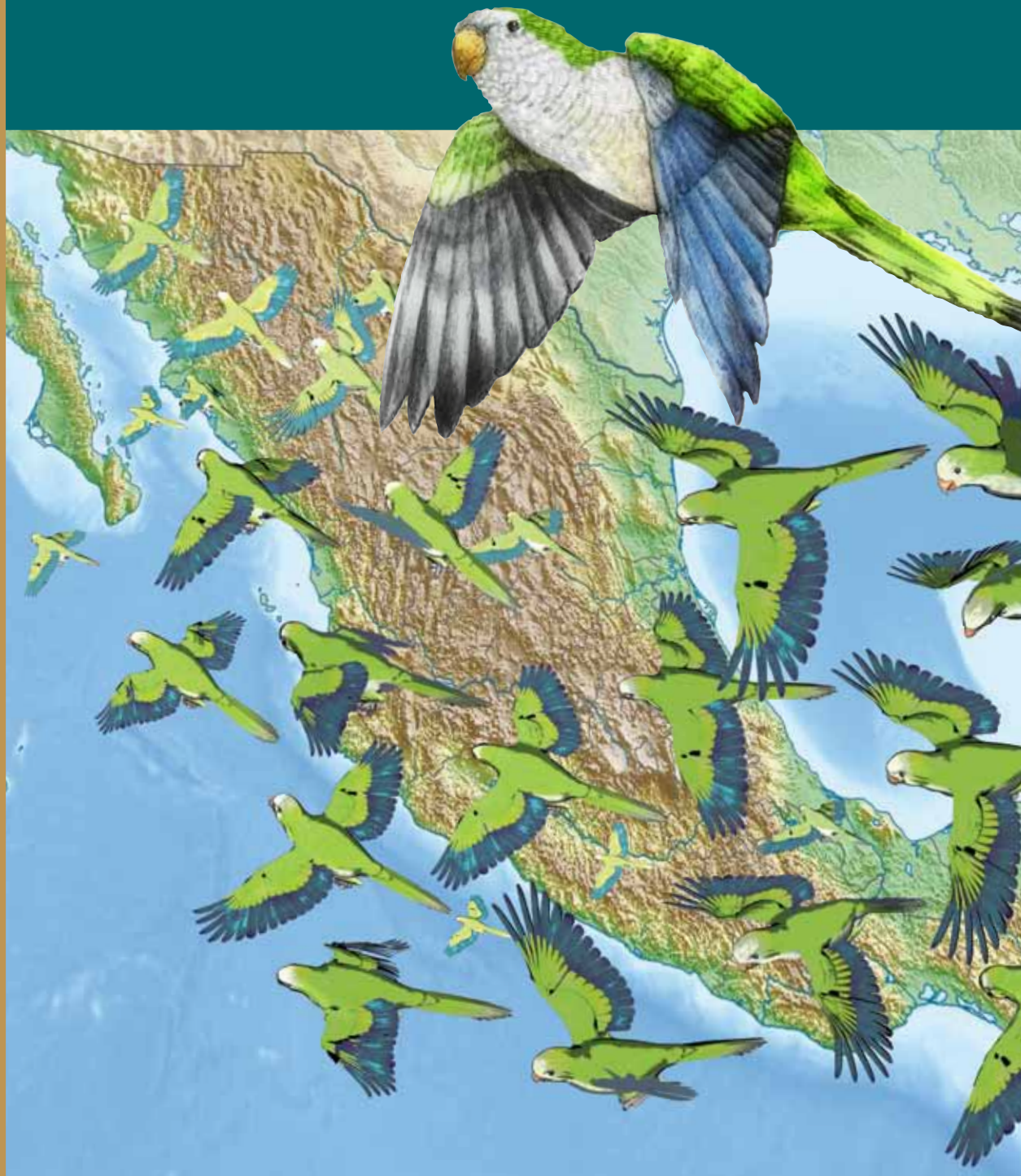


December
2018

MEXICO'S MASSIVE IMPORTS OF MONK PARAKEETS

| debunking a myth

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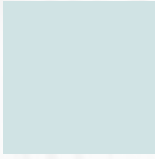


ABSTRACT

The Monk parakeet (*Myiopsitta monachus*) is an extremely invasive species which was imported massively by Mexico in the late 2000's and finally banned in 2014. Over 580 thousand Monk parakeets were imported from 2006-2014, with a street value of over 23 million dollars. The massive importation caused widespread establishment of breeding populations all over Mexico. In 2010 the Wildlife Law banned the importation of exotic invasive species, but Monk parakeet imports continued unimpeded until 2014. Environmental authorities and some scientists put the blame of the massive imports on the 2008 parrot trade ban of all Mexican parrots arguing these occurred as the means to offset the loss of legally trapped parrots. This report documents that this affirmation is false for the following reasons: the massive imports started 2 years before the 2008 ban; it is not credible to offset the loss of an average 2,796 parrot annual capture quota with the import of 584,187 Monk parakeets plus another 835 thousand from 180 exotic species of parrots; the largest annual import occurred when parrot captures were still allowed; the ongoing parrot illegal trade and the ban to import exotic invasive species was never considered by environmental authorities and scientists when making their affirmation; and environmental authorities refused to comply with the 2010 exotic invasive species ban mandate.

Cite: Cantu-Guzmán, J.C. and M. E. Sánchez-Saldaña. 2018. **MEXICO'S MASSIVE IMPORTS OF MONK PARAKEETS: Debunking a Myth**. Defenders of Wildlife and Teyeliz A.C. December 2018. pp 34





INTRODUCTION

The former General Director of the Environment Ministry's (SEMARNAT) Wildlife Office said in 2010: *"As a result of the modification on the sale of psittacines, the importation of "exotic" specimens in Mexico increased ... the Mexican [parrot] species occupied a percentage of the total sales and imports occurred to replace the percentage that was lost"* (Universal, 2010). He then continued to blame the 2008 parrot trade ban and joined with a senator to try to modify the Wildlife Law and eliminate this ban (Sánchez *et al*, 2010).

Scientists researching the increasing distribution of the Monk parakeet in Mexico said: *"... as trading of native psittacid species has become illegal in this country, Monk parakeets are being used to replace some of them in the market"* (MacGregor *et al*, 2011).

The Environment Ministry said *"...the importation of specimens [Monk parakeets] increased because of the ban of trade and exploitation of native Psittacids"* (SEMARNAT, 11 Nov 2016).

The latest research on the distribution of the Monk parakeet in Mexico also blamed the 2008 parrot trade ban: *"... a 2008 change in Mexican governmental regulations restricted the types of parrots allowed in the pet trade, which redirected demand in the legal pet trade within Mexico for nonnative parrot species, and increased demand for nonnative Monk Parakeets"* (Hobson *et al*, 2017).

While both environmental authorities and scientists are right in saying there was an increase of imports of Monk parakeets in Mexico, they are completely wrong about the dates when this occurred, the causes behind the importation and its relationship with the 2008 parrot trade ban. In fact, the 2008 parrot trade ban had nothing to do with the massive importation of Monk parakeets.



The argument that the 2008 parrot trade ban is the cause of the importation of Monk parakeets is false for the following reasons:

1. The massive importation of Monk parakeets started in 2006, 2 years before the 2008 parrot trade ban;
2. Monk parakeets were only one of 180 parrot species being imported by México;
3. Monk parakeets' imports represented 22 times the quantity of parrots captured legally;
4. The premise that imports increase when parrot captures are not allowed is false;
5. The premise that Mexicans were left out of options to buy parrots due to the 2008 parrot trade ban is false given it does not consider the illegal parrot trade;
6. The massive importation of Monk parakeets was not directly affected by the 2008 parrot trade ban, but the 2010 ban on imports of exotic invasive species did affect it directly.
7. Environmental authorities disregarded environmental laws to keep issuing import permits.



PARROT IMPORTS BY MEXICO BEFORE THE 2008 PARROT TRADE BAN

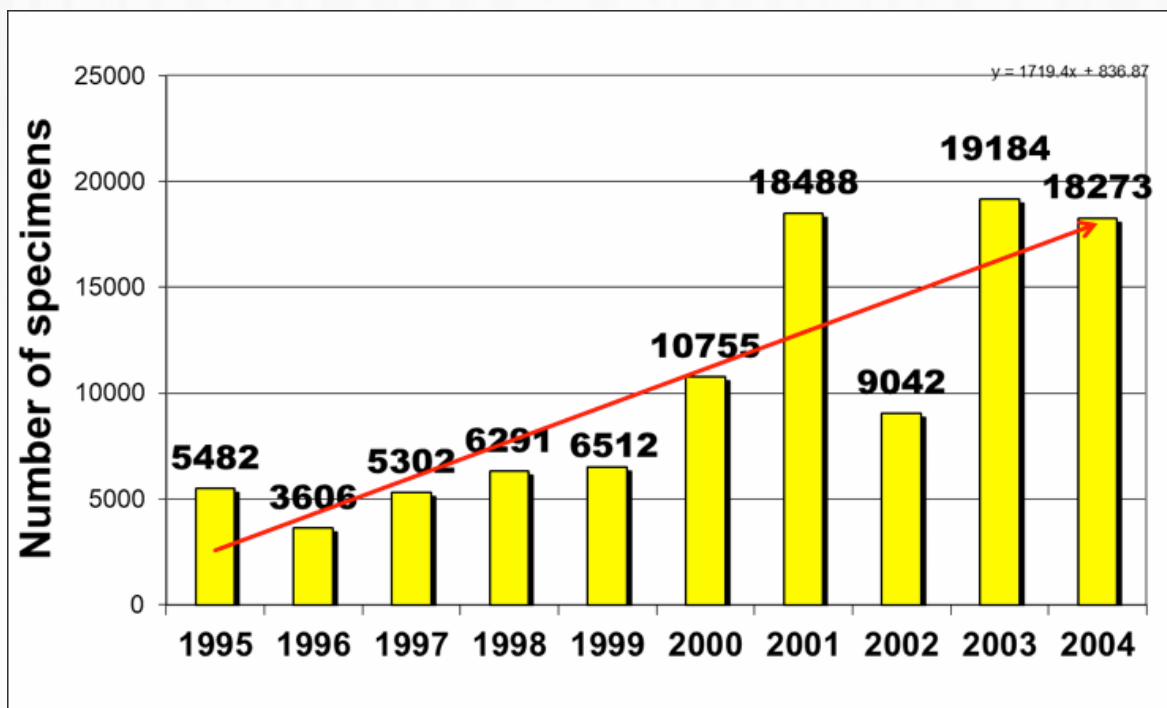
Mexico was considered one of the ten major exporters of parrots in the world and the foremost supplier to the USA in the 1980's with more than 133,000 parrots exported to the USA between 1970 and 1982 (Iñigo et al, 1991). That changed after 1982 because exports of all wildlife were banned in Mexico (Cantú et al, 2007; Iñigo et al, 1991).

Some exports still occurred mainly from captive breeding centers and after the 2000 Wildlife Law was enacted wild caught exports resumed. The total parrot exports from 1995-2004 was 3,859 specimens and the total parrot imports was 102,935 specimens of exotic species for the same period (Cantú et al, 2007).

Mexico had become a major parrot importer (Cantú et al, 2007) several years before the 2008 parrot trade ban. The imports were massive in comparison with the exports and they were increasing (fig 1). It is important to notice that during this period of 1995-2004 when imports were rapidly increasing, the capture of Mexican native parrots was permitted (Cantú et al, 2007), so there was no absence of available Mexican parrot species for the Mexican public.

Fig. 1 Parrot Imports by Mexico 1995-2004

Source: WCMC, 2006
in Cantú et al, 2007



Mexican parrot importers were importing parrots from all over the world and by 2005, Mexico had imported more than 180 species of parrots (Cantú *et al*, 2007). Just in the year of 2000, 111 parrot species were imported (WCMC, 2006). Foremost among the imports was the Peach-faced lovebird (*Agapornis roseicollis*) (fig 2), but the Monk parakeet was already the eight most imported species (Cantú *et al*, 2007).

Fig 2 Top 10 exotic parrot species imported by Mexico, 1995-2005

Source: modified from Cantú *et al*, 2007

SPECIES	Specimens imported
<i>Agapornis roseicollis</i>	32,319
<i>Psittacula krameri</i>	8,145
<i>Agapornis personatus</i>	5,754
<i>Platycercus eximius</i>	5,415
<i>Poicephalus senegalus</i>	4,860
<i>Agapornis fischeri</i>	3,910
<i>Psittacus erithacus</i>	3,782
<i>Myiopsitta monachus</i>	2,931
<i>Cyanoliseus patagonus</i>	2,820
<i>Psephotus haematonotus</i>	1,864

Although Mexico's imports of non-native parrots increased, they were still too expensive for the largest segment of the Mexican public that purchased low-cost, illegal wild-caught parrots (Cantú *et al*, 2007). Nevertheless, more people were buying non-Mexican parrots because pet shops solved the problem by offering monthly payment plans and even guaranteeing a replacement if the bird died. Some department stores offered parrots at monthly payments of six months to one year without interest (Cantú *et al*, 2007).

The information presented by environmental authorities and some scientists for the 2008 ban being the cause of the Monk parakeet imports, fails to mention that Mexico was importing hundreds of parrot species and was importing 26 times more specimens than it was exporting before the ban. The absence of this information gives the impression that the import of Monk parakeets occurred in a vacuum of factors where no other species were imported and where no other factor could have any effect on the imports except for the 2008 trade ban.



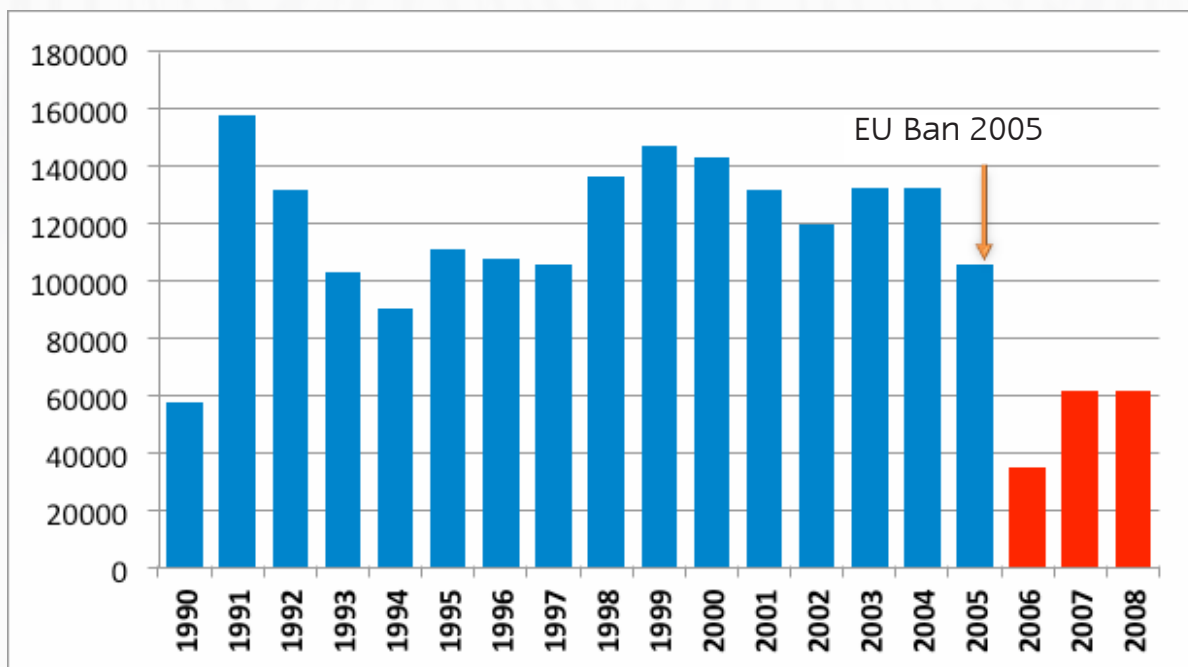
Why did Mexico suddenly become an importer of parrot species? Before the 1990's Mexico had a closed economy where imports were very restricted, and it was very difficult to get authorization to import anything. After the North American Free Trade Agreement was signed with the USA and Canada in the mid 1990's, Mexico opened its borders and became part of the globalization process which allowed the imports of any goods from any part of the world (Sánchez *et al*, 2013). From 2000 to 2012, Mexico had two administrations which for the first time in decades avoided an economic crisis, the peso was stable, and consumers could use credit instead of cash to pay for extravagant goods like exotic parrots (Sánchez *et al*, 2013).

All of this changed dramatically after 2005.

THE MASSIVE IMPORTATION STARTED 2 YEARS BEFORE THE 2008 PARROT TRADE BAN

In October 2005, the EU decided to temporarily close its borders to the imports of wild birds to stop the spread of avian influenza (EU, 2005), the ban was renewed in 2006 (Kyprianou, 2006) and made permanent in 2007 (EU, 2007). So, in practice, the ban started in 2005 and has been in force since then and the imports of parrots to the EU and world-wide decreased. (Fig 3).

Fig 3 World Imports of Parrots 1990-2008 (CITES)



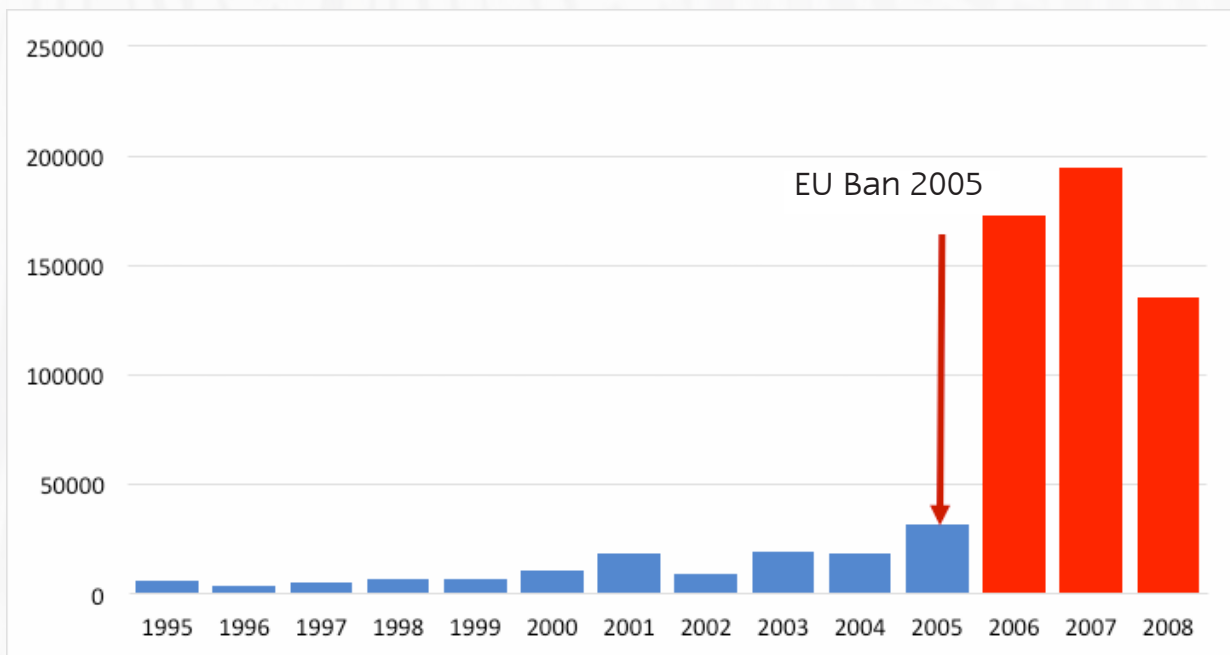
Source: Sánchez *et al* 2017, 2013



Exporters of parrots to the EU had to seek new buyers when the ban of 2005 was implemented. They turned to their other buyers and given that they had been selling tens of thousands of parrots to Mexico for over a decade, it was a natural fit and now they could offer increased amounts of parrots at bulk prices. (Fig 4).

Fig 4 Parrot Imports by Mexico 1995-2008

Source: WCMC, 2006, Sánchez *et al*, 2013



By 2006 Mexico had become the largest importer of Monk parakeets in the world (Fig 5), two years before the 2008 parrot trade ban (Sánchez *et al*, 2017, 2013). Also, by 2006 Mexico became the largest importer of parrots (Fig 6) and by 2007 the largest importer worldwide of listed birds of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (Sánchez *et al*, 2017, 2013; CITES, 2018). In fact, Mexico imported more Monk parakeets in 2006-2007 (51,520 Monk parakeets) -the 2 years before the 2008 ban- than the whole of the EU from 2000-2005 (42,459 Monk parakeets) (CITES, 2018). A year before the parrot trade ban Mexico reached the maximum annual level of parrot imports with 194,028 specimens imported. (fig 6).



Fig 5 Monk parakeet imports by Mexico 2000–2016

Source: Sánchez et al 2017, 2013

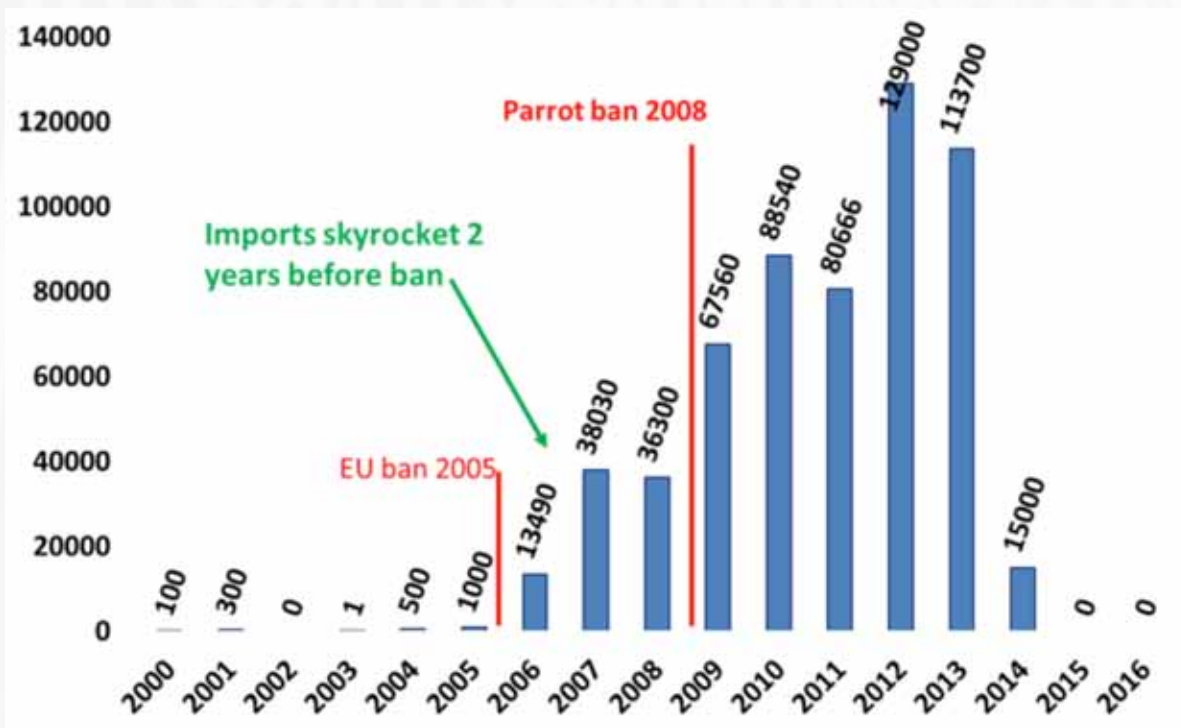
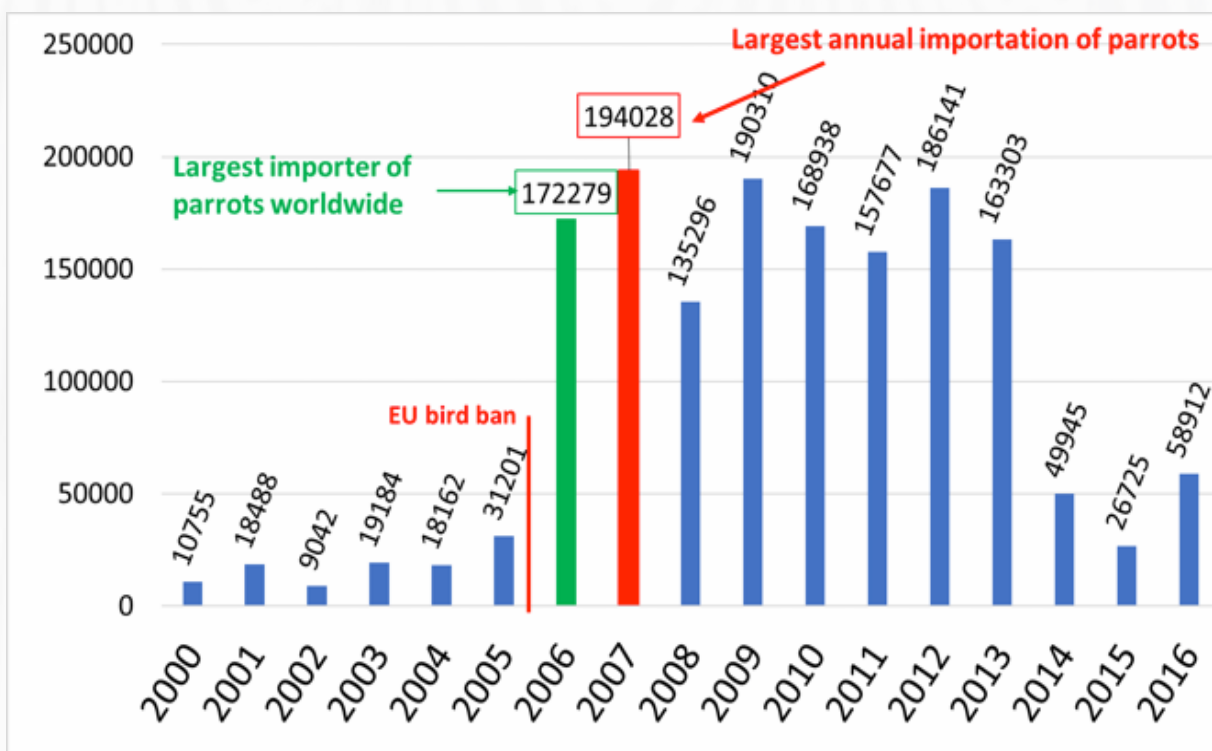


Fig 6 Mexican imports of parrots 2000–2016

Source: Sánchez et al 2017, 2013



PARROT IMPORTS SURPASSED LEGAL TRADE OF PARROTS IN MEXICO

Mexico harbors 22 species of parrots, parakeets and macaws (Macias et al, 2000) In 1998, a manual of procedures for authorizations was published in the Federation Official Diary that established that use of wildlife had to be done through UMAs (private or community land registered as Units for Management and Conservation of Wildlife) and that populations studies had to be done before any authorizations issued (DOF, 1998), this regulation then became law when the Wildlife Law was created in 2000 (DOF, 2000).

Before 1998, quotas for bird species were established through the capture calendars for birds, but these calendars only mentioned the species authorized and a general quota for states. They don't mention how many specimens could be captured by species and by state so there are no records of specimens allowed for capture per year.

The Environment Ministry's Wildlife Office explained why there are no records: *"...before that year [1998] capture authorizations were issued through credentials to trappers of the Registry of Singing and Ornate Birds (RACO). These registries did not make a differentiation between parrots and singing birds. They only established a determined quantity of birds for possession. Thus, it is not possible to have data on the capture of parrots before 1998."* (SEMARNAT, 2006 A).

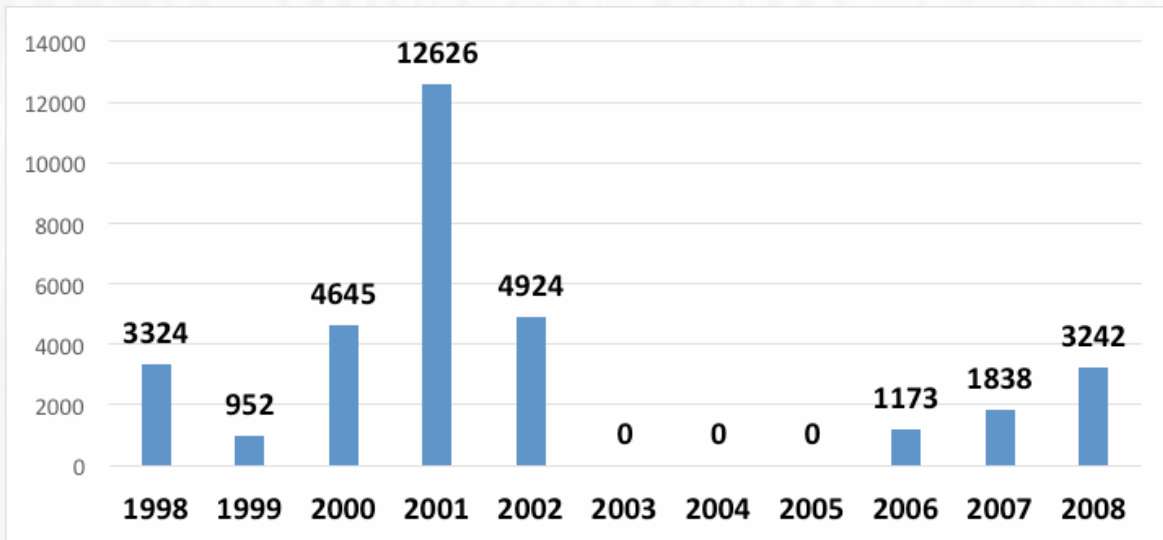
Nevertheless, after 1998, records do exist of how many species and specimens of parrots were allowed to be captured (Fig 7). No parrot captures were allowed during 2003-2005 because no UMA (see above) was able to comply with the requisites of the Wildlife Law (Cantú et al, 2007)

The number of parrots allowed to be captured from 1998-2008 average 2,796 parrots per year (Cantú et al, 2017) with an average of 3.6 species per year (range 0-7) (Cantú et al, 2012). Very few species were allowed to be captured because the number had been dwindling as more and more species were being classified as threatened or endangered (Cantú et al, 2007)



Fig 7 Number of parrot specimens allowed to be captured in Mexico 1998-2008

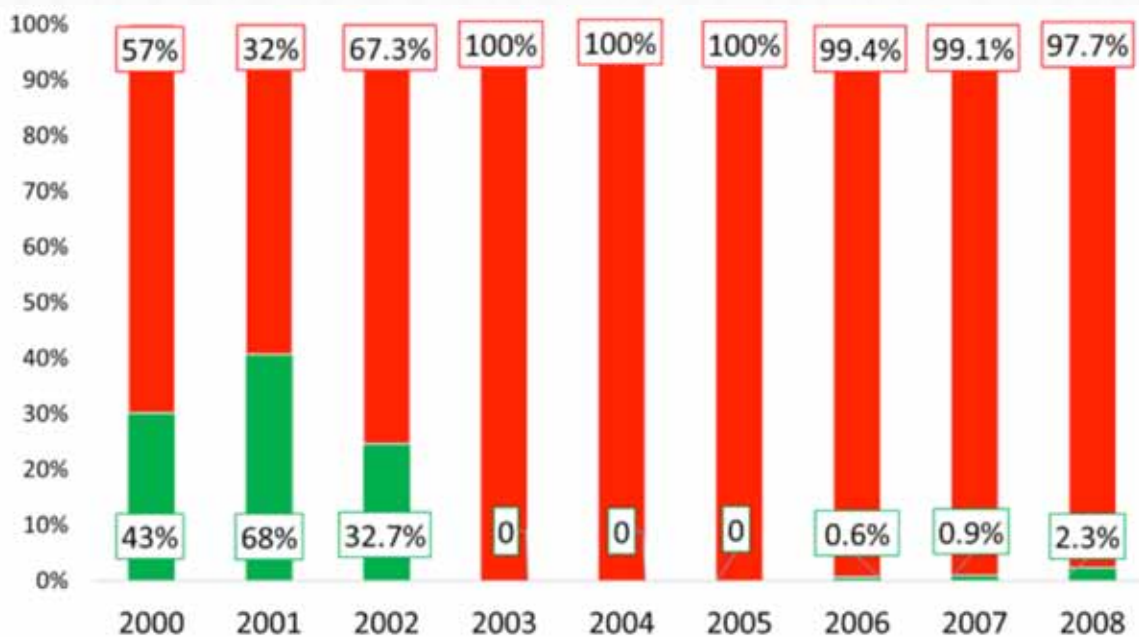
Source: Cantú et al, 2017



From 2000-2008 the annual average of parrots being imported was 67,603 parrots per year (see Fig 6 above) which means that the number of parrots being imported was 24 times higher than the annual average of parrots being captured. The number of parrots allowed to be captured per year is very small when compared to the number of parrots being imported per year. (Fig 8).

Fig 8 Comparison of parrot captures with parrot imports. 2000-2008 (■ = Imports; ■ = Captures)

Source: Sánchez et al, 2017.



Parrot imports far surpassed the number of parrots being captured before the parrot ban of 2008, especially in the 3 years (2006-2008) before the ban entered into force (2003-2005 have a higher difference because no captures were allowed). The argument that a massive import of parrots was needed to offset the loss of legally captured parrots is false given that the massive imports started in 2006, years before the ban, and captures represented only an average of 1.26% from 2006-2008 compared to the 98.7% average of imports. It is absurd to propose a need to import hundreds of thousands of parrots to offset the loss of an average of 2,796 parrots a year after 2008, because the massive imports existed many years before the 2008 ban. Even the imports of Monk parakeets before the 2008 parrot trade ban (89,721 from 2000-2008) surpassed the captures (26,482 from 2000-2008) by 3.3 times, and the total of Monk parakeet imports (584,187) surpassed captures (26,482) 22 times.

THE ILLEGAL TRADE OF PARROTS SURPASSED THE LEGAL TRADE

Not one of all the papers, comments or affirmations that put the blame on the 2008 parrot trade ban for the massive import of Monk parakeets analyzed the illegal trade of parrots in relationship with the legal trade or the imports. They all completely disregarded that the illegal trade of parrots represented between 94.3%-95.3% of all the trade in Mexican wild parrots before the ban (Cantu *et al*, 2012).

It was estimated by the Environmental Enforcement Agency (PROFEPa) that the illegal trade of parrots could be as much as 115,000 parrots a year (PROFEPa, 2002) and a complete analysis estimated the illegal trade to be in the range of 65,000-78,500 parrots a year (Cantú *et al*, 2007). This last estimate is very well known throughout the community of scientific and environmental authority experts on parrots and illegal trade, so much so, that the foremost document on Mexican biodiversity "Capital Natural" by the National Commission on Knowledge and Use of Biodiversity says: "According to Cantú Guzmán *et al* (2007), between 65,000 and 78,500 parrots are captured each year, of which more than 75% die before reaching the final consumer; that is, between 50,000 and 60,000 each year. It is known that between 86 and 90 percent of the parrots Mexicans that are captured are for internal trade (Cantú Guzmán *et al*, 2007)" (CONABIO 2009)



In fact, the information on the illegal trade of parrots contained in the Cantú *et al*, 2007 report was the basis used by legislators to change the Wildlife Law to ban the trade of parrots in 2008 (Cámara de Diputados, 2007). The relevance of the illegal trade of parrots before the ban is so important that for every parrot that was captured legally other 17.5-21 parrots were captured illegally (fig 9) (Cantu *et al*, 2012). Thus, 94.3%-95.3% of all the wild parrots traded before the ban were from an illegal origin. So, it is confounding that both environmental authorities and scientists did not use this information when discussing the imports of Monk parakeets.

Fig 9 Comparison between legal and illegal captures (2000-2008)

Source: Cantú *et al*, 2012

Annual Capture	Number of parrots	Percentage	Proportion of illegal vs legal parrots
Illegal Capture	65,000 - 78,500	94.3 % - 95.3 %	17.5 - 21
Average Legal Capture (1998-2008 without 2003-2005)	3,711	5.5 % - 4.7 %	1

Most of the Mexican public was completely unaware that they were buying an illegal wild parrot. The Environment Ministry made it mandatory that all legally captured parrots had to wear a leg band that was issued by the Wildlife Office (SEMARNAT, 2006 b), but vendors never put the leg bands on so that they could cheat and reuse them year after year (PROFEPA, 2002). In fact, in the rare case that a consumer demanded that a parrot (or any other wild bird) had a leg band to authenticate its legal status, the vendor would say that the price of a bird with leg band was higher and consumers would always opt for the lesser price of a band less bird and thus they never knew if they bought a legal or an illegal bird (Cantú, Sánchez, per. obs).



The reality is that the illegal trade was (and still is) the foremost mean for the Mexican public to buy a Mexican wild parrot, even though the Environmental Enforcement Agency announced in 2017 that illegal trade in parrots decreased by 24% since the ban (PROFEPA, 2017). Disregarding this information leads to a complete misunderstanding of the trade in parrots, its demand and consequences. For example, Dr. Hobson said: *"...regulatory changes in 2008 had made it illegal to purchase native Mexican parrots as pets, in an effort to preserve wild population numbers. The monk parakeet was one of the few options left for people who wanted to lawfully purchase a parrot."* (Nature, 2017). People could not differentiate between legal and illegal wild parrots before the ban and the massive importation of Monk parakeets started 2 years before the ban, so people were presented with both options of Mexican and exotic species to buy, before and after the ban.

Dr. Hobson's affirmation makes several false assumptions, first it assumes that all Mexican people were aware of the 2008 ban immediately after its entering into force, this is not so. The immense majority were not aware of it, even after several years had passed. The Environmental Enforcement Agency and NGOs launched a national communications campaign in 2009 to inform the public of the ban (Cantu *et al*, 2011) Defenders of Wildlife and Teyeliz have kept this campaign ongoing for the last 10 years and keep receiving numerous requests from the public asking which Mexican species are legal to buy. A good portion of the Mexican public is still unaware that all Mexican parrot species are banned from any trade, ten years after the ban.

Second, the affirmation assumes that the illegal trade in parrots ended completely after the ban and the Mexican public had no other option but to buy a Monk parakeet. This did not happen, although there is an ongoing decrease in the illegal trade (Cantú *et al*, 2011, 2012, 2013, 2017) estimated to be 24% by 2017 (Profepa, 2017), illegal Mexican wild parrots were and are still available all over the country, although in smaller number than before the ban.

Third, the affirmation assumes that the Monk parakeet was the only exotic species available for the Mexican public, this is incorrect, given that hundreds of species were being imported by the hundreds of thousands before and after the ban (Fig 10). So, to assume that the Mexican public had no option available of Mexican and exotics species of parrots besides the Monk parakeet is false.



Fig 10 Number of parrots available to the Mexican Public before and after the 2008 ban

Source: DGVS, Sanchez et al, 2013, 2017

Year	Exotic species imports (minus Monk parakeets)	Legal Mexican species	Illegal Mexican species
2006 - 2008	345,888	6,253	65,000 - 75,800 per year
2009 - 2014	520,844	0	65,000 - 75,800 per year (minus 24%)

THE 2010 BAN ON IMPORTS OF EXOTIC INVASIVE SPECIES

We have demonstrated that the massive importation of Monk parakeets started in 2006 several years before the parrot trade ban of 2008. Those who say that the cause of the massive importation was due to the 2008 ban not only fail to acknowledge this fact but they didn't even consider another important fact. In 2003-2005 there were no capture permits for parrots issued and at the time there was no hope of there being any permits soon because none of the UMAs complied with the minimum of requisites, like being registered, doing a populations study, etc. (Cantu *et al*, 2007). In fact, the only reason captures were restarted was that the general director of the Wildlife Office was changed for one that have been in place before and accused by the Environmental Enforcement Agency of illegal trade of wildlife (Alatorre, 2007).

Nevertheless, during the three years of 2003-2005 no capture permits were issued, and the imports of Monk parakeets did not increase exorbitantly, only 1,501 parakeets were imported during that period (Fig 11). In fact, the imports of all other species of parrots did not increase significantly either and even the imports during 2004 were lower than those

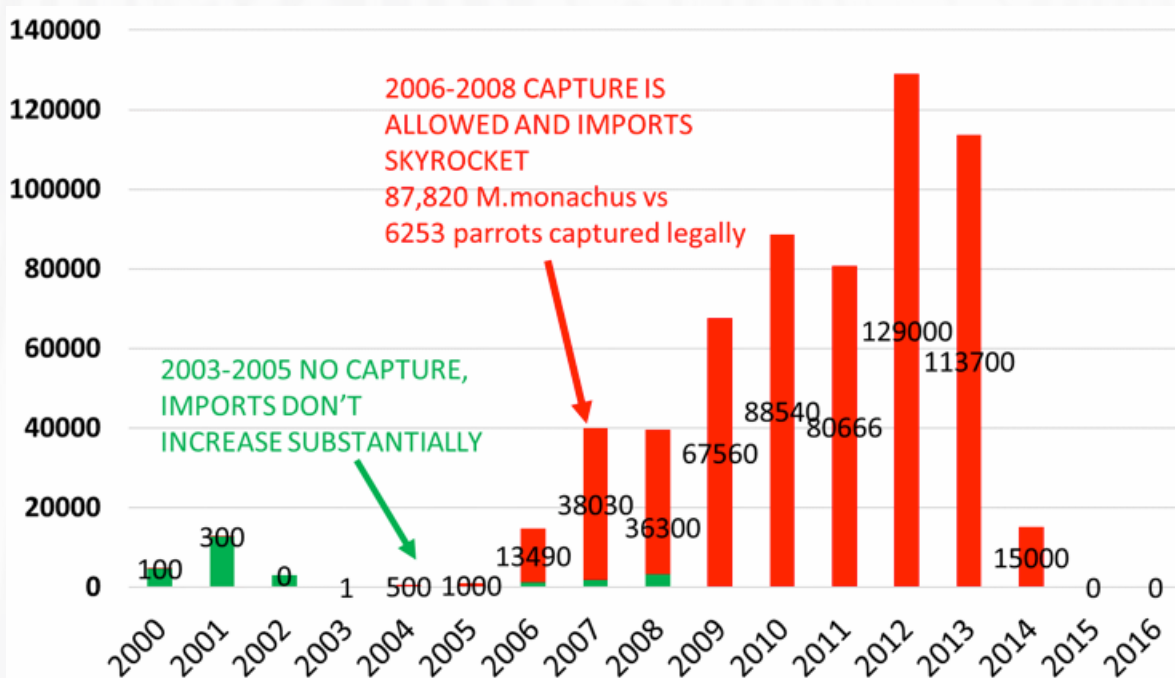


of 2001 when capture of parrots was allowed (see fig 6 above). More to the point, the importers started their massive import of parrots the same year that captures restarted in 2006. The massive imports didn't start in 2003-2005 when there were no captures, they started in 2006 when captures were allowed and continued throughout 2007-2008 when captures were ongoing.

Thus, it is not true that when legal captures of parrots are not allowed, importers of exotic parrots increase their imports to offset the loss so that the Mexican public can buy parrots. Importers could care less if the Mexican public get their share of Mexican parrots, they only care that they buy the exotic parrots they are importing.

Fig 11 Monk parakeet imports compared to parrot captures

Source: Sanchez et al, 2017



The legislation that banned the trade in parrots in 2008 has absolutely no relation to the imports of exotic species of parrots, it only bans capture, trade, imports and exports of the 22 Mexican native species (DOF, 2008). And yet, the legislation that does have a direct relation to the import of exotic species was completely ignored by those who blame the 2008 ban for the massive imports of Monk parakeets.

In 2007 the National Commission on Knowledge and Use of Biodiversity (CONABIO) established in their webpage the Monk parakeet as an exotic invasive species with breeding populations in Mexico (CONABIO, 2007 a, b) (Fig 12). In 2008, a complete list of exotic invasive species was published by CONABIO which included the Monk parakeet (Alvarez et al, 2008)



Fig 12 CONABIO 2007 list of exotic invasive species

Source: CONABIO 2007 a, b

Es importante considerar que algunas especies nativas de México se consideran invasoras si son introducidas a otras partes del país, por lo que los estados que estamos elaborando pronto contendrán información referente a la región en donde se reporta a una especie como invasora.

Agradeceremos mucho a nuestros usuarios, expertos en el tema, que nos hagan llegar información o nombres de especies que consideren que se deben de incluir, al correo especiesinvasoras@conabio.gob.mx, de tal manera que con su apoyo y el trabajo de CONABIO, esta información pueda estar disponible lo antes posible.

Las sexta y séptima columnas deben interpretarse de acuerdo con la siguiente simbología.

Estado de invasión		Rutas de introducción	
NE	Especie no establecida en México	T	Transporte de bienes y personas
Conf	Se requiere confirmar en México	C	Comercio de organismos vivos
E	Establecida en México	H	Otras actividades humanas
		N	Fenómenos naturales
		D	Origen desconocido

Amfibios	Reptiles	Aves	Mamíferos	Peces	
Insectos	Crustáceos	Moluscos	Otros invertebrados	Plantas	Algas

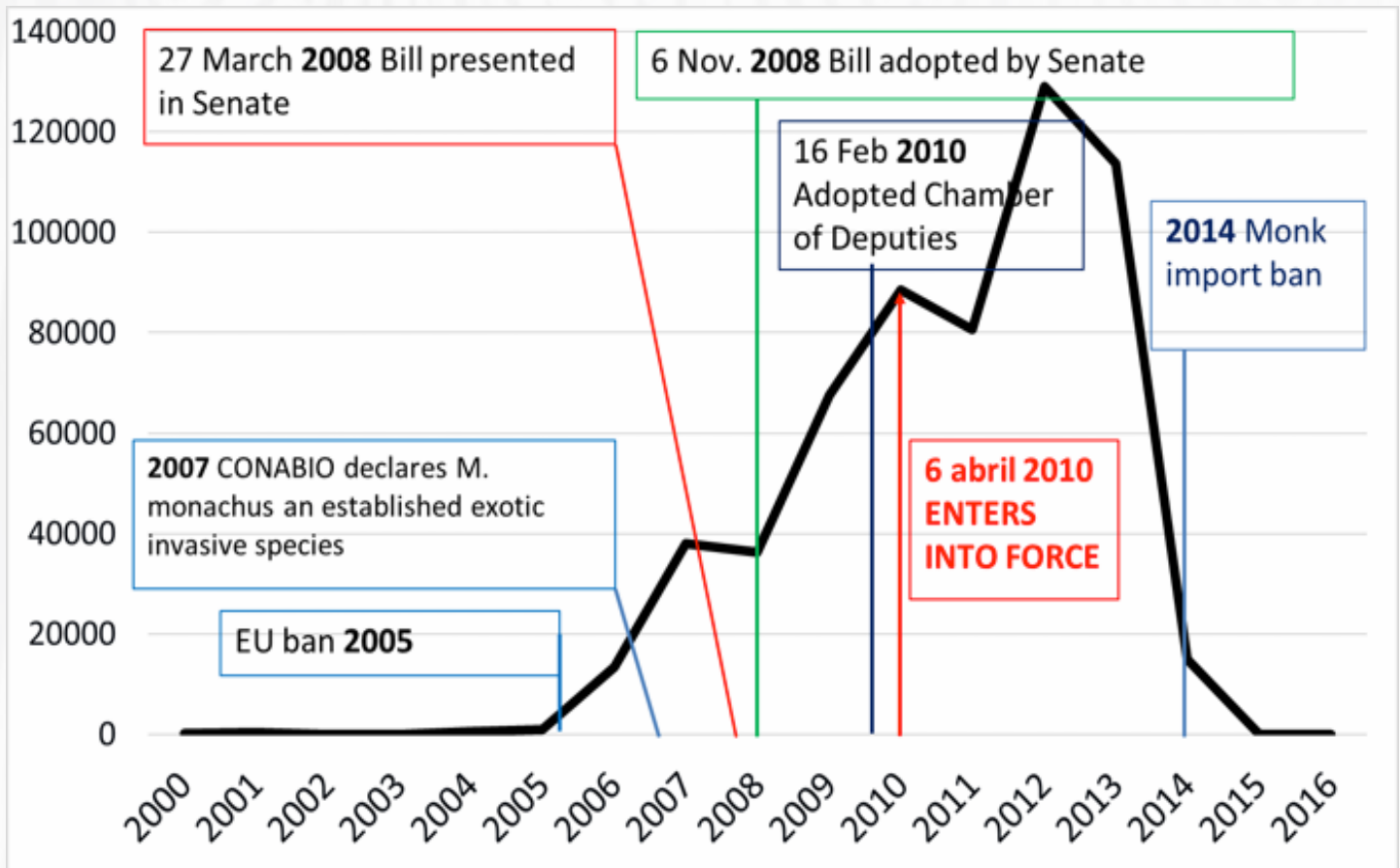
Nombre científica	Grupo	Familia	Nombre común	Ambiente	Estado de la invasión	Rutas de introducción	Ligas
<i>Bubulcus ibis</i>	Garzas	Ardeidae	Garza ganadera, garza vaquera	Terrestre	E	N	ITIS GBIF ISSG
<i>Columba livia</i>	Palomas	Columbidae	Paloma doméstica	Terrestre	E	H	ITIS GBIF ISSG
<i>Molothrus bonariensis</i>	Tordos	Icteridae	Tordo común	Terrestre	E	T,C	ITIS GBIF ISSG
<i>Nyctipitta monachus</i>	Loros, pericos y quacamayos	Psittacidae	Cotorra argentina, perico argentino	Terrestre	E	N	ITIS GBIF ISSG
<i>Passer</i>			<i>Passer domesticus</i> (perico doméstico)				ITIS

In 2008 both our organizations worked with the Technical Secretary of the Commission of Environment and Natural Resources of the Senate to develop and draft a bill whereby all the imports of exotic invasive species would be prohibited; the bill was later introduced to the Senate by the Green Party (Partido Verde, 2008). In November 6, 2008, the bill was adopted by the Senate by 71 votes in favor and 1 abstention (Gaceta Senado, 2008). The bill was then sent to the Deputy Chamber where it was adopted by the Commission on Environment and Natural Resources on December 9, 2009, and given they way the Congress works, once a bill is adopted by the Commission designated to review it, it is a done deal. The importers and Wildlife Office authorities knew at this time there was no way to stop it. On February 16, 2010 it was put to a vote in plenary and was adopted by 375 votes in favor and 7 abstentions (Gaceta Parlamentaria, 2010) and finally it was published in the Official Register and entered into force on April 6, 2010 (DOF, 2010) (Fig 13)



Fig 13 Bill on ban on imports of exotic invasive species and imports of *M. monachus*

Source: modified from Sánchez et al, 2017



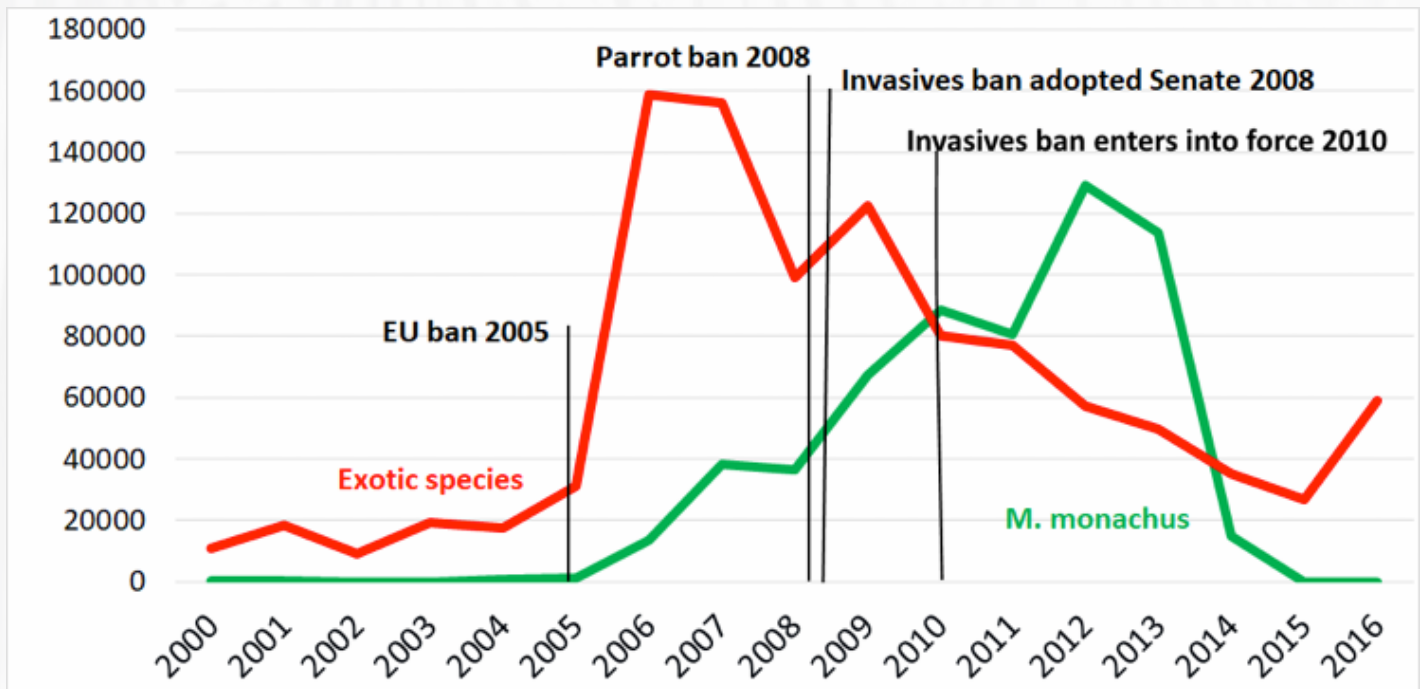
Given that the Monk parakeet had been classified as an exotic invasive species by a government institution in 2007, the new legislation that prohibited the imports of exotic invasive species directly affected the imports of the Monk parakeet. Importers knew about this bill as it went through the legislative process in the Congress of Mexico and lobbyists from several interested parties, lobbied against it to no avail.

Of all the hundreds of species of exotic parrots that were being imported by Mexico, only the Monk parakeet was directly affected by the legislation to prohibit imports of invasive species given that no other parrot was considered an invasive species at that time. The imports of exotic parrots started a decreasing trend after 2007 while those of the Monk parakeet continued its increasing trend that started in 2006. In 2010 the trends crossed when the imports of Monk parakeets surpassed those of all the exotic species and continued its upward trend (Fig 14)



Fig 14 Imports of Monk parakeet compared to exotic species imports with relation to invasive species ban

Source: modified from Sánchez et al, 2017



Monk parakeets were sold at different prices ranging from \$30-\$180 dollars (N=15, prices from 2006-2014, from \$11 pesos per dollar in 2006 to \$13.5 pesos per dollar in 2014) (Cantú, Sánchez per obs). The parakeets were much more expensive in 2006 than in 2014. A total of 582,286 Monk parakeets were imported from 2006-2014, which at an average of \$40 dollars each means a business of over \$23 million dollars street value.

The importers of the Monk parakeet knew that the exotic invasive species bill adopted in 2008 in the Senate could be the end of their lucrative business. If it were true that the 2008 parrot trade ban affected the imports of exotic species as the Wildlife Office authorities said (massive increase to supposedly offset the loss of the legal capture), then it would stand to reason that all species would be affected in the same way. But, the imports of all exotic species started to decrease after 2007 before the 2008 parrot trade ban, except for the imports of Monk parakeets which continued to increase dramatically. So, from 2008 onwards, there was another factor affecting Monk parakeets differently from the rest of the species.

The only factor that affected exclusively the Monk parakeet and not the other parrot exotic species was the exotic invasive species ban that was adopted in 2008 in the Senate, later adopted in the Deputy Chamber in 2010 and entering into force in April of 2010. The Monk parakeet importers knew it was just a matter of time before the window of opportunity to import these parakeets would close forever and they could lose millions of dollars, so



they increased the imports dramatically. In fact, 73% of all the imports of Monk parakeets (from 2000-2014) occurred after the 2010 exotic invasive species ban (Fig 15). No wonder that Hobson et al, (2017) report that: “...it was not until 2011 - 2015 that reports of Monk Parakeets became geographically widespread in Mexico.”

Fig 15 Imports of *M. monachus* before and after the 2010 exotic invasive species ban

Source: modified from Sánchez et al, 2017

Periods	Imports <i>M. monachus</i>	percentage
2000-2009 (10 years)	157,281	27%
2010-2014 (5 years)	426,906	73%

A LEGAL TECHNICALITY WAS USED TO ALLOW IMPORTS OF *M. monachus* AFTER 2010.

The April 6th, 2010 exotic invasive species ban of the Wildlife Law established:

Article 27 Bis 1.- The importation of invasive exotic species or wild species that are carriers of these invasive species that represent a threat to biodiversity, the economy or public health will not be authorized. (DOF, 2010)

Since 2008 several requests were made to the Wildlife Office to stop the importation of exotic invasive species, especially the Monk parakeet (Cantú, Sánchez per obs), but they didn't stop the import authorizations. On May 2010, 5 NGOs sent a letter to President Calderón requesting the compliance of the Environment Ministry with the recent ban focusing on the dangers of the Monk parakeet massive importations as well as other bird species that could be infected with pathogens (Sánchez et al, 2017). In May 2010 the Environment Min-



istry responded to this letter with a vague description of the work they had been doing in the past consistent of the inspection of shipments of wildlife that could carry pathogens and never addressing if they would comply with the law and stop authorizations of imports of exotic invasive species (SEMARNAT, 2010). In September 2010 a public denunciation was presented against authorities of the Wildlife Office of the Environment Ministry for illegally authorizing the importation of millions of specimens of exotic invasive species, including the Monk parakeet (Sánchez, 2010).

In a meeting with the head of the Internal Organ of Control of the Environment Ministry to review the denunciation, it was agreed that there was enough evidence that the law was not being applied with regards to exotic invasive species and an order was issued to put a stop to the import authorizations immediately (Sánchez, per obs). The order was never obeyed. In an informal meeting with the head of the Wildlife Office, he said they couldn't stop the authorizations because *"Where is it written which species are exotic invasive species?"* (Sánchez and Cantú per obs).

The exotic invasive species ban of 2010 also established that a list of these species had to be made, but a list already existed created by CONABIO. Since 2005 CONABIO recognized for Mexico a total of 780 invasive species: 647 species of plants, 75 of fish, 2 of amphibians, 8 of reptiles, 30 birds, 16 mammals and 2 invertebrates (SEMARNAT, 2005). In 2006, after a series of workshops with the participation of authorities from all the institutions of the Environment Ministry (including the Wildlife Office) as well as other ministries, CONABIO recognized a new list with a total of 800 invasive species, including 665 plants, 77 fish, 10 amphibians and reptiles, 30 birds and 6 mammals (CONABIO *et al*, 2006). In 2007 CONABIO published the list of invasive species in its webpage that included the Monk parakeet making the list available to all the public for the first time (CONABIO, 2007a, b) and in 2008 a full list of exotic invasive species with their complete information was published by CONABIO which also included the Monk parakeet (Alvarez *et al*, 2008).

The argument used by the Wildlife Office was basically that CONABIO's list was not a "legal official" list in that it wasn't published in the Official Register to make it mandatory. The reality is that there was no need for an "official list" given that the Wildlife Law gives several legal options to justify import bans of exotic invasive species. For example, they could have appealed to article 5.II: "In no case the lack of scientific certainty can be argued as justification to postpone the adoption of effective measures for the conservation and integral management of wildlife and their habitat" (DOF, 2000). Dr. Gonzalez, sub coordinator of the exotic invasive species program of CONABIO said that the authorities could have considered these species as harmful species (Crónica, 2017).

"The order to immediately stop the import authorizations was never obeyed..."



The fact that the “official list” argument was a bogus legal argument was demonstrated in 2014 when Monk parakeet imports were stopped. On February 13, 2014 the H7N3 avian influenza virus was detected in a shipment of Monk parakeets coming from Uruguay and 1,987 parakeets had to be sacrificed (CITES, 2015). The H7N3 virus is deadly for birds and had caused devastation in the poultry industry in Mexico in 2012 (Expansión, 2012). Import of Monk parakeets was stopped altogether without the existence of an official list.

The Environment Ministry said that the two reasons to stop the import of Monk parakeets were:

“The first is for Animal Health issues, the exotic invasive species represent a loss of biodiversity, because they can be carriers of pathogens for native species and mainly for competing for various resources such as food and shelter. Also, they cause large impacts to the economy, such is the case of the Monk parakeet, which is listed within the 3 species of birds that cause more damage in this area. It competes for food with other species of granivorous and frugivorous birds. Since it is a seed predator it affects the dynamic population of the plant species on which it feeds. This is a species that potentially transmits diseases to other birds and humans.”

“The second reason is because a consultation was made to the National Commission for the Knowledge and Use of Biodiversity (CONABIO) as the Scientific Authority of CITES in Mexico, who ruled that it was a highly invasive species” and as bibliography they cited the 2008 CONABIO list by Alvarez et al. (SEMARNAT, January 4, 2017)

“The need of an “official list” to stop imports of invasive species was a bogus legal argument...”

The legal justification used by the Environment Ministry to ban imports of Monk parakeets was article 5, II on lack of scientific certainty; article 3, XVII, being a harmful species of the Wildlife Law and article 15 on lack of scientific certainty of the General Law of Ecological Equilibrium and Environmental Protection (SEMARNAT, December 13, 2017).

Clearly, the legal argument of the necessity of an “official list” to be able to stop the imports of Monk parakeets was just a legal technicality used to justify their refusal to comply with the law. As further proof that there was no need of an “official list” there is the ban on imports of other exotic invasive species were which occurred between 2010-2015: White-cheeked gibbon (*Nomascus leucogenys*); aquatic turtles (*Apalone ferox*, *A. spinifera*, *Trachemys scripta elegans*, *Pseudemys scripta elegans*, *Chelydra serpentina*, *Chrysemys scripta*, *Chrysemys picta belli*, *Chrysemys picta dorsalis*, *Chrysemys picta picta*, *Chrysemys nelson*, *Pseudemys scripta*, *Pseudemys concinna hieroglyphica*, *Pseudemys rubriventris*, *Pseudemys floridana peninsularis*, *Pseudemys peninsularis*, *Trachemys scripta*, *Trachemys scripta scripta*, *Trachemys scripta troostie*) and the Swirski-mite (*Amblyseius swirskii*) (SEMARNAT, December 13, 2017)



The legal justification the Environment Ministry provided for prohibiting the importation of the aquatic turtles was Article 5, II on lack of scientific certainty of the Wildlife Law; for the white-cheeked gibbon article 55 bis on the import ban of primates of the Wildlife Law; and for the Swirski mite article 8, h of the Convention on Biological Diversity which states that each Party will stop the introduction of invasive exotic species (SEMARNAT, December 13, 2017).

In fact, the “official list” of exotic invasive species was not published in the Official Register until December 7, 2016 (DOF, 2016), almost three years after the Monk parakeet imports were officially stopped.

As it has been demonstrated, there were many legal options to stop the imports of exotic invasive species including the Monk parakeet, even before the 2010 import ban, they just didn't want to do it. So, what really changed in the Environment Ministry that suddenly they were willing to use the provisions of the law to stop the imports? basically personnel change. A new administration took over in 2011 and eventually all the directors and general directors were asked to resign to make way for new ones. But these new ones were also content with the status quo until an emergency occurred in 2014.

“The EU ban cannot be blamed for the massive importation of Monk parakeets...”

DISCUSSION

It has been said that the EU ban of 2005 was the factor that redirected the flow of Monk parakeets to Mexico (Hobson et al 2017). But is the EU ban to blame for the massive importation of Monk parakeets? | **Absolutely not.**

- The importation of Monk parakeets in 2006-2007 by Mexico was larger than the previous importation by the EU from 2000-2005.
- It was not a redirection of the flow from the EU, it was an increased demand by Mexico which would have happened even if the EU ban had not occurred given that Mexico had already become a big importer of parrots from 1995-2004 and was eager to take advantage of the business opportunity at the time.



- This massive increase in the importation was not exclusive of parrots or birds, it also happened with other vertebrates for the pet trade (Fig 16). Mexico had become the second largest importer of live reptiles for the pet trade by the period of 2006-2010, by the same time Mexico was the tenth largest importer of amphibians and by 2001-2005 it had reached the fourth place in imports of live mammals but the Mexican 2005 import ban on primates put a stop to that increase given that most of the mammals Mexico was importing were monkeys for the pet trade (Sánchez *et al*, 2013).

Fig 16 Import increases of CITES species of fauna by Mexico 1996-2010

Source: CITES, 2018; Sánchez *et al*, 2013

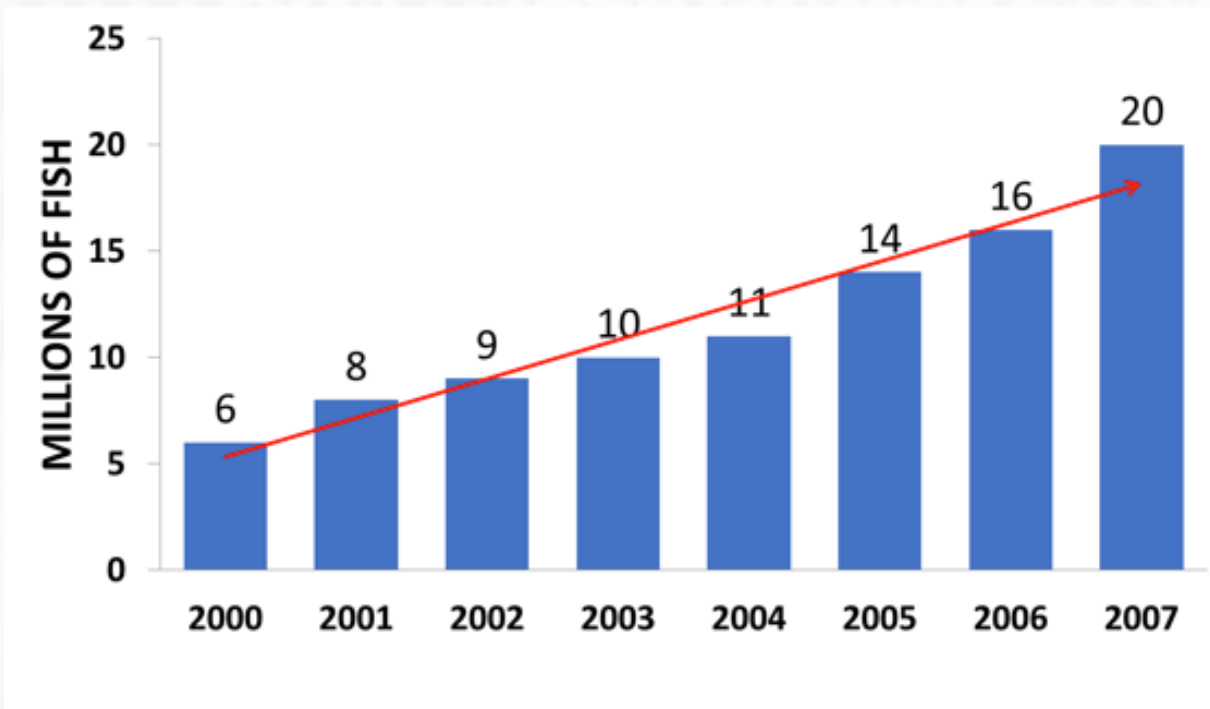
GROUP	1996-2000 PLACE	2001-2005 PLACE	2006-2010 PLACE
BIRDS	-	TENTH	FIRST
REPTILES	-	SIXTH	SECOND
AMPHIBIANS	-	-	TENTH
MAMMALS	FIFTH	FOURTH	-

- The same trend was occurring with the importation of ornamental fish for the aquarium business. (Fig 17). So, the EU ban had absolutely no relation on the Mexican imports of vertebrates for the pet trade which were also being imported massively during the same period when the Monk parakeets were being imported. This increasing trend in the imports was the result of the demand by an eager Mexican public that started when Mexico opened its borders to world trade after the signing of the North American Free Trade Agreement in the 1990's (Sánchez *et al*, 2013). It was just a coincidence that all the massive imports of wildlife happened at the time of the EU ban, including the Monk parakeet imports.



Fig 17 Mexico's imports of ornamental fish 2000-2007

Source: Ramirez et al, 2010 in Sánchez et al, 2013



Is the Mexican parrot ban of 2008 to blame for the massive imports of parrots especially the Monk parakeet? **Absolutely not.**

- The massive importation started in 2006 two years before the ban.
- The massive import of 2006 occurred in the same year that parrot captures were restarted after a 3-year hiatus, thus massive imports occurred when there was a legal capture.
- During the 3-year hiatus of 2003-2005 there were no massive imports, thus massive imports do not correlate directly with there being a legal capture or not, they just occur when the economic opportunity arises.
- More than half a million exotic parrots were imported in 2006-2008 and only 6,253 parrots were legally captured in the same period. It is ridiculous to propose that hundreds of thousands of parrots were needed to be imported to offset the loss of a few thousand parrots a year.
- 94.3%-95.3% of all the wild parrots the Mexican public bought before the 2008 ban, came from an illegal origin and this illegal supply did not end after ban, so the public had no need to buy exotic parrots because their supply of Mexican parrots didn't disappear.



- The imports of the Monk parakeet followed a completely different trend than the rest of the exotic species of parrots. While the imports of exotic species of parrots started a decreasing trend after 2007 one year before the ban, the imports of Monk parakeets continued its increasing trend surpassing the exotic species in 2010. Thus, the imports of all exotic species, including the Monk parakeet, were not dependent of the 2008 ban, they were dependent on other factors like demand, economic opportunity and other regulations like the 2010 exotic invasive species ban.

If the 2010 exotic invasive species ban had a direct effect on the imports of Monk parakeets, then, is this ban to blame for the massive imports of the species? | **Absolutely not.**

- The massive imports started in 2006 many years before the 2010 ban.
- The 2010 ban intended for all imports of exotic invasive species to stop immediately.
- The Wildlife Office authorities were the ones to completely disregard the new law, if they had implemented it, the massive imports would have stopped in 2010 and not until 2014.

Are the importers of the Monk parakeet to blame? | **Not really.**

- The importers are businessmen that only care about profit and they took an opportunity to make millions of dollars. That their greed, complete lack of care about the environment or the economy caused an ecological disaster that will most probably never be resolved, that is another issue.

Are the authorities of the Wildlife Office to be blamed for the massive imports of the Monk parakeet? | **Absolutely Yes.**

- It is their fault because they knew about the invasiveness of the Monk parakeet when they participated in the workshops of CONABIO in 2006. Then they knew in 2007 the Monk parakeet was an established exotic invasive species in Mexico when CONABIO published their list in their web page, and they knew when CONABIO published a complete list in 2008.
- It is their fault because they knew they had the legal tools available in the Wildlife Law, the Environmental Law and the Convention of Biodiversity which in Mexico is a Supreme Law hierarchically above any national law, to stop the imports since 2006 when they found out about the invasiveness of the species.



- It is their fault because they knew there was a problem when NGOs asked them to stop the imports in 2008.
- It is their fault because they knew there was a problem when the first bill to prohibit the imports of exotic invasive species was adopted in the Senate in 2008.
- It is their fault because they knew the bill would be adopted in Congress when it was adopted by the Commission of Environment and Natural Resources in the lower Chamber in 2009.
- It is their fault because they knew they had to comply when the exotic invasive species ban entered into force in April 2010.
- It is their fault because they knew they had to obey the law when the NGOs sent a letter to President Calderón in May 2010 asking to direct the Environment Ministry to comply with the law and stop the imports.
- It is their fault because they knew they were avoiding compliance with the law when they responded to the NGO letter with ambiguities.
- It is their fault because they knew they broke the law when the popular denunciation was presented against them in 2010.
- It is their fault because they knew they were in trouble when the head of the Internal Organ of Control of the Environment Ministry ordered them to stop the imports.
- It is their fault because they knew they had to find a legal loophole to get out of trouble and came up with the “official list” argument.
- It is their fault because they knew they needed a scapegoat to continue to allow the imports going against the law and found it when they publicly blamed the 2008 parrot ban in 2010
- It is their fault because they knew that joining with a senator to present a bill to eliminate the 2008 parrot ban from the Wildlife Law based on their falsehood blaming the 2008 parrot ban (Sánchez et al 2010), would fortify their lie with many sectors of the government, importers, breeders and scientists.



- It is their fault, because they succeeded in creating a myth about the real causes of the massive importation of the Monk parakeet, which is still being used unknowingly by some scientists in Mexico and abroad.
- It is their fault because some authorities from the Environment Ministry are still promoting in Mexico and abroad their myth that the 2008 parrot ban is to blame for the massive importation of Monk parakeets (CEC, 2017).
- It is their fault because as recently as 2017, some environmental authorities, breeders and scientists lobbied in the senate using their falsehood to try and eliminate the 2008 parrot ban in a new Biodiversity Law (Senado, 2017) (which they failed to achieve in the Senate and Deputy Chamber and the bill ultimately failed altogether).
- It is their fault because they could have stopped the entrance of 582,286 Monk parakeets in 2006 when they developed an exotic invasive species list with CONABIO.
- It is their fault because of all the accidental or deliberate liberations of Monk parakeets and the establishment of 97 nesting populations all over Mexico (Hobson et al, 2017).
- It is their fault because they have sentenced Mexico to learn to live with this new invasive species because no country has been able to eradicate their populations once they have established nesting colonies.
- It is their fault because they have the obligation and responsibility to enforce the environmental laws for the protection and conservation of wildlife, their habitats and ecosystems and they didn't do it.
- It is their fault because not only did they knowingly broke environmental laws to permit the massive importation of a highly invasive exotic species, but to compound to their illegal acts, they also blamed the parrot trade ban and tried to eliminate it which would have put the most vulnerable and endangered species of Mexican parrots in more jeopardy.





CONCLUSIONS

The massive importation of Monk parakeets by Mexico was in no way correlated or dependent on the 2008 parrot trade given that the massive imports started in 2006, two years before the ban.

Imports are dependent on economic factors such as demand and opportunity. These two factors coincided with the EU ban of 2005 and the growing demand of exotic pets by Mexicans which started after Mexico opened its borders to globalization through the NAFTA trade agreement in the latter part of the 1990's.

Monk parakeet imports were not responding to the decisions of Wildlife authorities to allow or not the capture of parrots before the 2008 parrot trade ban, and certainly not to offset the loss of the capture of a few thousand parrots a year, given that in 2003-2005 when capture was not allowed there was no upsurge in the imports, and the massive imports started in 2006, the same year parrot captures were restarted in Mexico.

These imports were equally not responding to the access or not of the Mexican public to tens of thousands of illegal Mexican parrots each year, or to the 2008 parrot ban or its consequential decrease in the illegal trade of parrots.

The Monk parakeet imports did respond to the bill adopted in the Senate in 2008 which would ban the imports of all exotic invasive species, given that the species have been publicly classified as such by CONABIO's list in 2007.

The monk parakeet imports increase followed a completely different trend to all other imports of exotic species of parrots, while the latter started to decrease after 2007, the former continued to increase until they surpassed them in 2010 when the ban on the import of exotic invasive species entered into force.



But none of this could have happened without the willing participation of the Wildlife authorities who oversee issuing import permits. Why would these authorities allow the import of over half a million highly invasive species over all the requests to stop it and over the reform of the Wildlife Law that specifically established that no authorization would be issued for the import of exotic invasive species? Who knows?

But Mexico is considered the most corrupt country of the [37] countries members of the Organization for Economic Co-operation and Development OECD (Animal Político, 2016) and in the corruption perception index was ranked number 111 from 180 countries in the world in 2015 and increased the corruption perception to 135/180 in 2017 (Transparency International, 2018)





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