

A Help Guide for At-Risk Macaw Parrots in Trinidad and Tobago



November 2022



SCHOOL OF VETERINARY
MEDICINE
EXOTICS CLUB



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Introduction

This guide is intended for anyone who would like to help Macaws live healthier and happier lives in Trinidad and Tobago and the wider Caribbean. It has been produced as a collaboration between the Nurture Nature Campaign (www.nurturenaturett.org), the Trinidad and Tobago Veterinary Association (TTVA), the Veterinary Students Association of Trinidad and Tobago (VSATT), and the Exotics Club at the University of the West Indies School of Veterinary Medicine.

We offer you this guide as many Trinbagonian Macaw keepers often unknowingly participate in a harmful wildlife trade spanning the Southern Caribbean. In fact, trade research done by local and international investigators conservatively estimates that there are more than 5,500 captive Macaws in Trinidad and Tobago, almost all of which have been poached, trafficked, and illegally sold before ending up in everyday homes. Sadly, many Macaws do not survive these experiences, and worse still, those that do often die young in captivity since local keepers do not know basic macaw care.

Though the situation facing our Macaws is dire, we also know that positive change for Macaws and other wildlife is possible. There are several examples in the Caribbean that show we can do better. Notably, the Blue and Gold Macaw was once hunted to extinction in Trinidad, yet conservationists' hard work has helped this species return to our forests since efforts began in 1999. Elsewhere, St. Lucians have made big changes in how they protect their native and endemic St. Lucian parrot since the 1970s, and this has likely prevented its extinction. More recently, Belizeans have also developed a remarkable capacity to rehabilitate “pet” Amazon parrots such that they can be returned to the wild. In fact, their methods are so successful that even older birds can return to their “flock life” in the forest.

If you want to stop participating in the harmful wildlife trade, and maybe help end the trade, then this guide is for you. As you will learn, any keeper who wants to make a change should first “Get to Know Your Macaw” and learn how to “Give Short-term Care”. And if you are ready, you can “Be a Macaw Rescuer” to best support the welfare of your bird.

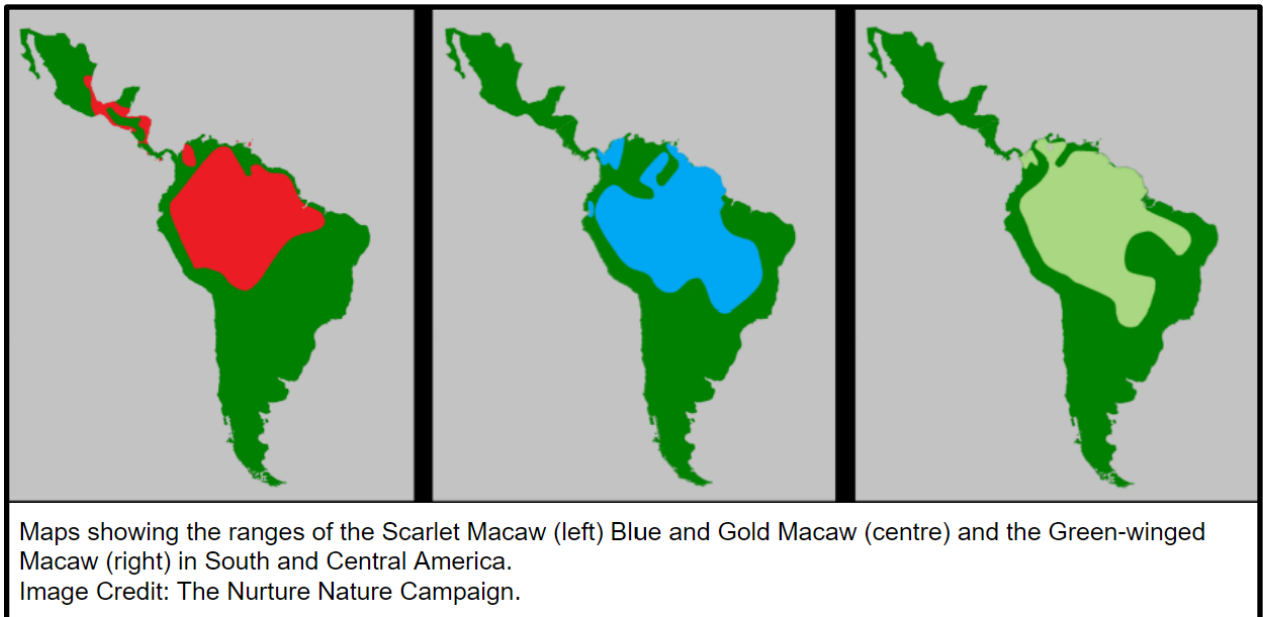
Get to Know Your Macaw

The first step in helping any at-risk Macaw in captivity is to get to know the animal better. With knowledge comes power. You may be surprised to learn that many keepers do not know there are three species of Macaw that are commonly traded in Trinidad and Tobago: the Blue and Gold Macaw, Green-winged Macaw, and Scarlet Macaw. You may also find it interesting to know about these animals' natural lives in the wild or how they are unfortunately impacted by the pet wildlife trade.

Blue and Gold, Green-winged, and Scarlet Macaws

The two most common “pet” Macaws in Trinidad and Tobago are the Blue and Gold Macaw (*Ara ararauna*) and the Green-winged Macaw (*Ara chloropterus*), although the Scarlet Macaw (*Ara macao*) is also quite popular. The trade of these Macaws in the Southern Caribbean stretches back centuries, if not millennia, but today's trade occurs in much greater volumes than the past, threatening wild populations.

As their names imply, the Blue and Gold Macaw, Green-winged Macaw and Scarlet Macaw are members of the vast Macaw family, which has 19 officially described species (two of which are extinct). Macaws are characterised by their large size, long tails, proportionately large beaks, and light-coloured facial patches. Macaws are native to South and Central America, with some species found as far north as Mexico.



The Blue and Gold and the Green-winged Macaw occupy much of the same range in South America, with slight differences. The range of the Green-winged Macaw extends further north while the Blue and Gold Macaw reaches further east. The Scarlet Macaw shares much of this range but is also found in Central America in Belize and was once even found as far north as Mexico, although it may be extinct in that area today.

These three species of Macaw are similar in size. The Green-winged Macaw measures largest at a length of 90-95cm and a weight of 1.05-1kg. The Scarlet Macaw comes in second for length at 84-89cm and weighs 0.9-1.5kg, and the Blue and Gold Macaw is not far behind at 76-86cm and 0.9-1.5kg. Biologically, these species are similar. They all reach maturity at around 3 or 4 years of age but can live upwards of 30-35 years in the wild.



Green-winged Macaw (left), Blue and Gold Macaw (centre), Scarlet Macaw (right).
Photo Credit: Getty Images.

In addition to the size difference, these three species are easily identified by their distinct and stunning colours.

The Green-winged Macaw is bright red on its breast and head feathers, over the shoulder and down the back, all the way down the tail feathers. The upper wings have a characteristic green belt from the red shoulder that blends downwards to a dark blue. Iridescent blue also borders the tips of the red tail feathers. Additionally, they have unique red feathers that spread in lines across their otherwise white face and around their eyes.

Scarlet Macaws, like Green-winged Macaws, also have red feathers covering their breast, head, shoulders, back, and tail. The similarity in appearance between the two often leads people to confuse one for the other. However, the Scarlet Macaw is distinct in that the upper wings have a characteristic yellow belt that is absent in the Green-winged. This belt blends into a touch of green and then to a dark blue. The tail feathers of the Scarlet Macaw differ from those of the Green-winged since they are primarily red, with much less blue. The face of the Scarlet Macaw is mostly bare and may appear white or have a light pink blush.

Blue and Gold Macaws have a significantly different look. They have vivid blue feathers over the top part of their body, back, and wings. The underside of their breast and wings boasts a deep yellow colour, and the top of their heads and under their chins are flushed with green. They possess the classic Macaw white facial patches, apart from a few scattered black feathers arranged in a pattern unique to the individual.



Green-winged Macaw (left), Blue and Gold Macaw (centre), Scarlet Macaw (right).
Photo Credit: Getty Images.

Life in the Wild

Blue and Gold Macaws are native to Trinidad and Tobago, but the original population were poached for the pet trade until they were extirpated (meaning totally removed from an area) and were therefore locally extinct. However, conservationists reintroduced them to the Nariva Swamp between 1999 and 2003, where they have since been successfully surviving and breeding.

Green-winged Macaws have established a wild population in Trinidad, but their status is contested since the origin of this population is unknown. They could be considered a native species if the population originated from vagrant birds that flew to Trinidad from South America. On the other hand, it is also possible that Trinidad's Green-winged

Macaw population comes from birds that escaped or were released from the pet trade. In the latter case, the species would be considered introduced. Either way, they are well enough established on the island that they are considered “naturalised”. Scarlet Macaws are not native to T&T, but like the Green-winged, the few individuals that have been seen in the wild are either vagrants or escapees from the wildlife trade.



Green-winged Macaws nesting in a tree cavity.
Photo Credit: Sham Sahadeo.

All three species are found in a range of habitats but are most commonly found in lowland forests, preferring humid areas such as seasonally flooded rainforests and swamps. Macaws have a wide range as they move around forests for foraging and nesting. They are also highly social and are often found in large flocks of between 10 to 30 individuals or smaller family groups of closely bonded pairs. Macaws are monogamous and mate for life. Couples stay together throughout the year, not just for the breeding season like many other bird species.

Rather than building a nest, Macaws raise their young by settling in existing spaces like tree hollows. This is called cavity nesting. The female lays 2-4 eggs, which she incubates for 24-26 days, during which time the male cares for her. Young Macaws stay in the nest until they are ready to wean and fledge but remain in the family unit for around a year.

Macaws spend their time high in the treetops, foraging for seeds, nuts, fruits, leaves, and flowers. While plant matter makes up the vast majority of their diet, Macaws are often thought to be more omnivorous than many other parrot species. They have been recorded eating animal carcasses in the wild and have also been seen catching lizards and small mammals when the opportunity arises. This offers them a great deal of protein and aligns with the increased energy requirements of breeding seasons and the demands of raising chicks.



Blue and Gold Macaws foraging fruit from a palm tree (left). Photo Credit: Fernando Flores.
Blue and Gold Macaws and one Green-winged Macaw snacking on clay (right). Photo Credit: Edwin Bellota.

Macaws are also strangely known to enjoy eating the clay walls of eroded river banks. Although the exact nutritional function of the clay is unknown, there are two major theories. One is that the clay acts as a detox, binding to harmful chemicals in the gut and cleansing them through the digestive system. The other is that clay provides a source of minerals like calcium and sodium. In any case, this clay-eating behaviour is not seen outside of the western Amazon region, so it may be related to the available diet in this area.

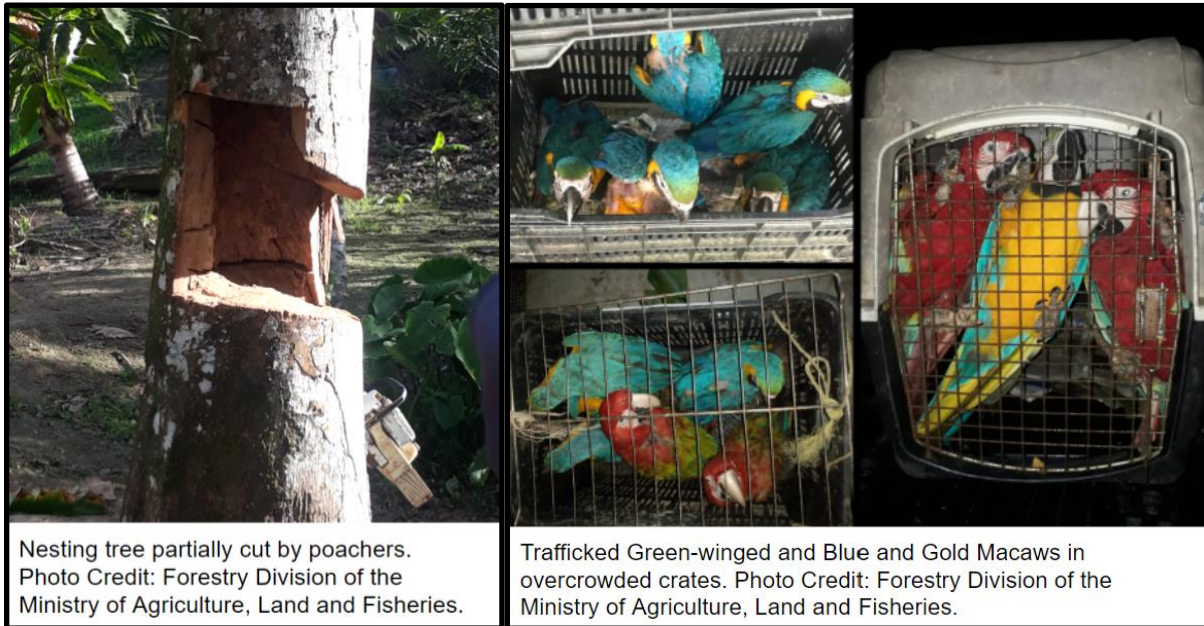
The natural threats to these two species of Macaw are limited. They may become prey to larger birds, opportunistic monkeys, or large snakes, but they are not often preyed upon due to their size and intelligence. Both species are listed as “Least Concern” by the IUCN, but this only considers their global population; it is not specific to the status of local populations. Local populations of these Macaw species are declining due to human influences such as habitat loss and poaching. The damaging impact of the pet trade is a key contributor.

The Harmful Pet Wildlife Trade

The pet wildlife trade in Trinidad and Tobago and the wider Southern Caribbean causes many harms to Blue and Gold Macaws and Green-winged Macaws. This includes the long-term mistreatment and premature death of many Macaws, as well as the breaking of a great many local and international laws.

In Trinidad and Tobago, Macaws kept as pets are almost always caught by poaching baby chicks from the safety of their nests. This can happen locally in Trinidad or Tobago, but most commonly, it occurs in nearby Venezuela. In both places, the hunting of Macaws is restricted by law. Worse still, poachers are typically heartless and expect

some birds to die in the poaching process. They most commonly cut down trees to get at baby chicks, and many chicks die from the fall. Poachers will also keep chicks in boxes and crocus bags without water, food, cool temperatures, or a parent's care resulting in more deaths.



Macaws poached in Venezuela are also trafficked over to Trinidad and Tobago under terrible conditions. Crowded and unsanitary cages or sacks are filled to capacity with birds to capitalise on the trade. The experience leaves many more animals sick, injured, or dead, and those that survive are often traumatised and develop long-term psychological disorders. By law, imported Macaws must be permitted in accordance with the Convention on International Trade in Endangered Species (CITES) as well as quarantined to prevent disease introduction.

The sellers of Macaws are often as unscrupulous as poachers and traffickers. Often, they will market their animals illegally on social media or sell them illegally out of the back of local pet shops. Many Macaw keepers in Trinidad and Tobago report that they have purchased their birds just to save them from the poor care of the seller. However, this is sometimes not enough, and weak baby Macaws can die soon after being brought to a new home, especially if they do not receive proper care.



Finally, the buyers of Macaws often do not understand the care requirements of their new pets, and this results in malnutrition, disease, psychological issues, and early death. In fact, few Macaws ever live past 10 years old, let alone to the full 50 years they might have with appropriate long-term care in captivity. One of the most common problems is that sunflower seeds and bread and milk are given as staple foods, causing serious nutritional deficiencies. Many Macaws are also confined to tiny cages, and sometimes cages are so small that the bird cannot even fully extend its wings or clean itself.

Give Short-term Care

The next step in helping a captive, at-risk Macaw is to ensure it gets the minimum necessary care to be healthy and happy in the short term. Unfortunately, in Trinidad and Tobago, many Macaws do not ever receive such basic care, so they can suffer serious traumas, diseases, and early death.

If a Macaw keeper wants to do the right thing, we recommend that they pay attention to providing six things in the short-term:

- 1) appropriate caging
- 2) healthy food and water
- 3) regular cleaning and bathing
- 4) mental health support
- 5) safety in the household, and
- 6) veterinary care.

Appropriate Caging

To be able to carry out natural behaviours that keep them healthy and stimulated, Macaws need to have appropriate housing. Nothing compares to the endless space Macaws have in their wild habitats, but adequate space can be supplied in short-term care situations. The more space you can offer a Macaw, the better. At the absolute minimum, they need room to extend their wings fully, and enough space for their long tail feathers to move freely. This is important as the tail feathers are essential tools for balance, and long periods of cramping can affect a Macaw's balance long-term.

The very minimum enclosure size should be 3 ft x 4 ft x 5 ft for short-term care. Ideally, a safe enclosed room should be used for flight and exercise, especially if the main enclosure size is kept to the minimum recommended. Macaws will need a full free-flight aviary in the long term, and they should have enough space to fly from one perch to another. Areas that provide sufficient flight paths allow Macaws to stay physically healthy. Smaller aviaries can be extended with "flight runs" to give Macaws this opportunity.

As a canopy species, Macaws feel the most comfortable when positioned up high. Enclosures should provide sufficient height that they can position themselves comfortably. For smaller enclosures, raising them higher on a stand can add a sense of security and reduce stress in captive Macaws. Enclosure construction must take into consideration the strong beak of the Macaw. As such, wooden frames are unsuitable as

they can be easily chewed apart. Metal and mesh will provide the best enclosure integrity. Metal materials must be ungalvanized and free from lead and zinc, as these can cause heavy metal poisoning when ingested (Pollock & Chow, 2011).

If your Macaw enclosure is indoors, there are a few critical considerations for the health of both the Macaw and your family. Ventilation and airflow are essential to reduce the risk of harm from feather dander and faecal dust in the air (Hartman, 1997). Poor air circulation poses a risk of respiratory issues for both the Macaw and for nearby humans. Indoor enclosures should be kept out of the direct sun as limited space will mean the Macaw cannot move to a cooler spot and may become overheated. The light that reaches the enclosure should also replicate the earth's natural day and night period. Macaws take cues from the changing natural light and day length, known as "photoperiod," to drive all their behaviours. Provide this natural cycle as best you can while they reside indoors and be aware that fluorescent lights in the home can interfere with this.

Outdoor enclosures are preferable as they can naturally provide the correct lighting, temperature, and humidity conditions for Macaws to thrive in. Outdoor enclosures should offer equal parts sheltered space and unsheltered space. Open space is important to provide Macaws an opportunity to gain vital vitamin D from sunshine and bathe in rainfall. Sheltered areas offer Macaws the freedom of choice to seek shelter from the rain, wind, and sun, and make themselves comfortable. Keep in mind that outdoor enclosures should be closely monitored for the presence of pests and kept clean of old food that might attract them.



Large outdoor enclosures are often ideal for macaws since they provide natural environmental conditions and space to fly. Photo Credit: Mark Gibson.

Perches should be used in the enclosure to offer places for Macaws to sit. Perches, ideally, will be constructed from natural wood sources. If processed wood is used, ensure that it is untreated, so it is safe to chew. Offer a range of perch sizes and placements throughout the enclosure to provide your Macaw with the choice of perching. The ideal perch diameter for a large Macaw is around 5-6cm (Fulton, 2005). Perching that is either too large or too small can cause foot deformities if used for long periods. Perches will be chewed and are difficult to clean properly, so they should be replaced regularly.

For food and water, metal bowls should be placed in the enclosure. Plastic bowls should never be used as they are easily chewed by the Macaw's strong beak and the plastic can be harmful if ingested. However, metal bowls can heat up quickly in the sun, so to keep bacteria under control keep bowls in a sheltered area. Avoid placing them under perching areas to prevent faecal contamination.



Blue and Gold Macaw in a large enclosure with metal bowls and wooden perches.
Photo Credit: Viv Lynch.

Bowls should be placed up high in the enclosure to emulate the Macaw's canopy foraging behaviours. Macaws are also highly curious and have the tendency to pick up their bowl and throw out the contents. A wire grate at the bottom of the enclosure can be useful to stop dropped food from touching the contaminated ground.

Healthy Food and Water

The diet of Macaws is of utmost importance. Good nutrition will power their bodies to grow, develop and function properly, allowing them to perform all their natural behaviours. Macaws trafficked in the "pet" wildlife trade commonly have nutritional deficiencies due to keepers' lack of knowledge around dietary requirements.

Ideally, captive Macaws' diet should closely resemble their wild diet. Sourcing all their natural foods is a great feat that is not possible for even the most capable keepers. For this reason, it is highly advised to offer pellets as the majority of your Macaw's diet. Commercially produced pellets are designed to be a complete diet for Macaws that offers them most of the nutrients their bodies require. Pellets should make up 50-75% of their diet. Vegetables, fruits, seeds, and nuts should make up the remaining 25-50%. Trinidad and Tobago pet shops that sell such pellets include Little Amazon Pet Store, Pantin's Pets, P&R Pet Store, and many other stores.



These vegetables, fruits, seeds, and nuts can also make up the entire diet in the absence of a pellet diet. Macaws can eat a wide range of fresh fruit and vegetables. Many of the produce you eat yourself will be suitable.

See the table below for some examples of safe produce. Also, take close note of the "Toxic Foods" table to know which foods you should never feed to your Macaw. Some vegetables, such as sweet potato, squash, pumpkin, and carrot, can be cooked to make them more palatable. Avoid potatoes as they lack nutritional value. If you are ever unsure whether a food is safe, speak to your vet or gather research from a reputable source. All produce should be washed before feeding and pits of fruit removed.

Wild Macaws naturally consume seeds and nuts, so you need to make sure you monitor the consumption of these foods closely. Macaws love seeds and nuts, and if they are offered in large quantities, Macaws will often selectively eat just these foods, ignoring other nutritious foods. This can lead to nutritional deficiencies. Seeds and nuts should make up not more than 10% of their diet. Seeds can be offered in a seed mix; one

Macaw Food Groups	Some Good Foods	Preparation
Fruits	Apples, bananas, cantaloupes, cherries, coconuts, dates, grapes, guavas, kiwis, mangoes, papayas, passion fruits, pears, pineapples, plums, pomegranates, oranges, star fruits, watermelons	Fruit should be raw. Seeds should be removed from apples, pears and fruit with hard seeds, aka 'stone fruit' like North American cherries and plums.
Dark Green Vegetables	Beet greens, broccoli, bodi, cauliflower, lettuce, spinach, watercress	Raw.
Red/Orange/Yellow Vegetables	Beets, carrots, peppers, pumpkin, red cabbage, cooked sweet potatoes	Raw (except for sweet potatoes).
Grains	Buckwheat, barley, brown rice, boiled corn, millet, oats, quinoa, wheat	Use fresh grains, not 'instant' products. Do not add salt.
Nuts	Almonds, Brazil nuts, cashews, hazelnuts, pecans, peanuts, pine nuts, pistachios, walnuts	Should be unsalted.
Herbs	Basil, cilantro, coriander, dill, mint, oregano, parsley, rosemary, sage, thyme	Raw.
Protein	Channa, lentils, red beans, other peas, and beans	All must be cooked and without salt. Must not be canned.
Other	Chia seed, flax seed	Can sprinkle small amounts on other foods.

Unhealthy or Toxic Foods (Do Not Feed to Macaws)	
Alcohol Avocado Caffeine Cassava Chocolate Cocoa Dairy products/Milk Dry or canned peas and beans Eggplant Flour (Bread & Roti)	Fried, greasy or junk foods Fruit seeds or pits Garlic Meat Mushrooms Nutmeg Onion Potatoes Salty and sugary foods Stems from Nightshade plants (eggplant and tomato greens, pepper stems)

without sunflower seeds is preferred as these are often selectively eaten. As for nuts, Macaws can also be offered peanuts, walnuts, hazelnuts, pecans, almonds, or Brazil nuts. Variety is critical as each food will provide different vitamins and minerals.

While Macaws mostly eat plant matter, they are omnivores, so they require some additional protein sources. They will especially need extra protein for energy when they are still growing and during breeding seasons. This protein can be offered in the form of soaked and sprouted seeds. This easy form of processing seeds allows the seed to be at its highest nutritional value. Other suitable forms of protein can include grated or chopped boiled eggs, insects, small amounts of meat, or bones with exposed marrow. Meat products aren't necessary, but if you choose to feed them, exercise caution with hygiene as bacteria that grow on meat can be extra harmful if mishandled.

Fresh, clean water should be provided at all times. It should be placed in the enclosure so that it is easily accessible. Water should be changed daily even if it still looks fresh. Bacteria can quickly grow in stagnant water and go unseen. This is especially likely in the warm, humid climate of the Caribbean.

Finally, baby macaws require very special attention to keep them well nourished. Without parents, baby birds need to be hand-fed for 3-5 months. There are hand-rearing formulas that are available at pet shops and local veterinarians also advise that Nestum formula can be used if it is made with water, rather than milk. Baby birds should be fed with a syringe and will require feeding every 2-4 hrs in their first month of life, and then twice daily until they are at least two months old. Avoid giving water orally to babies as they can drown. The hand-rearing formula will provide them with adequate hydration.

Regular Cleaning and Bathing

The captive environment is hugely different from the natural habitat Macaws thrive in. Without the expansive space, natural climate, and thousands of other coexisting species of organisms, there is a lot of care a keeper must take to keep the environment clean and safe for Macaws. Perhaps the most important of these keeper duties is practising excellent cleaning and hygiene. A good cleaning regime will prevent the build-up of harmful pathogens in the enclosure and reduce potential harm to the Macaw and the keeper.

All food should be removed an hour after feeding since remaining food can attract pests that bring diseases and encourage bacterial growth in a warm climate. All faeces should be cleaned up daily for the same reasons. All feed bowls should be cleaned thoroughly with warm water and detergent before serving food or water. After cleaning, they should

be rinsed with fresh water to rid them of any cleaning product residue to avoid transfer to food. In addition, soiled perches and surfaces should be cleaned as needed.

Alongside a daily routine, your Macaw's entire enclosure requires a total deep clean approximately every two weeks. This involves scrubbing all surfaces and disinfecting all furnishings, such as perches and bowl holders. During this routine, the substrate should also be refreshed. Paper or newspaper should be replaced, and sand or soil should be dug over with a spade or rake.

Be wary of the products you use to clean. It is ideal to use products designed for avian care and that are vet-approved. Other non-toxic household cleaners or a solution of warm water and vinegar can also be effective. Ventilation is vital during and after cleaning as cleaning products in the air can contribute to respiratory illness in Macaws. After cleaning, a freshwater rinse should also be used to erase product residue.

Macaws should have the opportunity to bathe regularly to help maintain healthy skin and plumage conditions and control external parasites. A birdbath can be provided, but due to their natural rain bathing behaviours, they will likely prefer to be sprayed or misted with water for bathing. Mist near your Macaw to allow them to move into the stream if they choose to, rather than spray them directly. You will be able to gauge their enjoyment by their response of opening their wings and preening under the water.



Blue and Gold Macaw spreading its tail and wings while enjoying a mist bath. Photo Credit: Cyrus' Mom via Flickr.

Mental Health Support

In the wild, a Macaw's mental well-being is supported by its natural behaviours. Foraging, socialising, bonding, and breeding occupy most of their time and gives them outlets for mental and physical energy. In captivity this mental well-being must be prioritised, as without their natural environment and flock companionship Macaws can quickly suffer from mental health problems associated with under-stimulation. Bored captive Macaws will display signs of distress that range from screeching and aggression to severe self-mutilation such as feather plucking (van Zeeland et al., 2009). Long-term under-stimulation can cause permanent damage to such an intelligent animal.



You can provide stimulation for your Macaw in the form of enrichment. Enrichment can be simple “toys” for your Macaw to interact with, such as boxes for chewing, ropes for swinging, and hidden items for exploration. Ensure all enrichment is safe for chewing; this means no plastic items. Instead, opt for untreated wood, paper, and cardboard. Considering that a large portion of a wild Macaw's time is spent foraging for food, using captive Macaws' food in their enrichment can help encourage natural foraging and extend the time they usually spend eating. This can be as simple as putting the food in a cardboard box or paper cup so that the Macaw must figure out how to get it out.



Macaws need play for enrichment and mental health. They enjoy chewing simple toys made of paper, wood and other natural materials.
Photo Credit: Andria (left) and Lorianne DiSabato (right).

Macaws are highly social, and they value interaction and companionship. In the absence of other Macaw for socialisation, your Macaw will enjoy spending time with you, their keeper, and can form a stimulating bond with you. Talking and interacting with your Macaw can offer them social stimulation and build trust between you. A Macaw that trusts you will feel more secure in your home, and this will reduce the stress they experience from captivity.



Playing with toys like cardboard boxes (left) and rope (right) helps Macaws exercise and mimic wild behaviours.
Photo Credit: The_Gut (left) and Cyrus' Mom (right) via Flickr.

Last but not least, exercise is a vital part of a Macaw's well-being. Adequate exercise has both physical and mental benefits as it allows for the expression of many natural behaviours. A large outdoor aviary should allow for enough exercise and can be encouraged over time by adding, removing, and moving around the furnishings in the enclosure for novelty. In a smaller enclosure, your Macaw should have the opportunity to be out of their enclosure for at least 3 or 4 supervised hours a day in a safe and secure room.

Safety in the Household

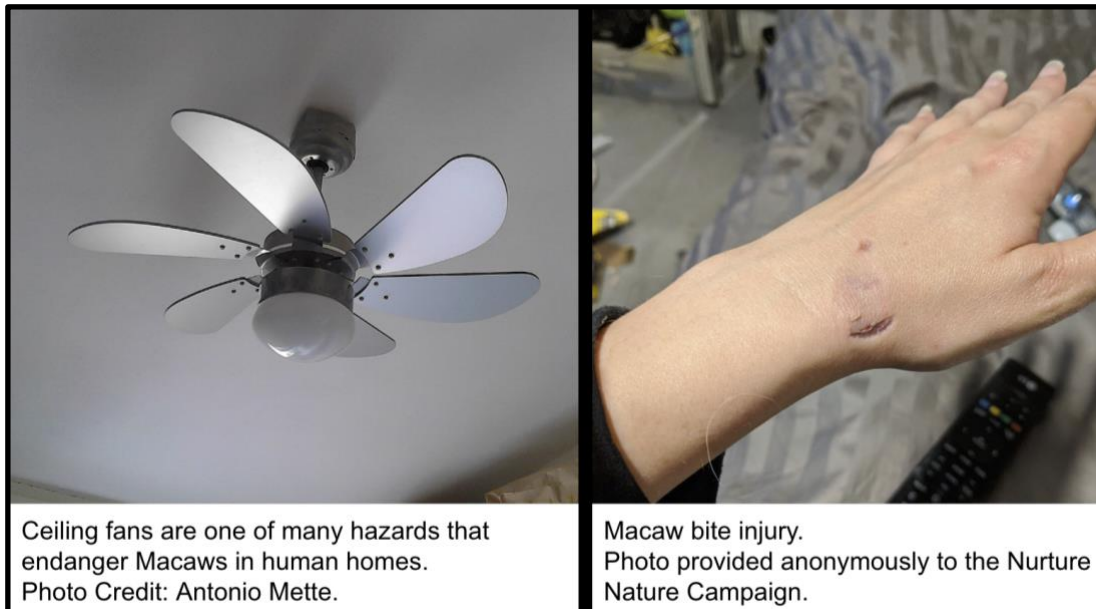
Macaws are not domesticated animals, but wild species of parrots. Their presence in the home of humans comes with very serious safety risks, both for the bird and for the human keeper. These risks can be minimised and managed during a short-term care situation with close care and consideration.

Firstly, as a keeper you must be aware of the dangers of keeping a wild species in your home. The Macaw family features some of the largest parrot species that can deliver powerful and painful bites. Even mild, warning bites can cause significant injury to you. Macaws that are highly stressed and scared will be more likely to bite. Reducing stress and recognizing your Macaw's behaviours and signs of discomfort can help you avoid any aggressive injury.

Macaws can also carry zoonotic diseases, which are diseases that can be transferred between non-humans and humans. Some common zoonoses in Macaws include Salmonella, Giardiasis, and Chlamydiosis. Prioritising your personal hygiene is a vital part of care. Wash your hands before and after physically interacting with your Macaw or their enclosure. Keep your Macaw's food preparation tools, bowls, and cleaning equipment separate from your household's. It is also recommended to use personal protective equipment when deep cleaning enclosures, such as gloves to reduce bacteria contact and a facemask to protect yourself from airborne pathogens. Good ventilation where the Macaw enclosure is placed will also help to reduce the risk from inhalation of invisible faecal and feather dust.

In addition to your own personal safety, there are also risks for Macaws inside the home. Birds have lightweight, delicate bones to help them fly, but these are particularly susceptible to fractures and breaks from rough play and crash landings. The home environment should be "Macaw proofed" when your Macaw spends any time outside their enclosure. Common objects such as mirrors and fans can be hazards to fly into, while other objects such as exotic houseplants, electrical items, and galvanised metal can cause harm if chewed and ingested. Other animals in the house, such as pet cats

and dogs, can cause harm to a Macaw, whether as an unexpected aggressive act or rough play. Ensure the room is secure to prevent your Macaw from escaping. They may not survive going back to the wild from captivity without rehabilitation.



Ceiling fans are one of many hazards that endanger Macaws in human homes.
Photo Credit: Antonio Mette.

Macaw bite injury.
Photo provided anonymously to the Nurture Nature Campaign.

It is possible to clip a Macaw’s flight feathers to eliminate the risk of flying away. This is illegal in Trinidad and Tobago. The ethics of this practice is highly debated. It can very easily be done incorrectly by inexperienced handlers, causing blood infections or permanent damage to the wing. Prolonged wing clipping can also lead to a Macaw losing the confidence and breast muscles to be able to fly. If their wings are clipped at a young age, they may never develop the associated flight muscles (Glendell, 2012). A Macaw that cannot fly will never be able to return to a natural life in the wild.

Air Pollutants	Risky Objects
Aerosol sprays Air fresheners Cleaning products Insecticides Essential oils Glues Hairspray Kitchen smoke Scented candles Strong perfumes Teflon cookware	Air rifle pellets Bathtubs filled with water Batteries Ceiling fans Electrical cords Glazed ceramics Lead paints Lead pipes Mirrors Ornamental plants Toxic foods

Macaws have sensitive respiratory systems and are prone to illness if exposed to harmful air pollutants. Macaws in outdoor aviaries should be kept away from roads or parking areas to minimise fume exposure. Meanwhile, in the home, many air pollutants that would not affect humans can cause harm to Macaws. See the table below for some common air pollutants. Minimise their use and always ensure your home has good ventilation.

Veterinary Care

Macaws have more demanding care than many first-time keepers may realise. It is common for inexperienced owners to make mistakes that are fatal for captive Macaws. A vital component of a Macaws short-term captive care is veterinary support. Your vet has expert knowledge of the species and can not only offer health services but support and guidance on your care plan, including diet.

Your first vet visit will involve a physical exam and health screening to establish your Macaw's general condition and identify any existing diseases. This baseline is important so you can monitor any potential changes in health and behaviour.



Regular vet check-ups keep Macaws healthy by catching problems before they can become serious. Photo Credit: Exotic Pets Plus Veterinary Clinic.

You should schedule regular check-ups with your vet every 6 to 12 months, as there are many medical issues a keeper will not be able to identify. You should never try to medically diagnose your Macaw, as misdiagnosis will delay potentially vital treatment. Maintaining a close relationship with your vet will allow you to act quickly during an unexpected injury or illness.

There are a number of medical conditions that Macaws are prone to, some of which can be more common in captivity with poor husbandry or diet. Some common issues include (but are not limited to):

- Nutrient deficiencies and associated illnesses (e.g., Metabolic Bone Disease)
- Obesity

- Parasites - external and internal
- Respiratory illness
- Egg binding - the inability to pass an egg
- Fungal infections

Birds like Macaws utilise the “preservation reflex” for survival. Simply put, they are great at hiding their illnesses or injuries, since showing weakness in the wild will put them at greater risk from predators. For this reason, signs of illness in Macaws can be extremely subtle and can be missed easily by keepers. Illnesses can be advanced by the time your Macaw shows symptoms, so seeing a vet quickly is essential.



Part of your daily routine should include a visual health check. Physical examination should be reserved for veterinarians due to the need for specific, safe handling techniques.

Some issues and symptoms to watch out for include:

- **Aggressive or antisocial behaviour** - aggression (such as biting or lunging) and unusual avoidance can indicate stress in a Macaw.
- **Feather plucking** - Macaws removing their own feathers by overgrooming is a prevalent issue in captive populations. It indicates boredom and stress, and this behaviour often persists even after the trigger has been resolved due to permanent emotional trauma.
- **Low energy** - lethargy is a common blanket symptom with many illnesses. Unusually tired or unmotivated Macaws could have underlying health issues.

- **Loss of appetite** - another common symptom for a generally unwell animal. The stress of physical ailments can result in a disinterest in food and water.
- **Unusual faeces** - the digestive system is closely connected to the immune and nervous system, and evidence of illness can often be found in the faeces before any visual symptoms. Look for unexpected changes to your Macaws' faeces such as colour, consistency, and scent.
- **Respiratory distress** - physical signs of respiratory trouble include open mouth breathing, tail bobbing, and breast heaving.

While the above signs include some of the most commonly recognized symptoms, it does not include all symptoms of Macaw illness. If you suspect illness, isolate your Macaw in a draft-free, warm, dry space and contact your vet immediately.

Be a Macaw Rescuer

A third and most important final step in helping a captive Macaw is to start supporting the animal's long-term well-being. Our advice at the Nurture Nature Campaign is that you consider becoming a "Macaw Rescuer" by taking three specific actions.

Action #1: Don't Release This Animal

Do not release this animal into the wild if you think you can no longer care for it. Some captive Macaws are not native to Trinidad and Tobago and so their release would risk disrupting our local ecosystems. Captive Macaws typically require special rehabilitation if they are to be returned to the wild and survive there. This rehabilitation includes teaching the bird to forage and interact with its own species, and sometimes requires many months of training to rebuild their flight muscles.

Action #2: Relinquish, or Get a Permit and Give Long-term Care

If you are truly committed to giving this animal the best long-term quality of life, you have only two meaningful options.

Option 1 is to relinquish your bird to a rehabilitation centre, of which there are several in Trinidad and Tobago. In fact, two of our NGO coalition members are wildlife rehabilitation centres: the El Socorro Centre for Wildlife Conservation in Trinidad, and Corbin Local Wildlife Park in Tobago. Contact them for more information on how and where you can relinquish wildlife.

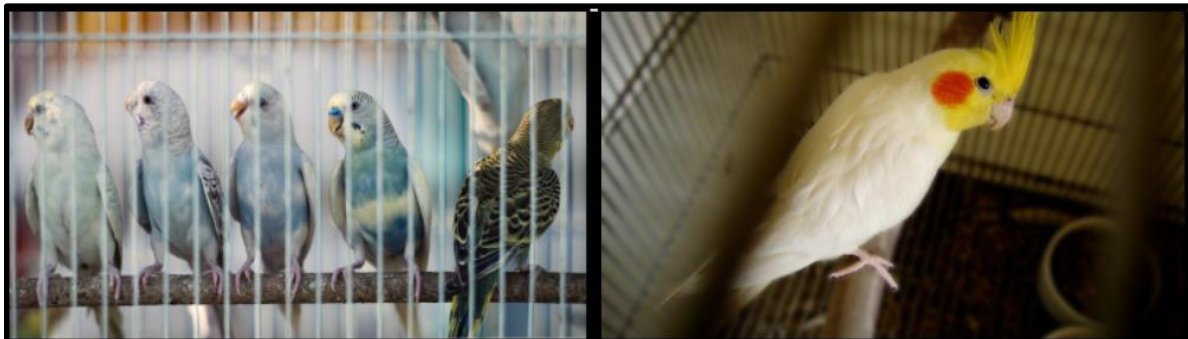
Location	Rehabilitation Centre	Phone	Website
Trinidad	El Socorro Centre for Wildlife Conservation	1 868-366-4369	www.wildliferescuett.org
Tobago	Corbin Local Wildlife Park	1 868-327-4182	www.tobagowildlife.org

Option 2 is to commit to legal and high-quality care for the at-risk Macaw now in your home. It is possible to apply for and receive a government permit to have a Macaw, but only if the bird is well cared for. You can contact your local government agency for information on how to apply (see the table below). Meanwhile, appropriate long-term care would require that you establish a care plan with a veterinarian and that you construct a large enclosure to let the bird fly short distances.

Location	Office	Phone	Website
Trinidad	The Wildlife Section of the Forestry Division at the Ministry of Agriculture, Land, and Fisheries	1 868-225-3837	https://agriculture.gov.tt/divisions-units/divisions/forestry-division/permits-keep-protected-animals/
Tobago	The Division of Food Security, Natural Resources, the Environment, and Sustainable Development	1 868-639-1966 1 868-639-2234	https://www.tha.gov.tt/divisions/food-security-natural-resources-the-environment-and-sustainable-development

Action #3: Stop Buying Wild Animals

The best way to do justice to your Macaw is to make sure that other animals like it are never again harmed by the wildlife trade. For every one Macaw that survives the brutal and uncaring trade, many more will have suffered terribly and have died unnaturally young. To stop the trade, you must commit yourself to stop buying wild-caught Macaws. If you must have a pet bird, there are many alternative captive-bred options at local pet shops, including budgies, canaries, and cockatiels.



Captive-bred birds like Budgies (left) and Cockatiels (right) make great pets for Macaw-lovers. Photo Credit: Faris Algosaiabi (left) and Alfonso Venezuela (right).

Otherwise, there are also many incredible dogs and cats just waiting to be adopted at local shelters that make excellent alternative companion animals. You can contact your nearest shelter by consulting the table below.

Location	Organisation/Shelter	Contact
Trinidad	Animal Welfare Network (AWN)	Phone: 1 868-269-4296 Facebook Direct Message: @AnimalWelfareNetwork
	Animals 360 Foundation	Phone: 1 868-364-7729 Facebook Direct Message: @animals360foundation
	Animals Alive	Phone: 1 868-709-1151 Facebook Direct Message: @AnimalsAliveTT
	Trinidad and Tobago Society for the Prevention of Cruelty to Animals (TTSPCA)	Phone: 1 868-622-1367 1 868-628-1615
Tobago	Trinidad and Tobago Society for the Prevention of Cruelty to Animals (TTSPCA)	Phone: 1 868-639-2567
	Venus Doggess of Love	Email: venusdoggessofoflove@gmail.com Facebook Direct Message: @VenusDoggessOfLove

Conclusion

In closing, there are many ways that you can help at-risk Macaws in Trinidad and Tobago.

You can get to know your Macaw better and appreciate how it is an important part of our natural world or how so many Macaws have been harmfully trafficked from the wild. Few people realise that many Macaws do not survive the harrowing experience of capture, trafficking, and sale.

You can learn about appropriate short-term care practices to ensure that your own Macaw is free from any immediate danger. As you may have learned, caring for Macaws is complicated and involves many considerations, from providing caging and nutrition to cleaning and mental health support to special safety precautions and veterinary care.

You can also become a Macaw rescuer by taking the best steps for your Macaw's long-term welfare. This includes seeing that the bird receives proper care by establishing a long-term care plan with a veterinarian and by obtaining a government possession permit. You can also make sure you will never again support the harmful trade in Macaws by following one simple rule: Don't Buy Wild!

Finally, if you have any remaining questions, we welcome you to contact the Nurture Nature Campaign on Facebook or Instagram, by email (nurturenaturett@gmail.com), or through our website (www.nurturenaturett.org).

Special Thanks

This guide has been developed with the support of many organisations and individuals.

Dr. Mark Gibson, Lauren Ali, Niamh Vaughan, Kristen Clarke, and Adara Jaggernaut with the Nurture Nature Campaign played key roles in shaping the vision and core design of the guides.

Technical support was provided by consulting veterinarian, Dr. Sophie Jeffares, as well as Aleeyah Amanda Ali with the Foundation for Heritage Preservation & Legacy Creation and Ricardo Meade with the El Socorro Centre for Wildlife Conservation.

Review and additional input were provided by the Trinidad and Tobago Veterinary Association (TTVA), the Veterinary Students' Association of Trinidad and Tobago (VSATT), and the School of Veterinary Medicine's Exotics Club. A special thanks goes to Abigail Adiah, Samantha Gopaul, Makella Joseph, Trisha Lalbeharry, Dr. Stacey Ann Ragoobar, and Gabrielle Soogrim.

Various images were generously provided by Sham Sahadeo, Exotic Pets Plus Veterinary Clinic, and the Forestry Division of the Ministry of Agriculture, Land and Fisheries.

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