

Thick-billed Parrot (*Rhynchopsitta pachyrhynca*) Reintroduction Programme in Arizona:

Case study on
behavioural deficiencies and disease problems
in captive-reared psittacines

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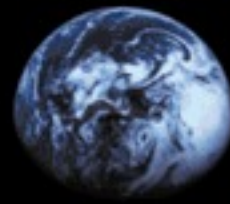
Historic Range:
Sierra Madre / Western Mexico
Southwest Arizona



Extirpated from Arizona
in early 20th century



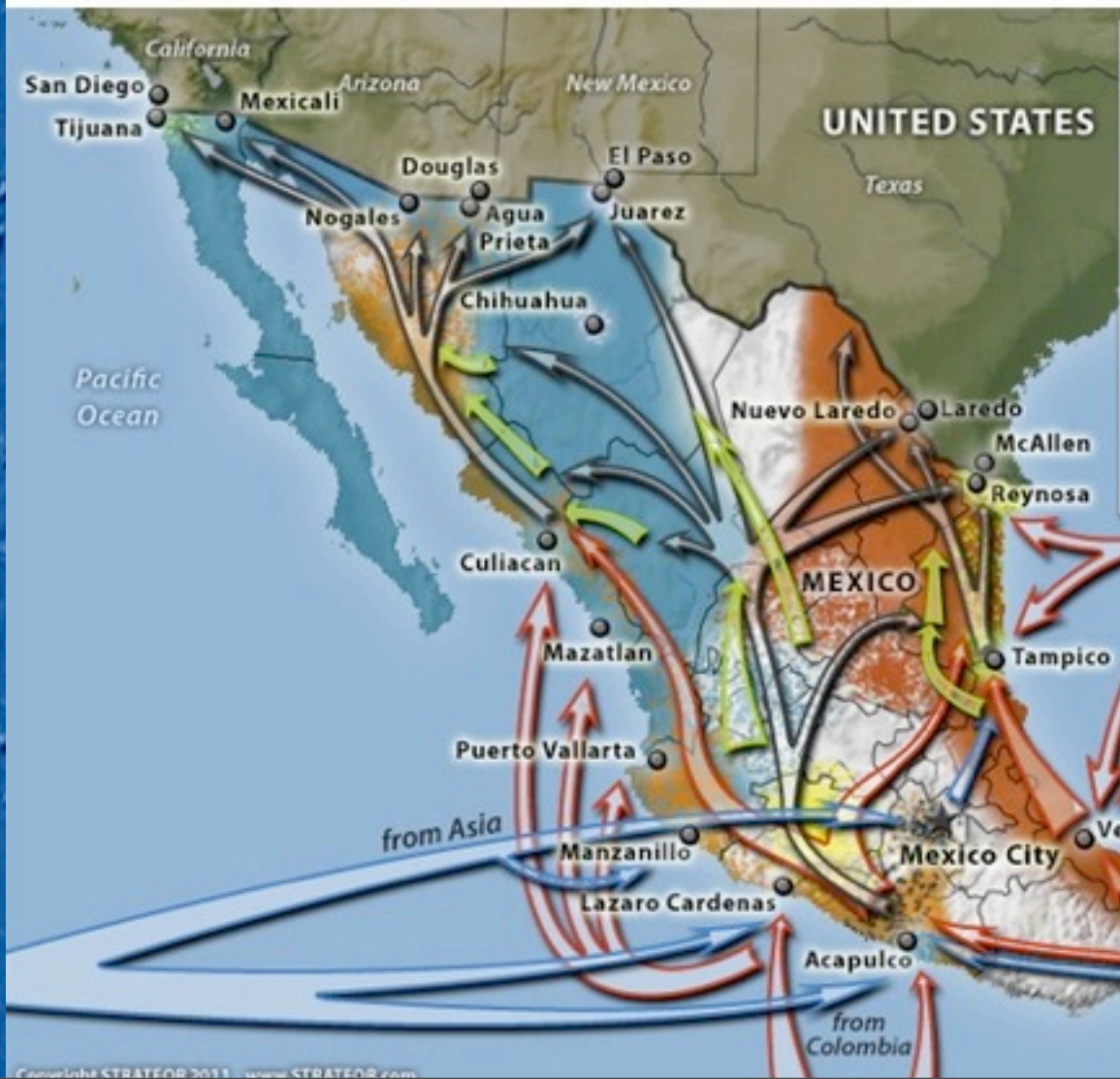
FIGURE 1. Soldiers with Thick-billed Parrots shot in the Chiricahua Mountains in about 1904. Photo: courtesy U.S. National Park Service.



Selected Criminal Groups' Involvement in Environmental Abuses

Environmental Abuse	Criminal Syndicates or Individuals Involved	Estimated Yearly Dollar Value or Value per Abuse
Illegal trade in endangered species and animal parts		\$6-10 billion
Birds	Asian, European, Latin American	\$90,000 per lear macaw, \$20,000 per Mongolian falcon
Ivory and rhino horn	Asian, African	\$30 to \$60 per kilogram
Reptiles and insects	Asian, European	\$30,000 per komodo dragon, \$30,000 per Madagascar plowshare tortoise, \$15,000 per Chinese alligator, \$15,000 per colophong beetle, \$65,000 per Angolan cheetah python
Tigers	Asian, Chinese triad	\$1,300-2,200 per tiger skin and up to \$3,300 for bones of an adult tiger
Wild game	Asian, Chinese triad (Wo Shing Wo and 14k), African	
Illegal fishing		\$4-5 billion
Abalone	Asian, Chinese triad	\$80 million
Caviar	Russian	\$3-4 billion
Illegal logging		\$0.5-1 billion
	Asian, Latin American	
	Chinese, Italian, Turkish	
	Afghan, Pakistani	
	Bosnia and Herzegovinan	
Illegal trade in precious minerals		\$1-2 billion

AREAS OF CARTEL INFLUENCE, WITH SMU



Attempt to restore to historic range using birds confiscated with the drug trade.



Post-release survival of Thick-billed Parrots

Type release	Hard / soft	Date	No. released	% survive 1 month	% survive 2 month
Wild-caught Adult					
Release #1	soft	20-Sept-86	13	77	65
Release #2	soft	19-Oct-86	16	70	--
Release #4	soft	27-Nov-91	8	63	--
Release #5	soft	14-Dec-92	12	75	75
Miscellaneous	hard	1987-1993	16	75	63
Total, means			65	72	67

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Wild-caught Adult Total, means			65	72	67
Wild-caught Juvenile Release #5	soft	14-Dec-92	4	0	0

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Wild-caught Adult Total, means			65	72	67
Wild-caught Juvenile Release #5	soft	14-Dec-92	4	0	0
Captive-bred, Hand-reared Release #3	soft	16-Nov-87	6	0	0
Miscellaneous	hard	18-Nov-87	1	0	0
Total, means			7	0	0

Post-release survival of Thick-billed Parrots




Type release	Hard / soft	Date	No. released	% survive 1 month	% survive 2 month
Wild-caught Adult Total, means			65	72	67
Wild-caught Juvenile Release #5	soft	14-Dec-92	4	0	0
Captive-bred, Hand-reared Total, means			7	0	0
Cap-bred, Parent-reared Release #4 Miscellaneous Total, means	soft hard	27-Nov-91 1987-1993	10 16 16	10 17 13	0 17 6

Post-release survival of Thick-billed Parrots




Type release	Hard
Wild-caught Adult Total, means	
Wild-caught Juvenile Release #5	so
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Cap-bred, Parent-reared Release #4 Miscellaneous Total, means	so ha






Survival Skills

	Food	Water	Avoid Predators
			
Wild-caught Adult	✓	✓	✓
Wild-caught Juvenile (1992)			
Captive-bred Juvenile & Adult			

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	Food	Water	Avoid Predators
			
Wild-caught Adult	✓	✓	✓
Wild-caught Juvenile (1992)	✓ Trained	?	✗
Captive-bred Juvenile & Adult	✗	✗	✗

Survival Skills...After Intensive Pre-Release Training

	Food	Water	Avoid Predators
			
Wild-caught Adult	✓	✓	✓
Wild-caught Juvenile (1992)	✓ Trained	?	✗
Captive-bred Juvenile & Adult	✓	✓	✓



Proventricular Dilatation Disease
introduced from commercial breeder
:: Releases terminated



Figure 3- Barium in this radiograph clearly outlines the proventriculus. Dotted line shows what should be normal size.

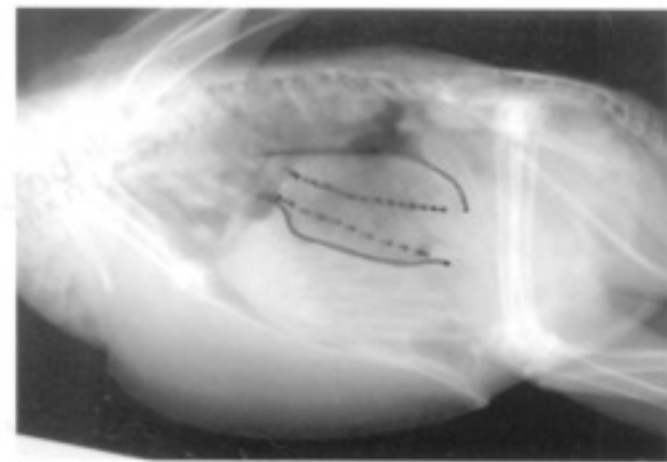


Figure 2- This lateral radiograph also shows enlargement of what appears to be the proventriculus. The edges of the abnormal proventriculus are shown in a solid line. The boundaries of what should be a normal sized proventriculus are shown in dotted lines.

PDD
From D.K. Styles 2008



Thick-billed Parrot Reintroduction Programme



LESSONS LEARNED:

- Prolonged parental care = prolonged learning
 - Handling + finding seasonal food
 - Cues to detect / avoid predators
 - Plastic learning period
- All individuals tracked to identify problems
- Time consuming & expensive
- Can't trust disease screening - poor reliability

CONFISCATED JAMAICAN PARROTS ?

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Thank you!

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