

Israel's System for Risk Assessment of Imported Wildlife for the Pet Trade

Dr. Simon Nemptzov

Israel Nature and Parks Authority

Jerusalem, Israel

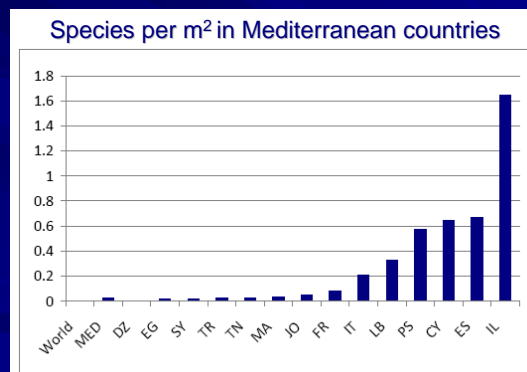
simon@npa.org.il



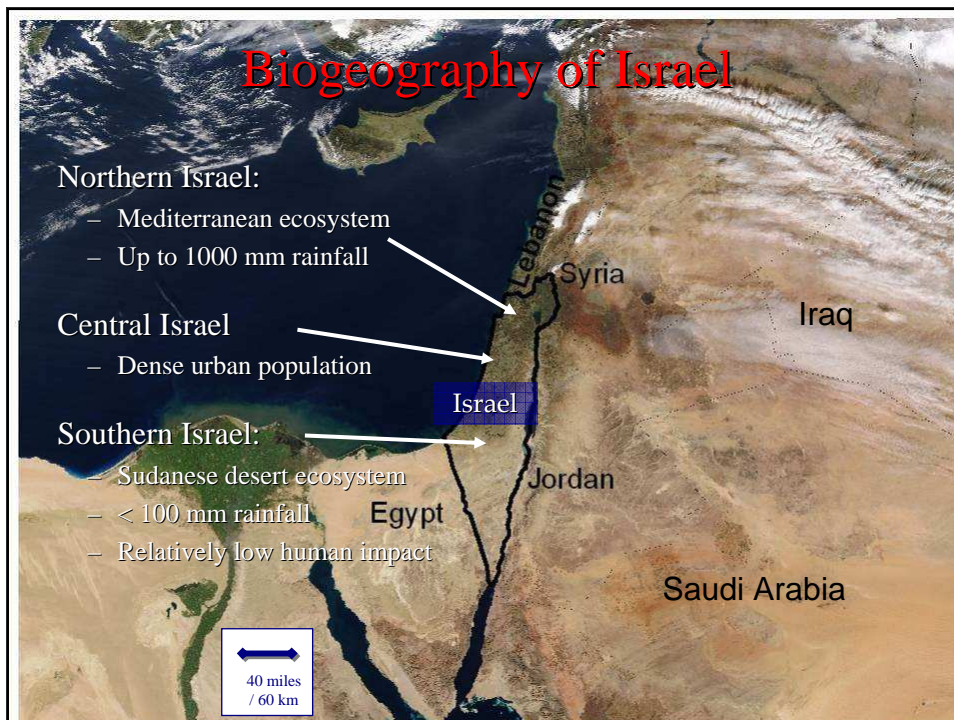
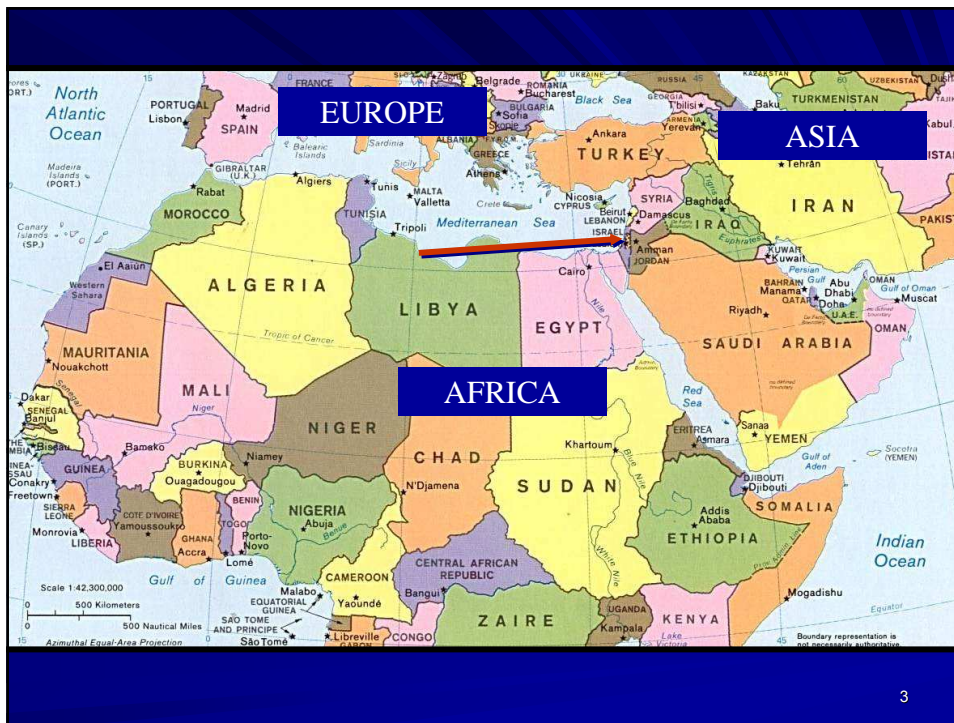
Univ. Notre Dame – April 2008

Israel is especially susceptible to invasive species because of its rich diversity of habitats and ecosystems.

Why does Israel have such a high level of biodiversity?



Eurostat 2008



Israel's geographic factors

- Small area: ~21,700 km² (~ 8,400 sq mi)
 - (about the size of New Jersey)
- Intersection of 3 continents:
 - Asia, Africa and Europe
 - 4 biogeographical regions:
- Rich diversity of ecotones and biota

Sea of Galilee - Lake Kinneret

5

Wildlife biodiversity in Israel

16 species of Carnivores:

- Striped hyena (*Hyena hyena*)
- 5 species of canids: wolf (*Canis lupus*), 3 foxes, golden jackal (*C. aureus*)
- 5 sp. of mustelids: 2 badgers, beech marten, marbled polecat, otter (*Lutra lutra*)
- Egyptian mongoose (*Herpestes ichneumon*)
- 4 species of felids



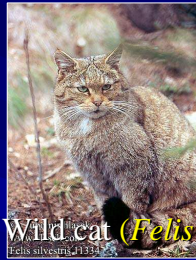
6

Wildlife biodiversity in Israel

4 species of felids:



Leopard (*Panthera pardus*)



Wild cat (*Felis silvestris*)



Caracal (*Felis caracal*)

Jungle cat (*Felis chaus*)



(Sand cat (*Felis margarita*))

7

Risk Assessment Procedure

- Simplified system based on Australia's system (Bomford 1991, 2003)
- Importer requests an import permit from INPA
- No application fee!
- INPA ecologist collects biological data (answers "The Questions"), prepares opinion, and assigns initial risk category (H / M / L)
- 3 ecologist referees → Consensus category



Coypu

The risk assessment questions

1. Could the species survive and **breed** in Israel's climate?
2. Does the species have **what to eat** all year round in Israel?
3. Has this species (or a close relative) successfully **invaded elsewhere**?
4. Could the species **hybridize** with any Israeli species?
5. Could this species **pose a threat** to agriculture, human health, or other species or ecosystems in Israel?
6. Could this species provide any benefit to humans or nature if it became established in the wild in Israel?
7. Would it be **feasible to eradicate** it if it were to become established in the wild?

9

Three risk categories:

The risk category determines who can hold the species

- *High Risk*
 - For research institutes and zoos only
- *Medium Risk*
 - For mini-zoos and collectors
- *Low Risk*
 - For the public and the pet industry



10

Number of taxa assessed

	Allowed after assessment	Banned after assessment	Percent banned after assessment
Amphibians *	12	2	14
Reptiles	117	19	14
Birds	203	85 **	29
Mammals *	4	0	0
Total	336	106	31

* Generally, all Amphibians and Mammals are banned, so very few species are actually assessed.

** Includes many Genera (e.g. *Corvus*, *Ploceus*)

11

Black and White Lists

- White List: species allowed
- Black List: species not allowed (after evaluation)

Transparency

- The Black and White lists, and the scientific opinions for each taxon, are on the internet
- The public may request changes (most requests are for **stricter** control)

12

Examples of Black list birds

<i>Streptopelia chinensis</i>	SPOTTED DOVE
<i>Colinus virginianus</i>	BOB WHITE
<i>Callipepla squamata</i>	SCALED QUAIL →
<i>Lophortyx californica</i>	CALIFORNIA QUAIL
<i>Hypargos niveoguttatus</i>	PETER'S TWIN-SPOT
<i>Lagonosticta rubricata</i>	AFRICAN FIREFINCH
<i>Amandava subflava</i>	ZEBRA WAXBILL
<i>Quelea quelea</i>	RED-BILLED DIOCH
<i>Psittacula eupatria</i>	ALEXANDRINE PARAKEET
<i>Thraupis episcopus</i>	BLUE-GRAY TANAGER



13

Examples of White List birds

<i>Aidemosyne modesta</i>	CHERRY FINCH
<i>Chioebia gouldiae</i>	GOULDIAN FINCH →
<i>Stagonopleura guttata</i>	DIAMOND SPARROW
<i>Pyrrhula pyrrhula</i>	COMMON BULLFINCH
<i>Carduelis spinoides</i>	HIMALAYAN GOLDFINCH
<i>Vidua macroura</i>	PIN-TAILED WHYDAH
<i>Vidua hypocherina</i>	STEEL BLUE WHYDAH
<i>Cacatua alba</i>	WHITE COCKATOO (=UMBRELLA COCKATOO)
<i>Amazona aestiva</i>	BLUE-FRONTED PARROT



14

Examples of Black List reptiles

Morelia mackloti (= *Liasis mackloti*)

Elaphe carinata

Uromastix acanthinurus

Agama agama

Chamaeleo calytratus

Sceloporus olivaceus

Pseudemys (= *Trachemys*)
scripta

WATER PYTHON

TAIWAN STINK SNAKE

BLACK SPINY TAILED LIZARD

COMMON AGAMA

VEILED CHAMELEON

TEXAS SPINY LIZARD

RED-EARED POND SLIDER



15

Examples of White List reptiles

Morelia maculosa

Morelia spilota

Morelia bredli

Aspidites ramsayi

Thamnophis sirtalis

Lampropeltis ruthveni

Lampropeltis zonata

Xenopeltis unicolor

Pogona (= *Amphibolurus*) *viticeps*

Underwoodisaurus (= *Nephrurus*) *milii*

Rhacodactylus ciliatus

Iguana iguana

Basiliscus plumifrons

Tiliqua scincoides

SPOTTED PYTHON

DIAMOND PYTHON

CENTRAL CARPET PYTHON

WOMA PYTHON

COMMON GARTER SNAKE

QUERETARO KINGSNAKE

CALIFORNIA MOUNTAIN KINGSNAKE

SUNBEAM SNAKE

BEARED DRAGON

AUSTRALIAN THICK-TAILED GECKO

CRESTED GECKO

IGUANA

DOUBLE-CRESTED BASILISK LIZARD

BLUE TONGUED SKINK



16

New: Proactive risk assessment

- Pet shop customers don't usually plan ahead exactly which species to buy, just a general type: parrot, snake, lizard
- New cooperative project with pet industry to find attractive, marketable species that pose low risk.



17

Some things we've learned:

- A formal risk assessment allows for greater understanding of the biological parameters of the species being imported.
- The risk from two species in the same family is not always the same.
- Predicting the risk category is difficult without a formal assessment.
- A formal risk assessment is a legal tool that helps fight smuggling of unwanted species.

18