Cacicus haemorrhous



RED-RUMPED CACIQUE

Redibaka Ponpon (S)

Roodrug Banabeki (N)



Identification

Adult males of the *Cacicus haemorrhous* have a length of 27cm to 29.5cm, weighing approximately 100g. Adult females are 23cm to 25cm long, weighing 60g to 80g. Sexually dimorphic. Females are less colorful. Adults are mostly black with a yellow spot on the wings and another bright yellow patch on the rump, eyes are pale blue and they have a yellow bill.

Habitat

Savannas with scattered trees, riparian forests, edges of savanna, swamp and high dryland forests.



Chrysomus icterocephalus

YELLOW-HOODED BLACKBIRD

Blackbird (G)

Geri Ede Karufowru (S)

Geelkop (SN)

Geelkaptroepiaal,

Geelkopmaskerspreeuw (N)

Identification

Male: head, neck and upperbreast bright yellow. Lores and region around base of bill black. Rest of plumage silky black.

Female and immatures: top and sides of the head dull brown-olive.

Eyebrow yellow.

Back dull brown-olive, streaked with black.

Wings and tail dark brown. Throat and

upperbreast bright yellow, lower breast olive-yellow, shading to grey on the belly. Undertail-coverts brown. Bill: black. TL 18cm in males, 16.5cm in females.



Habitat

Wet areas, such as rice fields, grass swamps and meadows.

Remarks

In groups.

Icteridae

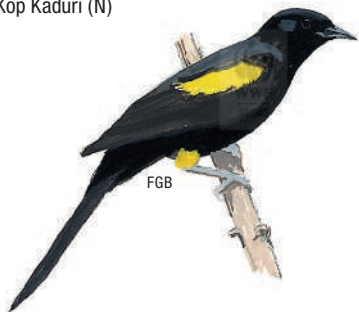
Icterus cayanensis



KADURI

Blaka Ede Kaduri (S)

Zwart Kop Kaduri (N)



Identification

Icterus cayanensis has a all black body with a dash of yellow or chestnut on the shoulders. Body shape is slender with a thin, lengthy, rounded tail and a thin bill. Slightly grey below the eye, wing linings are black. The back is also all black, lacking any indication of a pattern. Female closely resemble males.

Habitat

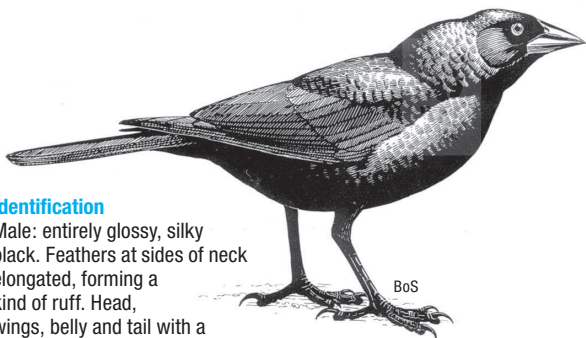
Scattered savanna scrubs, edges of savanna with *Mauritia flexuosa* palms and high dryland forests. Occasionally in urban gardens.



Molothrus oryzivorus

GIANT COWBIRD

Cowbird (G)
 Karufowru, Kawfowru (S)
 Grote Koevogel (N)



Identification

Male: entirely glossy, silky black. Feathers at sides of neck elongated, forming a kind of ruff. Head, wings, belly and tail with a purple blue sheen. Breast and back with a green sheen. Eyes bright red brown. Female: smaller, with the ruff less developed. Eyes yellow brown. Bill of both sexes black. TL 35cm in male, 28cm in female.

Habitat

Rainforests, particularly secondary forests, open areas.

Remarks

Alone, in small groups, or combined with other *Icteridae* species.

Icteridae

Psarocolius decumanus

CRESTED OROPENDOLA

Ponpon (S)



Identification

Adult males of the *Psarocolius decumanus* are mainly black with a chestnut rump and a bright yellow tail apart from two dark central feathers. Long narrow crest, often difficult to see. Bill is long, ivory to creamy white. Eyes with icy blue iris. Females are similar but smaller, duller, and crestless.

Habitat

Open areas in coastal region, savannas with scattered trees, riparian forests, edges of savanna, swamp and high dryland forests.



Psarocolius viridis

GREEN OROPENDOLA

Busi Ponpon (S)



Identification

Psarocolius viridis males' length is about 43cm and female's is about 37cm. Head, breast and back are pale olive green, wings are greyish-green, rump and underparts are chestnut colored. Central tail feathers are black and outer ones are yellow. Beak with orange tip, its base and adjoining areas of skin are yellowish. Irises are pale blue. Inconspicuous crest on back of the head.

Habitat

Savannas with scattered trees, edges of savanna and high dryland forests.

Jacanidae

Jacana jacana jacana

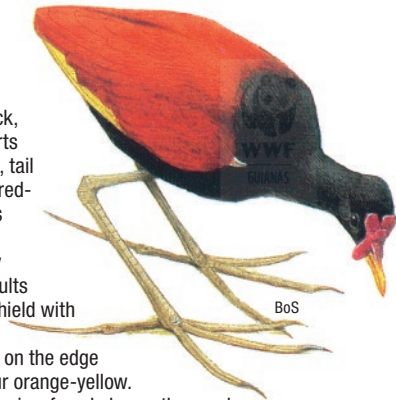


WATTLED JACANA

Spurwing (G)
Kepanki (S)
Kemphaantje (SN)
Leljacana (N)

Identification

Long-legged bird with very long toes. Head, neck, upper back and underparts black. Lower back, rump, tail and wing-coverts bright red-brown. Flanks and thighs dark brown. Primaries bright green-yellow (very pronounced in flight). Adults have a red-pink frontal shield with two lobes and rictal lappets and a sharp spur on the edge of the wings. Bill and spur orange-yellow. Sexes are alike, except in size, female larger than male. Immatures are bronze-brown above and brown-white below, with a black streak through the eyes. TL 23cm.



BoS

Habitat

Swamps, ricefields, creeks and trenches with floating vegetation.

Remarks

In pairs or in groups up to 50 specimens. Noisy.



Ceratopipra erythrocephala

GOLDEN-HEADED MANAKIN

Manakin (G)

Geelkopmanakin (SN)

Goudkopmanakin (N)



Identification

Male shiny blue-black.

Top and sides of the head golden yellow. Thighs red.

Bill yellow, usually with some brown along the ridge

of the culmen. Eyes white. Female

and immatures: upperparts, throat and breast olive-green. Belly pale yellow.

Bill: maxilla black-grey or brown-grey. Eyes dark

grey to brown-black

TL 9cm to 10cm.

Habitat

Savanna forests, primary rainforests and small clearings in forests. Forages in the undergrowth to medium heights, sometimes in tree tops.

Remarks

Alone or in small groups of males. Not timid.

Strigidae

Ciccaba huhula
Strix huhula



BLACK-BANDED OWL

Peni-Blaka Owrukuku (S)
Gestreepte Bosuil (N)


Identification

Strix huhula's body is 30cm to 36cm long, blackish all over and densely striated with horizontal, wavy white bars. Eyes encircled by a black face mask. Rounded head with no ear tufts. Yellow-orange bill and feet. Tail sooty-brown, with 4 to 5 narrow white bars and a white terminal band. Primary feathers are significantly darker than the rest of plumage. Black bristles and feathers around the bill and along the leg to the base of toes.



Habitat

Primary to secondary forests, usually below 500m.

A vibrant red macaw with blue and yellow wing feathers is perched on a tree branch. The bird is facing left, looking towards the camera. The background is a blurred green forest.

Guianas is home to several hundred species of birds. They represent a significant part of the forests' natural resources.

Biodiversity conservation and national development can together be achieved through careful management and use of these wild birds.

Psittacidae

Amazona amazonica

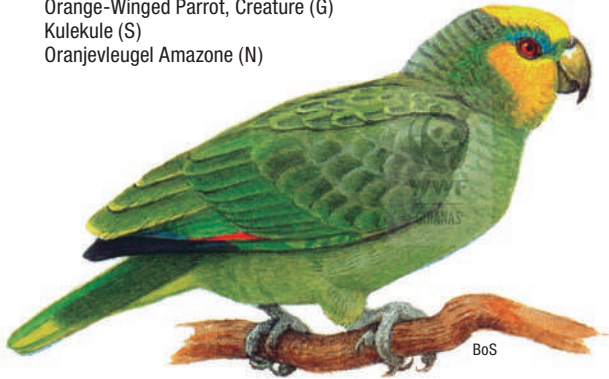


ORANGE-WINGED AMAZON / PARROT

Orange-Winged Parrot, Creature (G)

Kulekule (S)

Oranjevleugel Amazone (N)



Identification

Individual color differences but mainly green. Crown & cheeks yellow. Lores and superciliary band blue. Primaries basally green, becoming violet-blue and then black towards tips. Secondaries green, tipped violet-blue. A bright orange-red wing-speculum. Carpal edge yellowish green. Tail green, tipped yellowish green. Bill creamy, becoming grey black towards tip. Sexes are alike. TL 33cm.

Habitat

Primary and secondary forests including mangrove forests, and open terrain with scattered trees.

Remarks

Most numerous parrot in coastal mangroves, but already reduced in numbers. In pairs and noisy flocks of 50 to 200 or more.



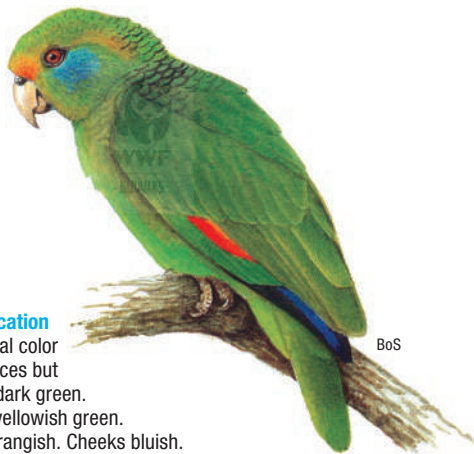
Amazona dufresniana

BLUE-CHEEKED AMAZON / PARROT

Blue-Cheeked Parrot (G)

Mason (S)

Blauwwangamazone (N)



Identification

Individual color differences but mainly dark green.

Crown yellowish green.

Lores orangish. Cheeks bluish.

Feathers of neck and back edged black.

Primaries black, tinged blue towards tips. An orange wing-speculum.

Tail green, tipped yellowish green. Bill grey with pinkish red on the base of upper mandible. Sexes are alike. TL 35cm.

Habitat

Forests of sand-ridges, savanna belt and interior.

Remarks

Small flocks in tree-tops.

Psittacidae

Amazona farinosa

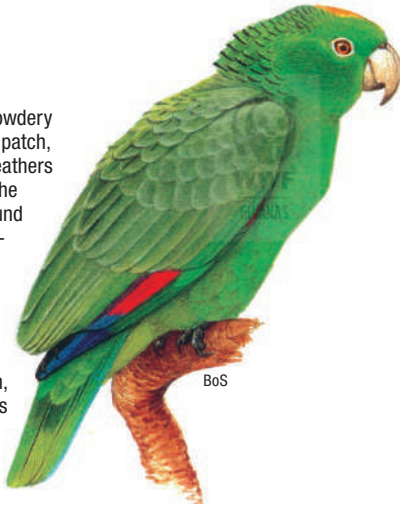


MEALY AMAZON / PARROT

Mealy Parrot, White Eye, Sarama (G)
 (Mealy) Mason (S)
 Grote Amazone (N)

Identification

Mainly green with a powdery (mealy) bloom. Yellow patch, usually with few red feathers in it, on the center of the crown. White ring around eyes. Feathers of hind-crown and nape with greyish blue edges. Bright red wing-speculum. Bend of wing red. Primaries and secondaries green, becoming blue towards tips. Basal half of tail dark green, distal half yellow-green. Bill creamy, tip grey. Sexes are alike. TL 41cm.



Habitat

Forested sand-ridges, savanna forests and forests along rivers.

Remarks

Largest *Amazona*. Very noisy flocks.



Amazona festiva

FESTIVE AMAZON / PARROT

Festive Parrot (G)

Blauwbaardamazone (N)



Identification

Mostly green. Lores and forehead red. Superciliary and cheeks light blue. Feathers of nape purplish, edged black. Lower back and rump reddish. No wing-speculum. Primaries and coverts blackish, tinged blue. Tail green, tipped yellowish green. Bill dark grey. Sexes are probably alike. TL 38cm.

Habitat

Rainforest, gallery forest, savannas with scattered trees near water.

Remarks

Small bands or large flocks. Does not occur in Suriname.

Psittacidae

Amazona ochrocephala

YELLOW-CROWNED AMAZON / PARROT

Yellow-Headed Parrot, Amazon (G)

Geelkop (SN)

Geelvoorhoofdamazon (N)



Identification

Mainly bright green. Crown yellow. Nape and hind-neck edged black. Bend of wing and wing-speculum red. Carpal bend yellowish green. Primaries and secondaries becoming violet towards tips. Tail broadly tipped with yellowish green. Bill dark grey with orange on sides of upper mandible. Sexes are alike. Immatures have a dark grey bill. TL 35cm.

Habitat

All kinds of forests, savannas, agricultural and suburban areas.

Remarks

In pairs and in noisy flocks.



BoS



Ara ararauna

BLUE-AND-YELLOW MACAW

Blue and Gold Macaw (G)

Tyambarafu (S)

Tjambaraaf (SN)

Blauwgele Ara (N)

Identification

Upperparts bright blue, underparts bright yellow. Forehead green. Bare white facial skin marked with lines of greenish black feathers on lores and cheeks. Throat black. Under tail-coverts blue. Under tail yellowish (olive-yellow). Bill black. Sexes are alike. TL 84cm.

Habitat

Undisturbed forests, swamps and savannas with scattered trees and palms, in coastal areas and the interior.

Remarks

Usually fly in pairs.
Have a communal roost.



BoS

Psittacidae

Ara chloropterus

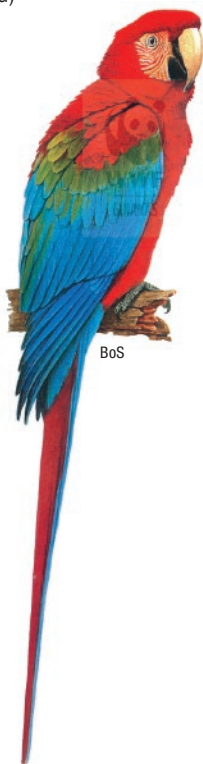


RED-AND-GREEN MACAW

Red and Green Macaw, Big Red (G)
 Warawrafru (S)
 Warrauraaf (SN)
 Roodgroene ara,
 Groenvleugelara (N)

Identification

Mainly dark red. Bare creamy white facial skin has lines of red feathers. Greater wing-coverts (primaries) and secondaries blue. Median wing-coverts (tertials) and scapulars green. Rump, upper and under tail-coverts light blue. Tail dark red, tipped blue. Underside of wings and tail red. Upper mandible creamy with a grey-black band along lower side of base. Lower mandible grey-black. Sexes are alike. TL 89cm.



Habitat

Primary forests, both in lowland and mountainous areas.

Remarks

Small flocks (smaller than 10). The only large macaw occurring in hill forests.

Psittacidae



Guyana



Suriname

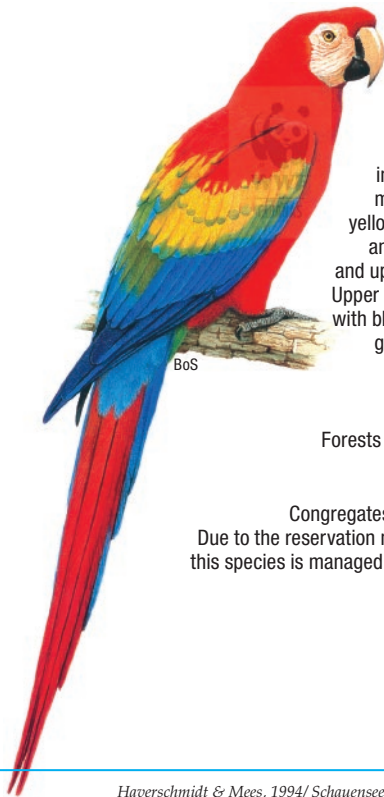
*Ara macao***SCARLET MACAW**

Scarlet Macaw (G)

Bokrafru (S)

Bokraaf (SN)

Roodgele Ara (N)

**Identification**

Mainly bright red. Bare facial skin white with indistinct lines. Greater and median wing-coverts bright yellow, tipped green. Primaries and secondaries blue. Rump and upper tail-coverts light blue. Upper mandible (maxilla) creamy with black base. Lower mandible grey-black. Sexes are alike.

TL 84cm.

Habitat

Forests along rivers in the interior.

Remarks

Congregates in a few pairs to a dozen. Due to the reservation made by Suriname in 1985 this species is managed as an Appendix II species.

Psittacidae

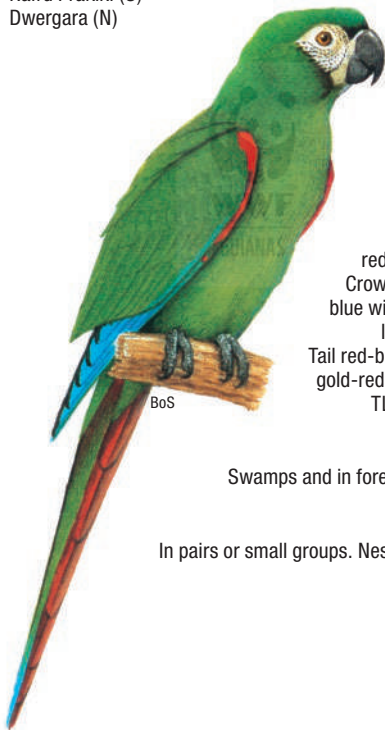
Ara severus

CHESTNUT-FRONTED MACAW

Chestnut-Fronted Macaw (G)

Rafu Prakiki (S)

Dwergara (N)



Identification

Mainly green, forehead red-brown. Bill grey-black. Crown blue-green. Primaries blue with the bend of wing and lesser wing-coverts red. Tail red-brown with undersurface gold-red. Tips of tail blue-green. TL 51cm. Sexes are alike.

Habitat

Swamps and in forested areas along rivers.

Remarks

In pairs or small groups. Nests mainly in palm trees.



Brotogeris chrysoptera

GOLDEN-WINGED PARAKEET

Golden-Winged Parakeet (G)

Kankantriprakiki (S)

Oranjevleugelparkiet (N)

Identification

Mainly green. Forehead with inconspicuous blackish brown spot. Chin with orange-brown spot. Crown tinged blue. Naked skin around eyes bluish white. Wing-speculum bright orange. Primaries bluish. Under wing-coverts bluish green. Tail pointed, with yellowish inner margins.

Bill creamy. Sexes are alike. Immatures have a dark green wing-speculum. TL 19cm.

Habitat

Forests on sand-ridges in savanna belt and interior.

Remarks

Noisy flocks, prefers flowering trees, where it feeds on nectar from the flowers.



Psittacidae

Deroptyus accipitrinus



RED-FAN PARROT

Hawk-Headed Parrot (G)
Fransmadam (S)
Kraagpapegaai (N)

Identification

Head (chocolate) brown, whitish on forehead and crown. Feathers of occiput and sides of head with white shafts. Lores dark brown. Feathers of nape and hind-neck are dark red and broadly edged with blue, are long and can be raised to form a ruff, but usually lie flat. Feathers of breast and belly have same color as ruff. Back, upper wings, tail and under tail-coverts green. Primaries brownish black. Tail long, broad and rounded, tinged blue towards tip. Underside of wings and tail grey-black. Bill dark, brownish. Male, female and immatures are similar. TL 35cm.



Habitat

Forests on sand-ridges in savanna belt and interior. Prefers forest edges.

Remarks

In pairs or small flocks of up to a dozen. Roosts singly in large woodpecker-holes. Flight distinctive, wing beats alternating with short sails.



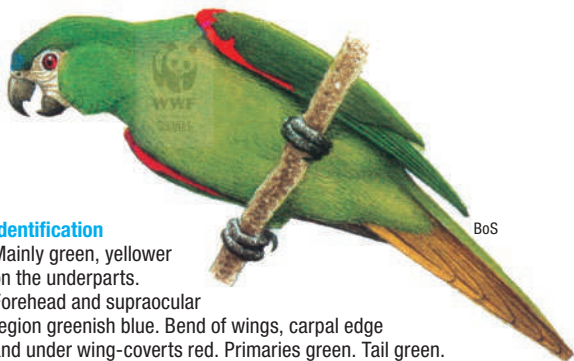
Diopsittaca nobilis

RED-SHOULDERED MACAW

Red-Shouldered Macaw (G)

Stonrafru Prakiki (S)

Roodschouderara (N)



Identification

Mainly green, yellow on the underparts.

Forehead and supraocular region greenish blue. Bend of wings, carpal edge and under wing-coverts red. Primaries green. Tail green. Underside of tail and wings yellowish green. Bill grey. Sexes are alike. Immatures lack the blue on the forehead and have no red on bend of wings but on the under wing-coverts. TL 35cm.

Habitat

Savannas with scattered trees and moriche palms and forest edges on sandy ground.

Remarks

Smallest macaw, and only one with green primaries. Lives in fairly large and noisy flocks. Possibly some wandering or migration.

Psittacidae

Eupsittula aurea

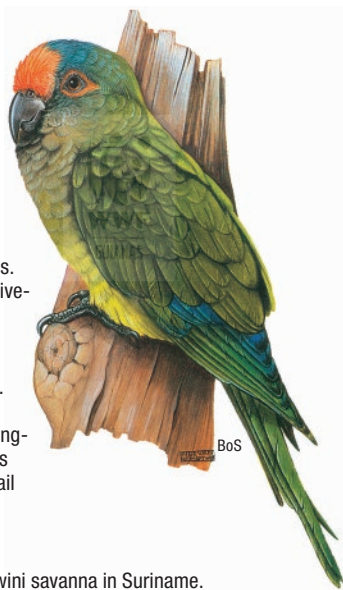
PEACH-FRONTED PARAKEET

Goudvoorhoofdparakiet (N)



Identification

Mainly green. Forehead and front part of crown yellow-orange. Rest of the crown and around the eyes blue. Eye-ring with orange feathers. Throat, breast and cheeks olive-green. Primaries green, blue towards the tips. Underside of primaries olive-yellow. Secondaries green, tips blue. Upper surface of tail green, tips blue. Abdomen, underwing-coverts and undertail-coverts green-yellow. Underside of tail olive-yellow. Sexes are alike.



Habitat

Scattered trees in the Sipaliwini savanna in Suriname.

Remarks

Limited distribution: in Suriname restricted to the Sipaliwini savanna in Suriname.



Eupsittula pertinax

BROWN-THROATED PARAKEET

Brown-Throated Parakeet (G)

Karuprakiki, Krerekrere (S)

Maisparkiet (N)



Identification

Mainly green.

Crown blue-green.

Forehead yellowish.

Lores and feathers around eyes orange.

Narrow bare yellowish eyering. Sides of head, throat and upper breast orange yellow to olive-brown.

Lower breast and belly yellowish green. Centre of abdomen marked with orange-yellow. Wing-coverts green, primaries becoming blue towards tips.

Tail green, bluish near tip. Underside of tail olive-yellow. Bill brown-grey.

Sexes are alike. TL 25cm.

Habitat

Mangroves, savannas and cultivated areas with scattered trees and bushes.

Remarks

Most common parakeet in lowlands. In flocks of 4 to 20 or more.

Psittacidae

Forpus passerinus



GREEN-RUMPED PARROTLET

Green-Rumped Parrotlet (G)
Okroprakiki (S)
Groene muspapegaai (N)

Identification

Smallest parakeet. Male bright green, underparts paler. Rump and lower back varying from emerald green to bluish in different individuals. Greater upper and under wing-coverts sky-blue. Bill whitish. Female, like male but forehead yellowish, and blue colorings are replaced by green. TL 13cm.



Habitat

All kinds of habitats except rain and thick forests. Common in open country with scattered bushes and low trees and along forest edges. Even in suburban areas.

Remarks

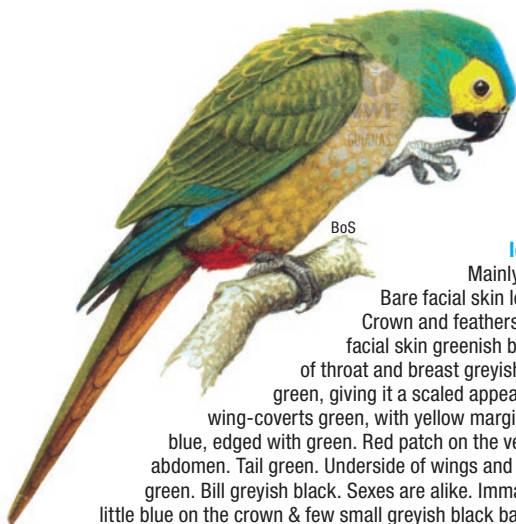
Flocks of up to 30. Nests in tree-holes and arboreal termite nests.



Orthopsittaca manilata
Orthopsittaca manilatus

RED-BELLIED MACAW

Red-Bellied Macaw, Ite Macaw (G)
 Morisirafu Prakiki, Morisiprakiki (S)
 Roodbuikara (N)



Identification

Mainly olive-green.
 Bare facial skin lemon-yellow.
 Crown and feathers around bare facial skin greenish blue. Feathers of throat and breast greyish, edged with green, giving it a scaled appearance. Upper wing-coverts green, with yellow margins. Primaries blue, edged with green. Red patch on the vent and lower abdomen. Tail green. Underside of wings and tail yellowish green. Bill greyish black. Sexes are alike. Immatures have a little blue on the crown & few small greyish black bars on greater wing-coverts. TL 46cm.

Habitat

Savannas and swamps with moriche palms, forested rivers.

Remarks

Sometimes flocks of over 100.

Psittacidae

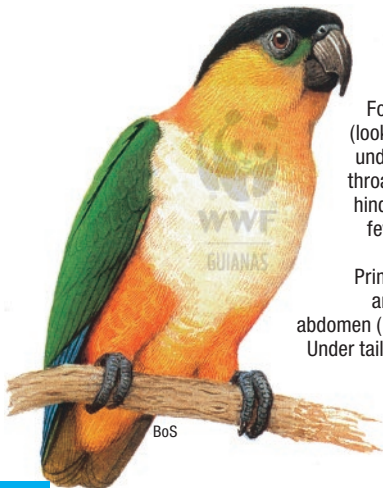
Pionites melanocephalus

BLACK-HEADED PARROT

Black-Headed Parrot, Seven Color (G)

Wetibereprakiki (S)

Zwartkopcaique (N)



BoS

Identification

Forehead, crown and nape black (looks like a cap). Lores & a streak under the eyes green. Cheeks and throat orange-yellow. Collar across hind-neck yellowish orange with a few bluish feathers. Back, wings and upper tail-coverts green. Primaries black and bluish. Breast and belly creamy-white. Thighs, abdomen (lower belly) and flanks orange. Under tail-coverts yellowish orange. Tail square, green above, narrowly edged with yellow. Bill greyish black. Sexes are alike. TL 25cm.

Habitat

Forests of coastal area, savanna belt and interior.

Remarks

Noisy flocks.



Pionus fuscus

DUSKY PARROT

Dusky Parrot (G)
 Basrafransmadam (S)
 Bruin Margrietje (N)

Identification

Mainly bluish brown. Head and throat dark purplish blue, with a pinkish red spot near each nostril. Feathers of throat and sides of neck streaked with some white, forming an irregular pattern. Back dark brown, with lighter edges to the feathers. Breast brownish, becoming redder and more purplish on belly. Wings and tail dark blue. Underside of wings violet-blue. Under tail-coverts red. Bill dark grey with a yellow spot at base of upper mandible. Sexes are alike. TL 25cm.



Habitat

Forests on sand-ridges, in savanna belt and interior.

Remarks

Occurs in small parties.

Psittacidae

Pionus menstruus



BLUE-HEADED PARROT

Blue-Headed Parrot (G)
Maragriki, Margrietje (S)
Blauwkop (SN)
Zwartoormargrietje (N)



Identification

Mainly green. Head, neck and throat of adults bright blue (varying in intensity). Feathers of the throat with pink-red bases. Ear-coverts blackish. Upperbreast blue-green. Back, lower breast, and belly green. Wings green, the lesser wing-coverts yellowish green. Under tail-coverts orange-red. Tail green, basal part orange-red, distal part blue-green. Bill dark grey with a pink-red spot at base. Juveniles have a rosy red forehead, sometimes combined with a little blue on throat and breast. Sexes are alike. TL 28cm.

Habitat

Forests of coastal zone and interior.

Remarks

In pairs and small noisy flocks.

Haverschmidt & Mees, 1994/ Schauensee & Phelps, 1978/ Grzimek, 1968/ Linaard, pers. comm/ Perrnis, 1990



Psittacara leucophthalmus

WHITE-EYED PARAKEET

White-Eyed Parakeet (G)

Kofimamaparakiki (S)

Witoogaratinga (N)

Identification

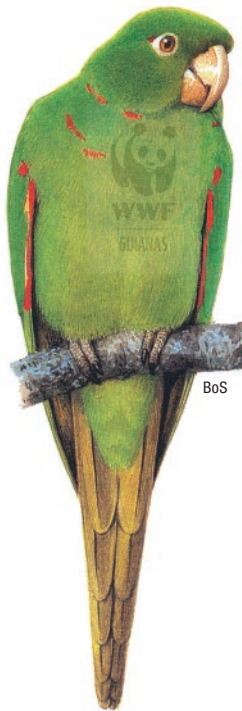
Mainly green. A naked white ring around eyes. A variable number of red spots scattered around head and neck. Carpal edge red and yellow. Edge of the bend of wings red. Lesser under wing-coverts red. Greater under wing-coverts yellow. Underside of tail and wings greenish yellow. Bill cream colored. Juveniles are totally green. Immatures have yellowish carpal edges. TL 35cm.

Habitat

Mangroves, swamps with moriche palms, savannas and rainforest.

Remarks

Flocks of 10 to 20.



BoS

Psittacidae

Pyrrhura egregia



FIERY-SHOULDERED PARAKEET

Fiery-Shouldered Parakeet (G)
Roodschouder parkiet (N)

Identification

Mainly dark green. Narrow base of the forehead maroon. Crown mixed brown and green. Ear-coverts green. Light yellow eye-ring. Back and wings mostly green. Bend of wings orange-yellow. Under wing-coverts yellow with red and green. Primaries bright blue. Breast feathers green, narrowly edged with pinkish yellow. Center of abdomen with a red-brown patch. Tail maroon. Bill greyish white. Sexes are alike. TL 25cm.



Habitat

Forests on slopes of tepuis, 700m to 1800m.

Remarks

Usually in pairs or small groups.



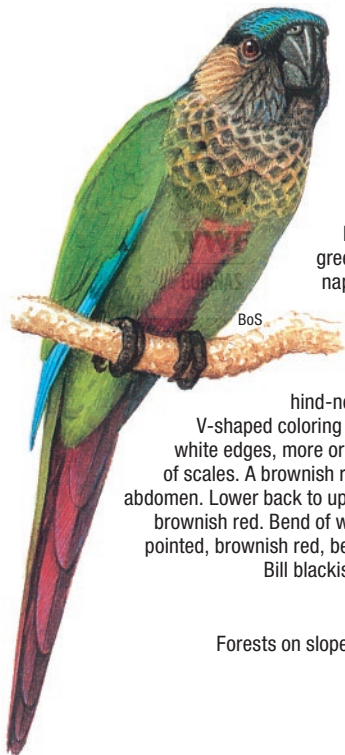
Pyrrhura picta

PAINTED PARAKEET

Painted Parakeet (G)

Kapuweriprakiki (S)

Blauwvleugelparkiet (N)



Identification

Multi colored but mainly dark green. Head ornated: Crown and nape dark brown, suffused with blue on the forehead. Lores and cheeks reddish brown.

Ear-coverts creamy-white.

Feathers of the sides of the

hind-neck, throat and breast have a

V-shaped coloring of dark brown with yellowish

white edges, more or less appearing like a pattern

of scales. A brownish red patch on the center of the

abdomen. Lower back to upper tail-coverts also patched

brownish red. Bend of wings red. Primaries blue. Tail

pointed, brownish red, becoming green towards base.

Bill blackish. Sexes are alike. TL 23cm.

Habitat

Forests on slopes of tepuis, 700m to 1800m.

Remarks

In flocks.

Odontophoridae

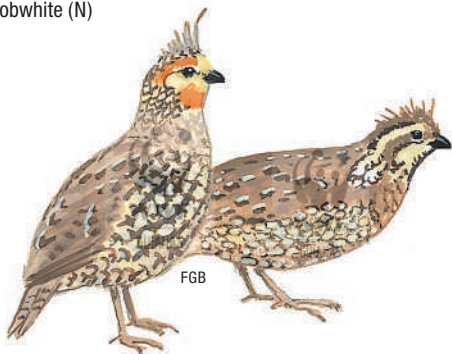
Colinus cristatus



CRESTED BOBWHITE

Sabana Anamu (S)

Kuif Bobwhite (N)



Identification

Colinus cristatus' adults are 17.8cm to 21.6cm long. Long feathers on fore-head and crown is pale beige or white, crest feathers are dark. Back and sides of neck marbled in black and white and throat is white or beige, sometimes spotted with black. Upper parts are mottled black, brown and grey. Underparts are pale, with beige, cinnamon and black markings. Eyes are brown, beak is black and legs are bluish-grey. Females are slightly browner than male.

Habitat

Open sandy savannas with rather tall grass and scattered bushes.

Odontophoridae

*Odontophorus gujanensis***MARbled WOOD-QUAIL**

Tokoro (S)

Gemarmerde

Tandkwartel (N)

**Identification**

Odontophorus gujanensis' length is between 23cm to 29cm. Bill stout is dark-colored, legs and feet are bluish-grey. The iris is brown. Orange or red bare skin around the eyes. Front of crown and cheeks are reddish-brown. Dark brown, vermiculated feathers on crown ruffled, forming a short, loose crest. Mantle and neck are greyish-brown, back and wings brown with black vermiculation. Rump and upper-tail coverts indistinctly spotted with paler color. Underparts drab brown with some indistinct barring in buff and darker brown. Juvenile birds have reddish-orange bills and non-vermiculated, reddish-brown crests.

Habitat

High dryland forests.

Rallidae

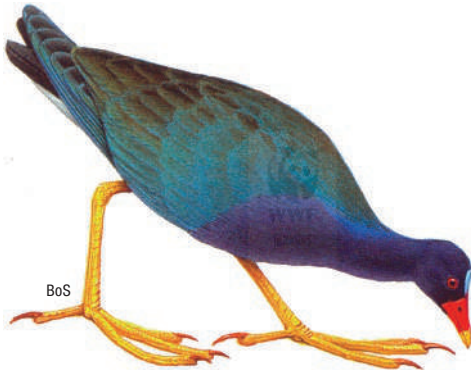
Porphyrio martinica



PURPLE GALLINULE

Blawkepanki (S)

Amerikaanse Purperhoen (N)



Identification

Head, throat, front of neck, breast and upperflanks violet-blue to purple-blue, shading to black on the abdomen. Back bronze-green, wings brilliant blue-green. Rump, uppertail-coverts and tail dark olive. Undertail-coverts white. Frontal shield light blue. Bill red, largely tipped yellow. Legs green-yellow. Eyes orange to red. Sexes are alike. Immatures: head, neck, breast, flanks and thighs brown. Back and wings olive-toned. Throat, abdomen and under tail-coverts white. TL 30cm.

Habitat

Freshwater swamps and rice fields.

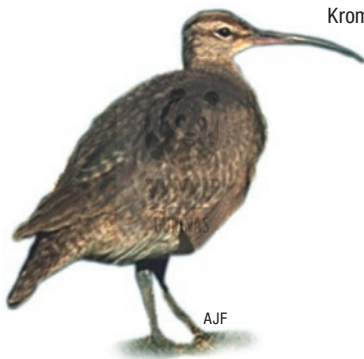
Remarks

Usually in pairs, sometimes in larger groups.

Haverschmidt & Mees, 1994/ Schauensee & Phelps, 1978/ Grzimek, 1968/ Perris, 1990


Numenius phaeopus
WHIMBREL

Whimbrel (G)
Krombek, Snip (SN)
Regenwulp (N)

**Identification**

Rather large long-legged shore bird with a long down-curved bill. Head striped blackish and whitish: blackish stripe on each side of the crown and through the eyes. Whitish stripe on center of crown and on eyebrows. Upperparts blackish brown variegated with brown-yellow. Rump and upper tail-coverts brownish. Underparts creamy white, throat, neck and breast streaked with brown. Tail barred brown and blackish. Sexes are alike, except that female is usually a little larger. Bill black, 8.5cm. TL 43cm.

Habitat

Mudflats and sandbanks along the coast, pasture land and estuaries of rivers.

Remarks

Migrant from the North. Some specimens stay all year.

Ciconiidae

Jabiru mycteria

JABIRU

Jabiru Stork (G)

Blasman (S)

Jabiroe (N)



Identification

Very large stork with white plumage (incl. wings and tail) and bare, black head and neck. At base of neck bare patch of rose-red. Head often with a tuft of feathers. Bill large, black, slightly turned upwards. Legs long, black. Immatures dark grey to brown. TL 130cm.

Habitat

Open swamps and swampy savannas.

Remarks

One of the largest storks in the world. Usually alone.



Chlorophanes spiza

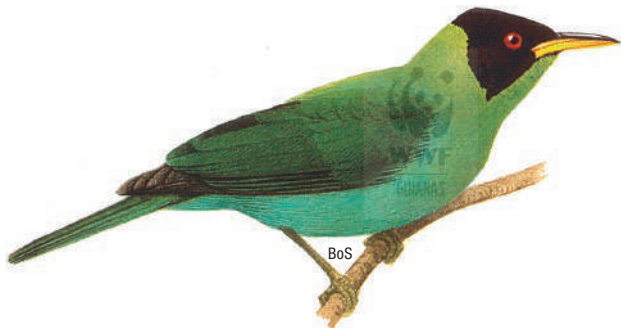
GREEN HONEYCREEPER

Green Honeycreeper (G)

Blaka-Ede Pètpèt (S)

Zwartkoppitpit (SN)

Groene Suikervogel (N)



Identification

Male: mainly glistening blue-green, central underparts are bluer. Top and sides of the head black. Remiges and outer tail feathers black, edged blue-green. Female: green above and yellow-green below. No black on the head. Bill: comparatively long, slightly curved, maxilla black, mandible bright yellow. TL 14cm.

Habitat

Savanna forests and rainforests. Not in coastal region. Forages from lower levels to the tree tops.

Remarks

Alone or in groups. Often in company with other honeycreepers.

Thraupidae

Cyanerpes caeruleus



PURPLE HONEYCREEPER

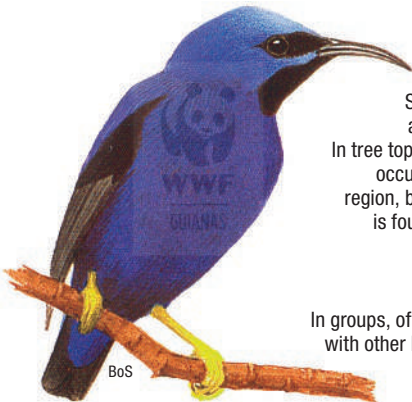
Purple Honeycreeper (G)

Geelpoot (Honingzuiger) (SN)

Purperen Suikervogel (N)

Identification

Male: mainly light blue-purple. Underparts somewhat darker than upperparts. Loes, chin, throat, wings, center of the belly and the tail are black. Tail short. Legs bright lemon-yellow. Female and immatures: upperparts, including wings and tail mainly green. Fore-crown green, narrowly streaked with brown. Forehead, loes and ocular region streaked brown-yellow. A blue patch at base of mandible. Throat brown yellow. Underparts light yellow, heavily streaked with green and blue on breast and flanks. Tail short. Legs green-yellow. Bill of both sexes long, curved and black. TL 10.6cm.



Habitat

Savanna forests and rainforests.

In tree tops. Normally not occurring in coastal region, but occasionally is found in the north of Suriname.

Remarks

In groups, often in company with other honeycreepers.



Cyanerpes cyaneus

RED-LEGGED HONEYCREEPER

Red-Legged Honeycreeper (G)

Roodpoot (Honingzuiger) (SN)

Blauwe Suikervogel (N)

Identification

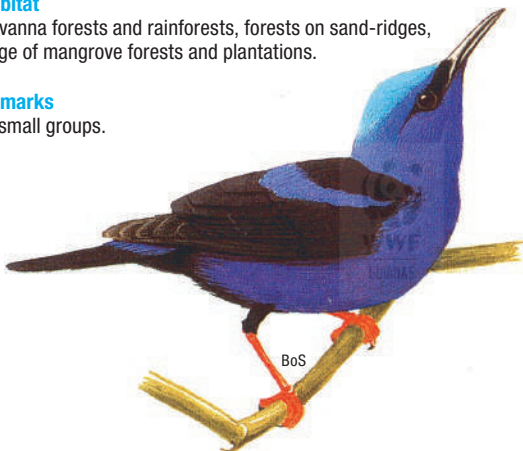
Male in breeding plumage mainly purple-blue. Crown brilliant green blue. Lores, ocular region, mantle, wings, tail and under tail-coverts black. Inner webs of remiges yellow. Female, immatures and male in non-breeding plumage: upperparts, wings and tail green. Inner margins of remiges partly yellow. A green-white eyebrow. Chin and throat pale yellow. Breast streaked with pale yellow. Abdomen pale green to pale yellow. Bill of both sexes curved and black. Legs of both sexes bright red. TL 13cm.

Habitat

Savanna forests and rainforests, forests on sand-ridges, edge of mangrove forests and plantations.

Remarks

In small groups.



BoS

Thraupidae

Dacnis cayana cayana



BLUE DACNIS

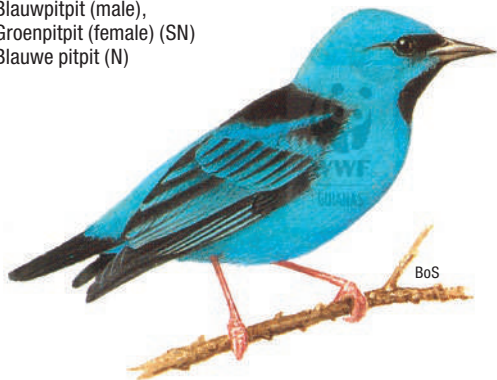
Blue Dacnis (G)

Blawpètpèt (S)

Blauwpitpit (male),

Groenpitpit (female) (SN)

Blauwe pitpit (N)



Identification

Male: mainly bright green blue. Chin, throat, interscapular region, back and tail black. Wings black, wing-coverts and remiges edged bright blue. Bill: black. Female and immatures: mainly bright green. Top and sides of the head blue. Throat blue-grey. Legs of both sexes: light-brown or cream. Bill: maxilla black, mandible brown-grey. TL 11.5cm.

Habitat

Savanna forests and rainforests. In tree tops.

Remarks

In small groups, with other honeycreepers.

Thraupidae



Dacnis lineata lineata

BLACK-FACED DACNIS

Black-Faced Dacnis (G)

Wetiberepètpèt (S)

Kraaloog, Witbuikpitpit (SN)

Zwartmaskerpitpit (N)



Identification

Male: forehead, sides of head, neck, nape, mantle, wings and tail black. Crown, rump, upper tail-coverts, throat, breast and sides of body bright light blue. Center of abdomen, thighs and under tail-coverts white. Eyes of male:

iris yellow. Female and immatures: upperparts brown-olive. Throat, breast and flanks are like the back, but much paler. Center of abdomen, axillaries, under wing-coverts and under tail-coverts are creamy white. Legs of both sexes: dark grey or black. Bill: black. TL 12cm.

Habitat

Savanna forests and rainforests. Not in coastal area. Usually in tree tops.

Remarks

In groups, often with other honeycreepers.

Thraupidae

Hemithraupis flavicollis



YELLOW-BACKED TANAGER

Yellow-Backed Tanager (G)

Geelstuit (SN)

Geelstuittangare (N)



Identification

Male: top and sides of the head, hind-neck, mantle, wings and tail black. Throat, lower back, rump, upper- and under tail-coverts bright yellow. The rest of the underparts are white. Wing-speculum white. Female: upperpart and sides of body olivetoned. Wing-coverts and remiges edged yellow-olive. Bill: maxilla black, mandible yellow at the base, light pink at the distal end. TL 13cm.

Habitat

Open rainforest, forest edges and clearings, secondary forest and scrub. Mainly in tree tops.

Remarks

In mixed flocks.

Haverschmidt & Mees, 1994/ Schauensee & Phelps, 1978/ Grzimek, 1968/ Lingaard, 2001/ Perrnis, 1990

*Hemithraupis guira***GUIRA TANAGER**

Guira Tanager (G)

Mangrokanari (S)

Zwartkeel (SN)

Guiratangare (N)

**Identification**

Male: lores, sides of the head and throat brown-black outlined with bright yellow. Crown, nape, upper back, wings and tail olive-yellow. Lower back orange-brown, becoming yellow on the rump. Breast orange brown, center of abdomen and under tail-coverts yellow. Flanks light grey. Female and immatures: olive yellow above, brighter and yellower on upper tail-coverts. Throat, breast, and center of abdomen yellow. Flanks light grey. Bill: yellow, ridge on maxilla black. TL 13cm.

Habitat

In open rainforest, secondary forest, suburban areas (cultivated areas and gardens). From low bushes to tree tops.

Remarks

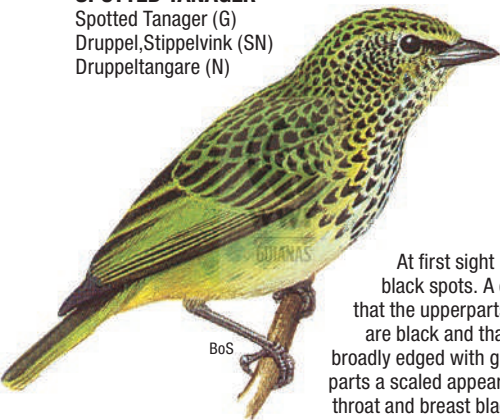
In pairs, sometimes in groups of several pairs up to 25. Joins mixed flocks of other birds.

Thraupidae

Ixothraupis punctata

SPOTTED Tanager

Spotted Tanager (G)
Druppel, Stippelvink (SN)
Druppeltangare (N)



Identification

At first sight mainly green with black spots. A closer look shows that the upperparts (head and back) are black and that the feathers are broadly edged with green, giving these parts a scaled appearance. Feathers of throat and breast black, broadly edged green-white. Those at sides of breast are

black, broadly edged green-yellow. Flanks green, center of abdomen white. Wings dusky, feathers edged green. Central tail-feathers green, outer ones dusky, edged green. Bill: maxilla black, mandible light grey. Sexes are alike. TL 12cm.

Habitat

Rainforests, savanna forests. In trees from middle heights to canopy.

Remarks

In pairs or together with small groups of other birds.



Loriotus cristatus

FLAME-CRESTED TANAGER

Flame-Crested Tanager (G)

Oranjekuif (SN)

Vuurkuiftangare (N)

Identification

Male: mainly black. Forehead and lateral margins of crest, brown-yellow. Crest broad and flat. Narrow throatpatch on rump, orange-yellow.

Lesser upper wing-coverts and underwing-coverts white. Female and immatures:

upperparts, wings and tail olive-brown. No crest.

Throat brown-yellow.

Rests of underparts dull green-brown becoming brown on under tail-coverts. Bill: black.

TL 16.5cm.

Habitat

Rain- and savanna forests. Forests on sand-ridges, secondary forest, scrub. Mainly in tree tops.

Remarks

Alone or in pairs. Joins other birds in mixed flocks.



BoS

Thraupidae

Oryzoborus crassirostris



LARGE-BILLED SEED-FINCH

Singing Bird (G)

Twatwa (S)

Dikbekzaadkraker (N)

Identification

Male black with white wing-speculum and white under wing-coverts. Bill very thick, shiny light bluish grey to bluish white. Female and immatures: upperparts brown, underparts brown-yellow. Under wing-coverts white. No wing-speculum. Bill thick, brownish. TL 14cm.

Habitat

Open swamps.

Remarks

Solitary or in pairs.



Thraupidae



Ramphocelus carbo

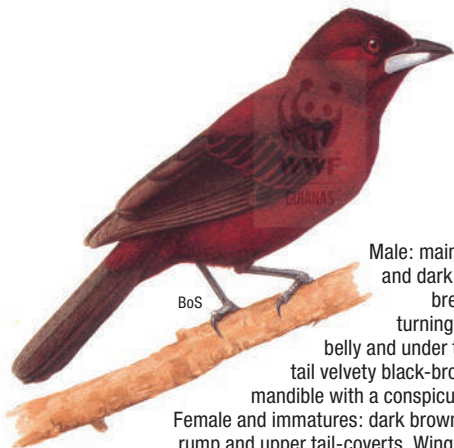
SILVER-BEAKED TANAGER

Silver-Beaked Tanager (G)

Redikin (S)

Rode Ki(e)ng (SN)

Fluweeltangare (N)



Identification

Male: mainly velvety black-brown and dark red. Crown, throat and breast dark red, gradually turning to velvety black on the belly and under tail-coverts. Wings and tail velvety black-brown. Bill: maxilla black, mandible with a conspicuous silvery white base.

Female and immatures: dark brown above, brightening on rump and upper tail-coverts. Wings and tail brown-black. Underparts brown-red. Bill: black. TL 18cm.

Habitat

Open forest, along forest edges, cultivated areas incl. gardens. Near the ground to medium heights.

Remarks

Alone or in small groups. Not shy. Local name indicates this species most characteristic note, a sharp “ching”.

Thraupidae

Saltator grossus



SLATE-COLORED GROSBEAK

Slate-Colored Grosbeak (G)

Redimofo (S)

Roodsnavel (SN)

Witkeelkardinaal (N)



Identification

Male: mainly dark grey. Forehead, upperbreast and sides of throat black. Throat white. Female: like male, but without black. White throatpatch usually less extensive. Bill of both sexes: red. TL 20cm.

Habitat

Savanna forests and rainforests. Usually in the undergrowth.

Remarks

Alone, in pairs or small groups.



Schistoclamys melanopis

BLACK-FACED TANAGER

Black-Faced Tanager (G)

Grijze Savannevink, Zwartkop, Zwartmasker (SN)

Sluiertangare (N)



Identification

Forehead, fore-crown, lores, sides of the head, chin, throat and upperbreast black. Rest of upperparts (from hindcrown) dark grey. Underparts, from lower breast light grey, brightening to almost white on the belly. Wings grey and black, under wing-coverts white. Tail brown-grey, edged olive. Bill: grey-blue with a black tip. Sexes are alike. Immature plumage is strikingly different: upperparts light olive-yellow, underparts light yellow, without mask. TL 16.5cm.

Habitat

Open, sandy grass savannas with scattered shrubs.

Remarks

Alone or in pairs.

Thraupidae

Sporophila americana



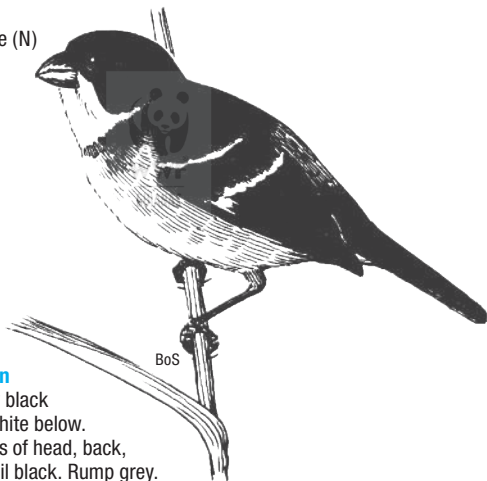
WING-BARRED SEEDEATER

Seed eater (G)

Dyak (S)

Jack (SE)

Bont dikbekje (N)



Identification

Male: mainly black above and white below.

Top and sides of head, back, wings and tail black. Rump grey.

White double wing bar and a white wing-speculum. Also white are the throat, a line to behind the ear-coverts and the center of breast and belly. Flanks light grey. Bill: black. Female and immatures: upperparts, wings and tail olive-brown, underparts yellow-brown. Bill: brown. TL 11cm.

Habitat

Open spaces near forest edges. Also in cultivated areas.

Remarks

In pairs.

Haverschmidt & Mees, 1994/ Schauensee & Phelps, 1978/ Grzimek, 1968/ Linggaard, 2001/ Perrnis, 1990



Sporophila angolensis

CHESTNUT-BELLIED SEED-FINCH

Singing bird (G)

Pikolèt (S)

Zwartkopzaadkraker (N)



Identification

Male: head, upper-parts, wings, throat, breast and tail black. Small white wing speculum. Under wing-coverts white. Belly reddish brown.

Female: upperparts, wings and tail dark brown. Throat, breast and flanks yellow-brown, becoming orange-brown on belly. Under wing-coverts white.

Bill of both sexes thick, black.

TL 13cm.

Habitat

Savannas, especially at the forest edge.

Remarks

Solitary or in pairs.

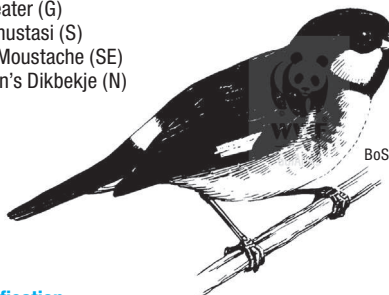
Thraupidae

Sporophila bouvronides



LESSON'S SEEDEATER

Seedeater (G)
 Pleinmustasi (S)
 Plain Moustache (SE)
 Lesson's Dikbekje (N)



Identification

Male: mainly black above and white below. A broad white band across the rump. A conspicuous white wing-speculum. Throat and sides of the neck black; throat on both sides bordered by white streaks, looking like cheeks or a moustache. Rest of underparts white, usually with black mottlings on breast and flanks. Bill: black. Female and immatures: upperparts olive-brown. Throat and breast yellow-brown, sharply demarcated from white to light yellow belly. Bill: yellow. TL 10.5cm.

Habitat

Open grass land, mangrove and especially cultivated areas. Also in the Sipaliwini savanna in Suriname.

Remarks

In pairs or in groups, sometimes mixed with *Sporophila lineola*.

Similar looking species

Strongly resembles *Sporophila lineola*. Females and immatures of *S. bouvronides* are indistinguishable from female and immatures of *S. lineola*. Males of *S. bouvronides* only differ from males of *S. lineola* by lacking a broad longitudinal white crown stripe.



Sporophila castaneiventris

CHESTNUT-BELLIED SEEDEATER

Seedeater (G)

Blawbakarowti (S)

Roodbuikdikbekje (N)



Identification

Male: above and sides blue-grey. Underparts from chin to under tail-coverts red-brown. Wings and tail black with grey-edged feathers. Female: olive-brown above, yellow-brown below. Bill of both sexes: black. TL 10cm.

Habitat

Cultivated areas with grass, shrubs or trees.

Remarks

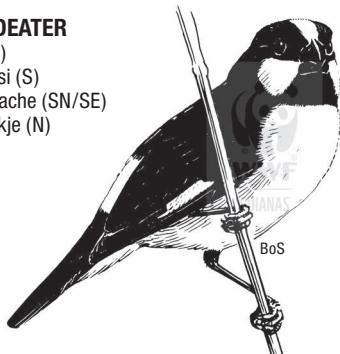
In pairs.

Thraupidae

Sporophila lineola

LINED SEEDEATER

Seedeater (G)
Krownmustasi (S)
Kroon Moustache (SN/SE)
Witsterdikbekje (N)



Identification

Male: broad longitudinal white crown stripe, which varies in size in different specimens. Underparts more clearly white with little or no black mottling. Bill: black. Female and immatures: upperparts olive-brown. Throat and breast yellow-brown, sharply demarcated from the white to light yellow underparts. TL 10.7cm.

Habitat

Savannas, open and secondary forests. Migrant: in the north of the country between June and November, southwards (e.g. Sipaliwini savanna) during the rest of the year. Breeds in the south of Suriname.

Remarks

In pairs or in groups, sometimes mixed with *Sporophila bouvronides*.

Similar looking species

Strongly resembles *S. bouvronides*. Males of *S. lineola* only differ from males of *S. bouvronides* by having a broad longitudinal white crown stripe. Female and immatures of *S. lineola* are indistinguishable from female and young of *S. bouvronides*.



Sporophila minuta

RUDDY-BREASTED SEEDEATER

Seedeater (G)

Rowti (S)

Dwergdikbekje (N)



Identification

Male: upperparts brown-grey. Wings and tail dark brown, wing-coverts and inner remiges edged brown. A white wing-speculum. Underparts and rump entirely red-brown. Bill: black. Female and immatures yellow-brown to red-brown above. Throat and middle of belly light-brown. Wings and tail brown, wing-coverts and inner remiges with broad pale margins. Bill: dark brown-grey. TL 10cm.

Habitat

Open grassland, incl. swamps and cultivated areas.

Remarks

In pairs or groups of up to 30 specimens.

Thraupidae

Sporophila plumbea



PLUMBEOUS SEEDEATER

Seedeater (G)

Sabanamustasi (S)

Sabana Moustache (SE)

Loodgrijs Dikbekje (N)

Identification

Male: above mainly grey.

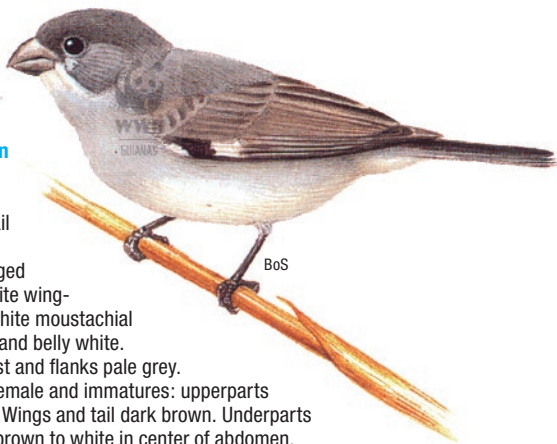
Wings and tail brown-black with grey edged feathers. White wing-

speculum. White moustachial streak. Chin and belly white.

Throat, breast and flanks pale grey.

Bill: black. Female and immatures: upperparts olive-brown. Wings and tail dark brown. Underparts light yellow-brown to white in center of abdomen.

Bill: brown. TL 10.6cm.



Habitat

Open grass savannas.

Remarks

In pairs or groups.



Sporophila schistacea

SLATE-COLORED SEEDEATER

Seedeater (G)

Busitwatwa (S)

Gelebek (SN)

Leigrijs Dikbekje (N)



Identification

Male: mainly dark grey with white tips to the greater wing-coverts.

A small white wing-speculum.

A white patch on each side of the throat. Center of breast and belly and under tail-coverts white.

Bill: yellow. Female: upperparts, wings and tail olive-brown. Throat, upperbreast and flanks olive-brown.

Abdomen white to light yellow.

Bill: grey. TL 11.5cm.

Habitat

Cultivated areas including clearings for shifting cultivation.

Remarks

In pairs or in groups. Already quite rare.

Thraupidae

Stilpnia cayana



BURNISHED-BUFF TANAGER

Rufous-Crowned/Burnished-Buff Tanager (G)
 Goudvink (SN)
 Sabeltangare (N)

Identification

Male: Crown red-brown. Lores and auriculars black. Throat and upperbreast grey-blue. Back shining yellow-orange. Rump white. Lower underparts (breast and abdomen) shining yellow with a blue sheen. Wings and tail green-blue with black. Female and immatures: much duller in coloration, uppersurface tinged with green. Lack the distinct grey-blue throat patch. Bill of both sexes: black, base of mandible grey. TL 13cm.



Habitat

Open sandy savannas with scattered trees. Absent from coastal region and forests of the interior, but re-appears in the extreme south, in the Sipaliwini savanna in Suriname.

Remarks

In pairs or small groups. From low levels to treetops. Joins other species.



Tachyphonus phoenicius

RED-SHOULDERED TANAGER

Red-Shouldered Tanager (G)

Rediskowrukin (S)

Roodschouder (SN)

Roodschoudertangare (N)

Identification

Male: glossy black, with a small red and white patch (white patch semi-concealed) on bend of wings. Females and immatures: top and sides of head dark brown-grey. Feathers of the crown are black and inconspicuously edged grey, giving it a slightly scaled look. Underparts creamy white, with grey on the breast and sides. Bill of both sexes: maxilla black, mandible light blue-grey with a black tip. TL 15.7cm.

Habitat

Confined to open sand savannas with scattered shrubs.

Remarks

In pairs.



BoS

Thraupidae

Tachyphonus rufus



WHITE-LINED TANAGER

White-Lined Tanager (G)

Blakakin (S)

Zwarte Ki(e)ng (SN)

Zwarte Tangare (N)



Identification

Male: almost entirely glossy blue-black. Lesser upper wing-coverts and under wing-coverts white. Female: yellow-brown, underparts similar to upperparts, but a little lighter. Bill of both sexes: maxilla black, mandible blue-grey, with black tip. TL 18cm.

Habitat

Edge of savanna forests and mangrove forests, clearings in the interior, on sand-ridges and in cultivated areas.

Remarks

In pairs.

Haverschmidt & Mees, 1994/ Schauensee & Phelps, 1978/ Grzimek, 1968/ Linggaard, 2001/ Perrnis, 1990

Thraupidae



Tachyphonus surinamus

FULVOUS-CRESTED TANAGER

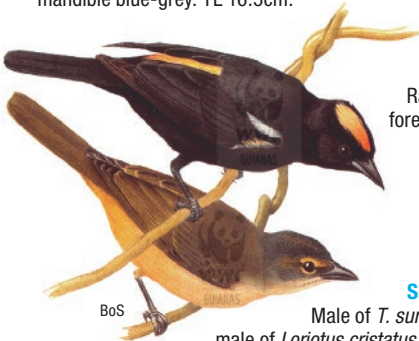
Fulvous-Crested Tanager (G)

Goudkruin (SN)

Goudkuiftangare (N)

Identification

Male: mainly glossy black. Patch on crown and rump yellow-brown. Lesser upper wing-coverts and under wing-coverts white. Flanks with red-brown feathers. Female and immatures: no black in plumage and no crown patch. Crown and nape grey. Forehead and sides of the head are grey, suffused with green-yellow. An incomplete yellow ring around eyes. Rest of upperparts olive-green. Underparts mostly grey-yellow. Under tail-coverts yellow-brown. Bill of both sexes: black, base of mandible blue-grey. TL 16.5cm.



Habitat

Rainforests and savanna forests, secondary forests, often near water and near treetops.

Remarks

Joins mixed flocks.

Similar looking species

Male of *T. surinamus* looks similar to male of *Loriotus cristatus*, is about the same size and has the same red-brown feathers in the flanks.

The difference is that male *T. surinamus* its black plumage is more glossy. Its "crest" is more a patch rather than a crest and the crest is shorter and duller. Females of both *T. surinamus* and *Loriotus cristatus* are easier to distinguish from each other.

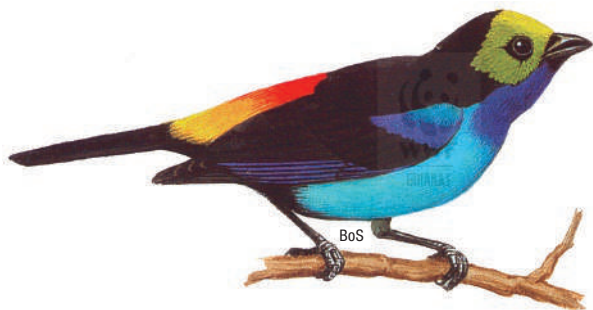
Thraupidae

Tangara chilensis



PARADISE TANAGER

Paradise Tanager (G)
 Zevenkleur, Paradijsvink,
 Kulicolor (SN)
 Paradijstangare (N)



Identification

Forehead and front part of the crown, sides of the head covered with shining green feathers. Nape, neck, upperback and wings velvety black. Lower back red. Rump and upper tail-coverts orange-yellow. Throat and upperbreast purple-blue. Breast, abdomen and bend of wings light blue. Lower belly, under tail-coverts and tail black. Wing-coverts and remiges purple-blue. Bill: black. Sexes are alike. TL 14cm.

Habitat

Rainforest, especially near forest edge. Absent from coastal region and savannas.

Remarks

Together with other species in mixed flocks.



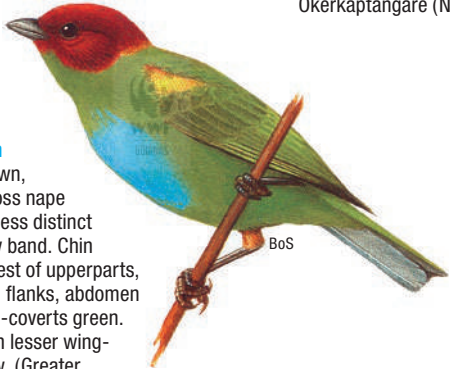
Tangara gyrola

BAY-HEADED TANAGER

Bay-Headed Tanager (G)

Bruinkop (SN)

Okerkaptangare (N)



Identification

Head red-brown, bordered across nape by a more or less distinct golden-yellow band. Chin red-brown. Rest of upperparts, throat, wings, flanks, abdomen and under tail-coverts green.

Wing patch on lesser wing-coverts yellow. (Greater

wing-coverts dark green with black.) Center of breast and belly with a bright blue patch. Sexes are similar, but female has all colors a little duller. Immatures: lack the red-brown on the head and the yellow patch on the wings, have a green crown. The area around the bill and the eyes is brown-grey, underparts are light green with a few blue feathers on the breast. Bill of both sexes: black, base of mandible brown-grey. TL 13-14cm.

Habitat

Rainforest and cloudforests, especially in mountainous areas.

Remarks

In pairs or small groups. In low bushes to treetops. Joins mixed bands of small birds.

Thraupidae

Tangara mexicana



TURQUOISE TANAGER

Turquoise Tanager (G)
Blauwvink, Paleisvink
(Anijs-, Portret-, Epauletvink) (SN)
Turkooistangare (N)



Identification

Forehead, front part of the crown, sides of the head, throat, breast, lower back and rump blue. Some black feathers present/scattered on the throat. Loes and chin black. Upperparts, sides of breast, wings and tail black. Lower breast, abdomen and under tail-coverts yellow. Flanks spotted with black. Lesser and median wing-coverts bright blue. Primaries edged blue. Bill: black. Sexes are alike. TL 13cm.

Habitat

Forest edges till the edges of mangroves, forests on sand-ridges, cultivated areas, savannas. Prefers open country with isolated or scattered trees.

Remarks

In pairs or small groups.

Haverschmidt & Mees, 1994/ Schauensee & Phelps, 1978/ Grzimek, 1968/ Linggaard, 2001/ Perrnis, 1990

Thraupidae



Tangara velia

OPAL-RUMPED TANAGER

Opal-Rumped Tanager (G)

Bruinbuik (Tangara) (SN)

Opaalstuittangare (N)

Identification

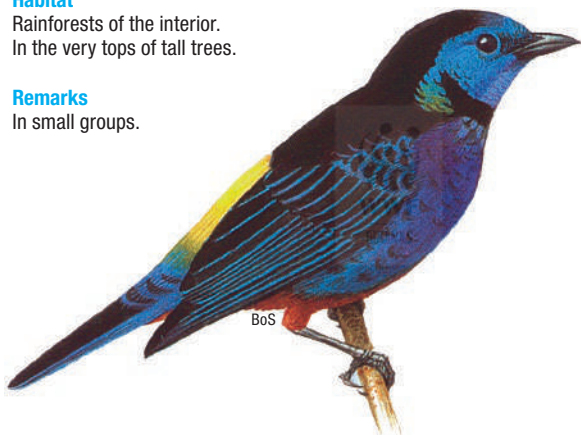
Male: forehead, front part of crown, throat and sides of the head glistening violet-purple-blue. Hind-crown, nape, neck and upperback black. An irregular black band across lower throat. Breast and flanks shiny purple-blue. Center of belly and under tail-coverts red-brown. Wings black, feathers edged purple blue. Rump shiny green-yellow. Upper tail-coverts blue. Rectrices black, edged purple-blue. Female: differs from male by having sides of head, the chin, the upper tail-coverts, the edges of the feathers of wings and tail, and the flanks glistening blue-green instead of purple-blue. Bill: black. TL 14cm.

Habitat

Rainforests of the interior.
In the very tops of tall trees.

Remarks

In small groups.



Thraupidae

Tersina viridis



SWALLOW-TANAGER

Swallow-Tanager (G)

Zwaluwtangara (SN)

Zwaluwtangare (N)



Identification

Male: almost entirely blue-green. A black face-mask covering the forehead, lores, sides of the face, chin and throat. Remiges and rectrices are black, broadly margined with turquoise. Center of lower breast, belly and under tail-coverts white.

Sides of the breast and lower flanks turquoise, barred with black. Female and immatures: lack the face-mask, upperparts mainly grass-green.

Wings and tail black, feathers broadly margined with grass-green. Throat, breast and flanks barred grass-green and yellow. Middle of the belly and under tail-coverts yellow, streaked with green. Bill of both sexes: short, broad and black. TL 13cm.

Habitat

Rainforests of the interior. Mostly seen high in dead trees.

Remarks

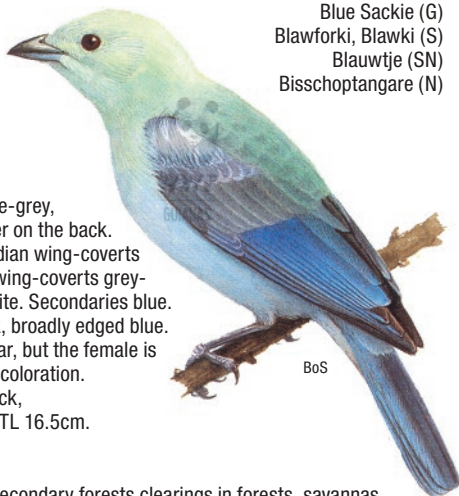
In pairs or groups.



Thraupis episcopus

BLUE-GREY TANAGER

Blue Sackie (G)
Blawforki, Blawki (S)
Blawwtje (SN)
Bisschoptangare (N)



Identification

Mainly light blue-grey, darker and bluer on the back. Lesser and median wing-coverts white, greater wing-coverts grey-blue, edged white. Secondaries blue. Primaries black, broadly edged blue. Sexes are similar, but the female is a little duller in coloration. Bill: maxilla black, mandible grey. TL 16.5cm.

Habitat

Forest edges, secondary forests, clearings in forests, savannas with scattered trees and bushes, cultivated areas incl. gardens. Forages usually from low heights to treetops.

Remarks

Mostly in pairs, sometimes alone or in small groups. Often in company with *T. palmarum*.

Similar looking species

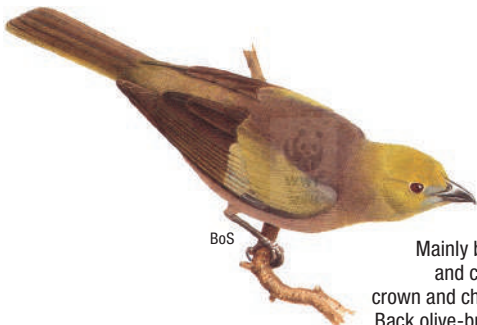
Often associated with *T. palmarum*. Hybrids of *T. episcopus* and *T. palmarum* (two closely related species) also occur. They look like *T. palmarum* with some blue in their plumage.

Thraupidae

Thraupis palmarum

PALM Tanager

Palm Tanager (G)
Krontoblawforki (S)
Palmtangare (N)



Identification

Mainly brown-green. Lores and chin grey. Forehead, crown and cheeks yellow-green. Back olive-brown. Wing-coverts and bases of remiges light grey-green. Remaining parts of the wings and tail brown-black. Bill: black. Sexes are alike. TL 18cm.

Habitat

Many kinds of habitats, almost the same as for *T. episcopus*, but shows a preference for slightly more wooded country. Forages mostly from middle heights to near the treetops.

Remarks

Alone or in small groups. Often in mixed bands of other species. Often in company with *T. episcopus*.

Similar looking species

Often associated with *T. episcopus*. Hybrids of *T. episcopus* and *T. palmarum* (two closely related species) also occur. They look like *T. palmarum* with some blue in their plumage.



Volatinia jacarina splendens

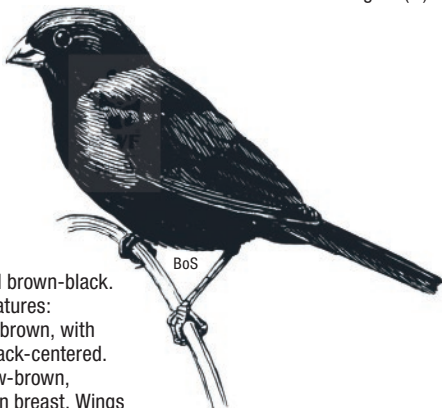
BLUE-BLACK GRASSQUIT

Grassquit (G)

Sriyo (S)

Dansmeestertje (SN)

Jacarinagors (N)



Identification

Male almost entirely shining blue-black.

Primaries and tail brown-black.

Female and immatures: above dark olive-brown, with some feathers black-centered.

Underparts yellow-brown, streaked dusky on breast. Wings and tail black-brown. Bill: maxilla black, mandible blue-grey, with a dark tip. TL 10cm.

Habitat

Open grassland, incl. agriculture and other cultivated areas.

Remarks

In pairs or in small groups.

Tinamidae

Crypturellus cinereus



CINEREOUS TINAMOU

Anamu (S)

Grauwe Tinamoe (N)



Identification

Body 29cm to 32cm, male weight around 435g, female 549g to 602g. Both dark brown to sooty brown or brownish black in coloration. Recognized by its smoky-grey with reddish-brown crown and nape. Feather shafts on side of head white. Under parts slightly paler than body. Legs dull orange to yellow. Light-colored eye ring, bill with dark upper mandible and yellow lower mandible.

Habitat

Wet forest scrubs, abandoned and forested places such as plantations.

Ramphastidae



Pteroglossus aracari

BLACK-NECKED ARACARI

Black-Necked Aracari (G)
Redibantikuyake, Bosrokoman (S)
Zwartnekarassari (N)



Identification

Head, neck & upper-breast black. Lower breast & belly bright yellow. Band across abdomen red. Back, wings and tail blackish green. Rump/upper tail-coverts red. Bill 11.5cm. Maxilla (upper mandible) and line outlining base of bill creamish white, ridge and (lower) mandible black. Sexes are alike.
TL 46cm.

Habitat

Primary and secondary forests on sandridges in savanna belt and interior.

Remarks

Small flocks. Roosts in pairs.

Ramphastidae

Pteroglossus viridis



GREEN ARACARI

Green Aracari (G)

Stonkuyake (S)

Rikketik (SN)

Groene Arassari (N)

Identification

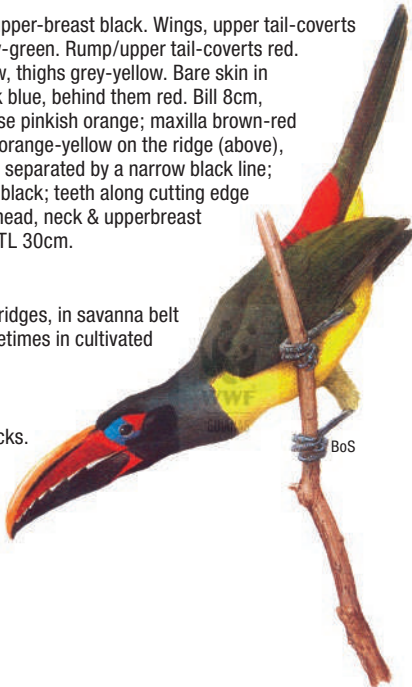
Head, neck and upper-breast black. Wings, upper tail-coverts and tail dark grey-green. Rump/upper tail-coverts red. Underparts yellow, thighs grey-yellow. Bare skin in front of eyes dark blue, behind them red. Bill 8cm, multi colored: base pinkish orange; maxilla brown-red on the sides and orange-yellow on the ridge (above), both colors being separated by a narrow black line; (lower) mandible black; teeth along cutting edge white. Females: head, neck & upperbreast dark red-brown. TL 30cm.

Habitat

Forests on sand-ridges, in savanna belt and interior, sometimes in cultivated areas.

Remarks

In small noisy flocks.



Ramphastidae



Ramphastos toco

TOCO TOUCAN

Toco Toucan (G)

Granman Kuyake (S)

Reuzentoekan, Tocotoekan (N)



CdB

Identification

Large toucan with an enormous orange-yellow bill. Plumage mainly velvety black. Sides of the head, chin, throat, upper breast and rump/upper tail-coverts white. Under tail-coverts red. Bare area around eyes yellow and a bright bluish violet eye-ring. Bill orange-yellow, fading to greenish yellow at sides of upper mandible and an oval black blotch near its tip. Base of bill narrow black lined. Sexes are alike. TL 63.5cm.

Habitat

Forests on sand-ridges, interior.

Remarks

Rare species.

Ramphastidae

Ramphastos tucanus



WHITE-THROATED TOUCAN

Pumpkin Chest, Black Beak (G)
Bigikuyake, Kuyake (S)
Witborsttoekan,
Roodsnaveltoekan (N)

Identification

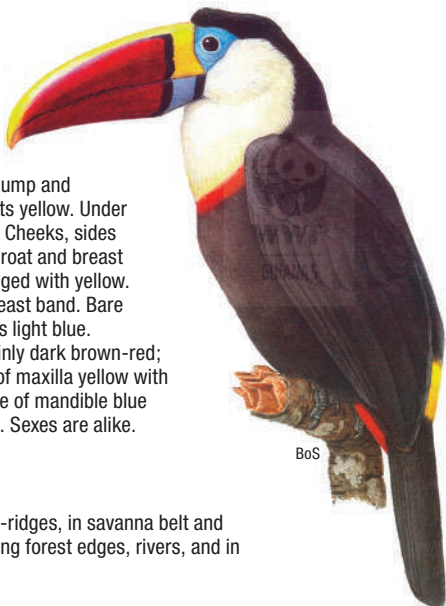
Upper parts, wings, belly and tail black. Rump and upper tail-coverts yellow. Under tail-coverts red. Cheeks, sides of neck, chin, throat and breast white, a little tinged with yellow. A narrow red breast band. Bare skin around eyes light blue. Bill 16.5cm, mainly dark brown-red; ridge and base of maxilla yellow with a black rim, base of mandible blue with a black rim. Sexes are alike. TL 53cm.

Habitat

Forests on sand-ridges, in savanna belt and interior, esp. along forest edges, rivers, and in clearings.

Remarks

In flocks.



BoS

Ramphastidae



Ramphastos vitellinus

CHANNEL-BILLED TOUCAN

Channel-Billed Toucan,
Pumpkin Chest,
Black Beak (G)
Blakanoso (S)
Zwavel, Geelborst (SN)
Groefsnaveltoekan (N)



Identification

Upperparts, wings, belly and tail black. Rump and upper and under tail-coverts red. Cheeks, upper part of the throat and sides of neck white. Lower part of throat orange-yellow. Broad red band across lower breast. Bare area around eyes light blue. Bill 14cm, black with a light blue band at the base. Sexes are alike. TL 48cm.

Habitat

Forests on sand-ridges, in savanna belt and interior, often near water. Absent from cultivated areas.

Remarks

Small noisy bands.

Ramphastidae

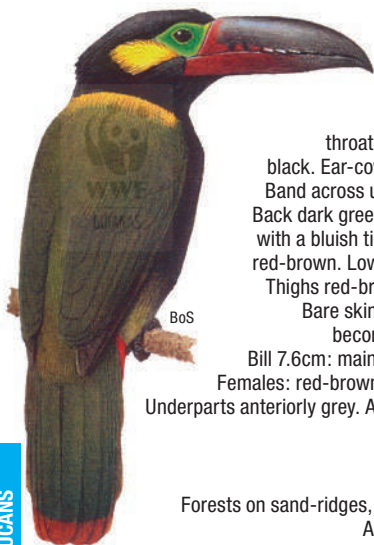
Selenidera piperivora

GUIANAN TOUCANET

Guianan Toucanet (G)

Stonkuyake (S)

Guyana Pepervreter (N)



Identification

Males: head, neck, throat and anterior underparts are black. Ear-coverts long and bright yellow. Band across upper mantle orange-yellow. Back dark green. Wings and tail dark green with a bluish tinge. Tail broadly tipped with red-brown. Lower abdomen yellowish grey. Thighs red-brown. Under tail-coverts red.

Bare skin around eyes greyish green, becoming yellowish at the edges.

Bill 7.6cm: mainly black, basally brown-red.

Females: red-brown band across upper mantle. Underparts anteriorly grey. Abdomen is grey with yellow. TL 33cm.

Habitat

Forests on sand-ridges, in savanna belt and interior. Absent from cultivated areas.

Remarks

Shy, alone or in small groups.

Trogonidae



Trogon melanurus

BLACK-TAILED TROGON

Black-Tailed Trogon (G)

Pingofowru (S)

Zwartstaarttrogon (N)

Identification

Male: upper part of head, nape, neck, back and upperbreast “metallic” green. Lower breast and belly red. Breast and belly separated by a white band. Throat and face black. Wings look mostly dark grey because wing-coverts and secondaries have fine black and white markings. Primaries black with narrow white outer margins. Tail feathers: central pairs “metallic” green-blue, towards the outer pairs becoming almost entirely black and the two outer pairs are black, finely freckled white along the margins. Underside of tail black-grey. Female: head, upperparts, breast and flanks grey. Belly red. Both sexes have a bare orange-red eye-ring and an orange bill. TL 33cm.

Habitat

Rainforests of the interior. Absent in coastal area.

Remarks

Usually alone. Largest of all trogons.

Similar looking species

Possible confusions with *Trogon collaris*. Male of *T. collaris* has a black and white banded tail. Female of *T. collaris* is mainly brown with a light red belly, a red-brown upper tail and a diffuse white band between breast and belly.

Trogonidae

Trogon violaceus

GUIANAN TROGON

Donfowru (S)

Violette Trogon (N)



Identification

Male: head and breast purple-blue. Face and throat black. Belly orange-yellow. Breast and belly separated by an indistinct small white band. Back metallic blue-green. Wings black, inner wing-coverts and inner secondaries finely marked with white. Upperside of tail: central pairs violet-blue, tipped black, outer 3 pairs barred black and white. Underside of tail barred black and white. Bare yellow eye-ring. Female: head, upperparts, breast and flanks grey. Belly yellow. Wings are black, wing-coverts and secondaries with very narrow white cross bars. Tail black, except for outer 3 pairs of rectrices which are barred black and white. Eye-ring with white feathers. Bill of both sexes: silvery blue-grey. TL 24cm.



Habitat

Savanna forests, rainforests and forests on sand-ridges. Absent in cultivated areas.

Remarks

Alone or in pairs.

Similar looking species

Confusions can occur with *Trogon viridis*. Male of *T. viridis* is larger, and has broad white tips in undertail. Both male and female of *T. viridis* have bare grey-blue eye-ring.

Trogonidae



Trogon viridis

GREEN-BACKED TROGON

Udulosofofowru (S)
Witstaarttrogon (N)

Identification

Male: crown, hind-neck and breast violet-blue. Belly orange-yellow. Face and throat black. Back blue-green, towards the rump and upper tail-coverts becoming blue.

Wings black. Central tail feathers blue-green, tipped black, next 2 pairs blue-green with black inner webs, outer 3 pairs black of which distal 3rd white. (Undertail broadly tipped with white).

Female: mostly grey, with an orange-yellow belly. Wing-coverts narrowly barred with white. Tail black, outer feathers notched and tipped white. Undertail barred black and white. Bare grey-blue eye-ring in both sexes. Bill of both sexes: silver-blue. TL 30cm.

Habitat

Savanna forests, rainforests and forests on sand-ridges, plantations. Absent from mangrove forests.

Remarks

Alone or in pairs.

Similar looking species

Confusions can occur with *Trogon violaceus*. *T. violaceus* is smaller than *T. viridis*. Male of *T. violaceus* has a black and white barred undertail, a small white chestband and bare yellow eyering. Female of *T. violaceus* has white feathered eye-ring.

Psophiidae

Psophia crepitans



GREY-WINGED TRUMPETER

Grey-Winged Trumpeter (G)

Kamikami (S)

Trompetvogel (N)

Identification

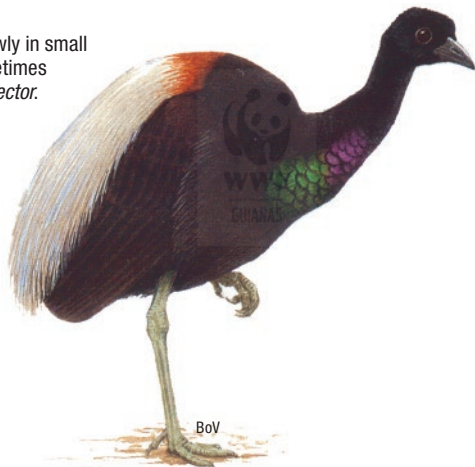
A blackish fowl-like bird, with posterior parts of wings long, loose and grey. Head and neck covered with short plush-like black feathers. Feathers of lower fore-neck glossy black, green and violet. Base of neck metallic purple, lower mantle and scapulars rusty. Bill yellowish green. Legs olive-green. Sexes are alike. TL 60cm.

Habitat

Rainforests. Terrestrial.

Remarks

Forages slowly in small flocks, sometimes with *Crax alector*.





Pitangus sulphuratus

GREAT KISKADEE

Great Kiskadee (G)
 (Trutru) Grikibi (S)
 (Echte) Grietjebie (SN)
 Grote kiskadie (N)



Identification

Crown black with semi-concealed yellow crest. Sides of the head black. White band along the top of the head from the forehead to the broad eyebrows and to the back of the neck. Throat white, rest of underparts lemon-yellow. Back, rump, upper and under tail-coverts brown. Wings and tail dark brown. Bill: black. Sexes are alike. Immatures lack the yellow patch on the crown. TL 21.6cm.

Habitat

Open areas with scattered trees: cultivated areas, gardens, forest edges.

Remarks

Usually in pairs. Noisy. Aggressive towards other birds. Local name "grietjebie" derived from characteristic call. This name is also being used for other look alike species.

Tyrannidae

Tyrannus melancholicus



TROPICAL KINGBIRD

Tropical Kingbird (G)

Krontogrikibi (S)

Tropische Koningstiran (N)



Identification

Crown grey with a partly concealed orange patch on the crown. Sides of head and neck grey. Lores and ear-coverts dark grey. Back olive-grey. Wings, upper tail-coverts and tail black-brown. Wing-coverts and remiges edged light grey. Throat grey-white, breast olive-yellow, abdomen bright yellow. Bill of both sexes: black. Tail slightly forked. Sexes are alike. Immatures lack the orange patch on the crown. Crown is light grey. Wing feathers with brown-yellow edges. TL 22.5cm.

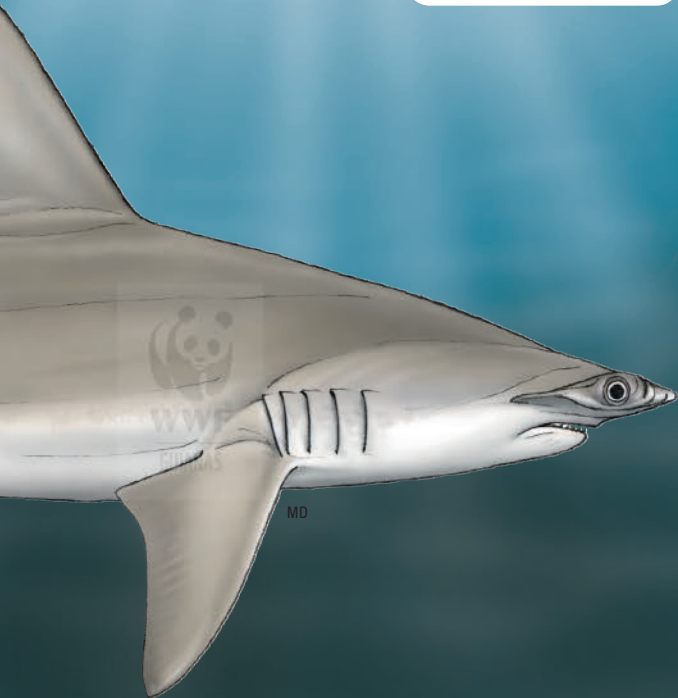
Habitat

Open areas with scattered trees: cultivated areas, gardens, forest edges.

Remarks

Alone, in pairs or small groups.

FISH



MD

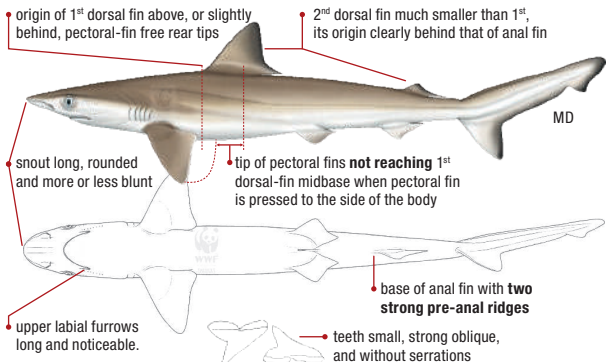
Carcharhinidae

Rhizoprionodon lalandii**BRAZILIAN SHARPNOSE SHARK**

Waterguts, Waterbelly* (G)

Sarki (S)

Braziliaanse Scherpsnuithaai (N)

Identification

COLOUR: upper body greyish brown; underside white; pectoral fins with white posterior margins, caudal fin with dark margins

Habitat

Inhabits shallow coastal waters on sandy or muddy bottoms, depth: 3m to 149m, usually between 40m to 70m. Honduras to Brazil.

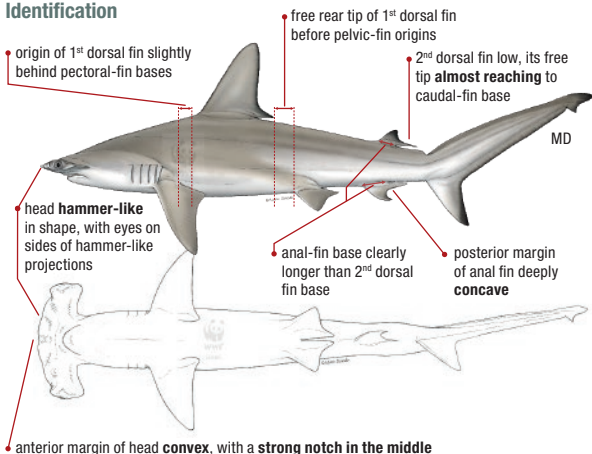
Remarks

Inclusion of all Carcharhinidae in Appendix II in effect from 25th November 2023.

*The Guyanese name Waterguts and Waterbelly is also used for *Rhizoprionodon porosus*.

*Sphyrna lewini***SCALLOPED HAMMERHEAD SHARK**

Sarki (S)
Hamerhaai (N)

Identification

COLOUR: upper body grey, greyish brown or olivaceous; underside white; pectoral fins tipped dusky below

Habitat

Circumglobal shark species. Inhabits predominantly oceanic surface waters but approaches the coast and even enters estuaries in search of food. Juveniles usually confined to coastal waters.

Remarks

All Sphyrnidae are included in Appendix II.

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