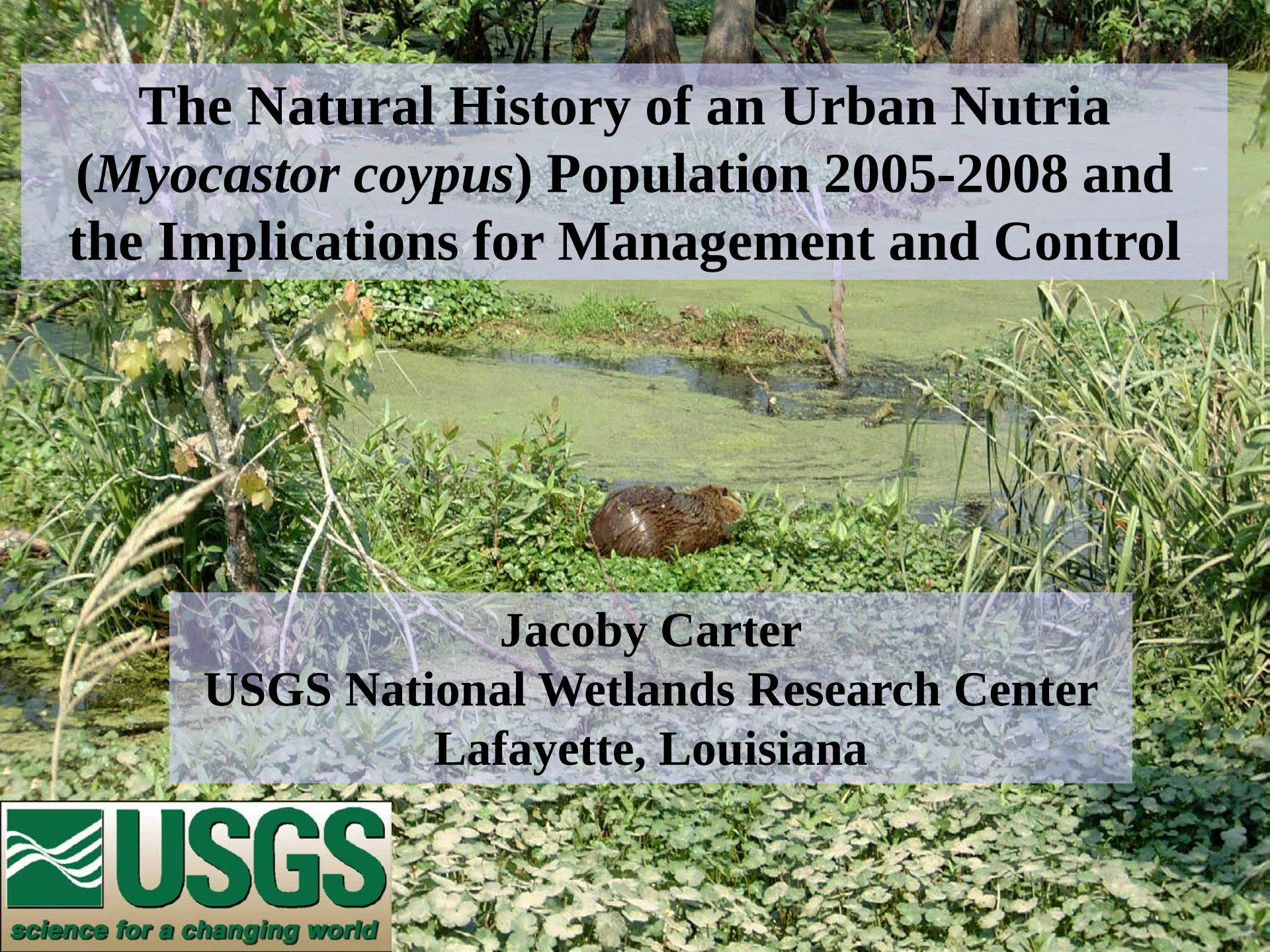

The Natural History of an Urban Nutria (*Myocastor coypus*) Population 2005-2008 and the Implications for Management and Control

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USGS
science for a changing world

BACKGROUND

Aquatic Rodent from S.A. valued for it's fur.

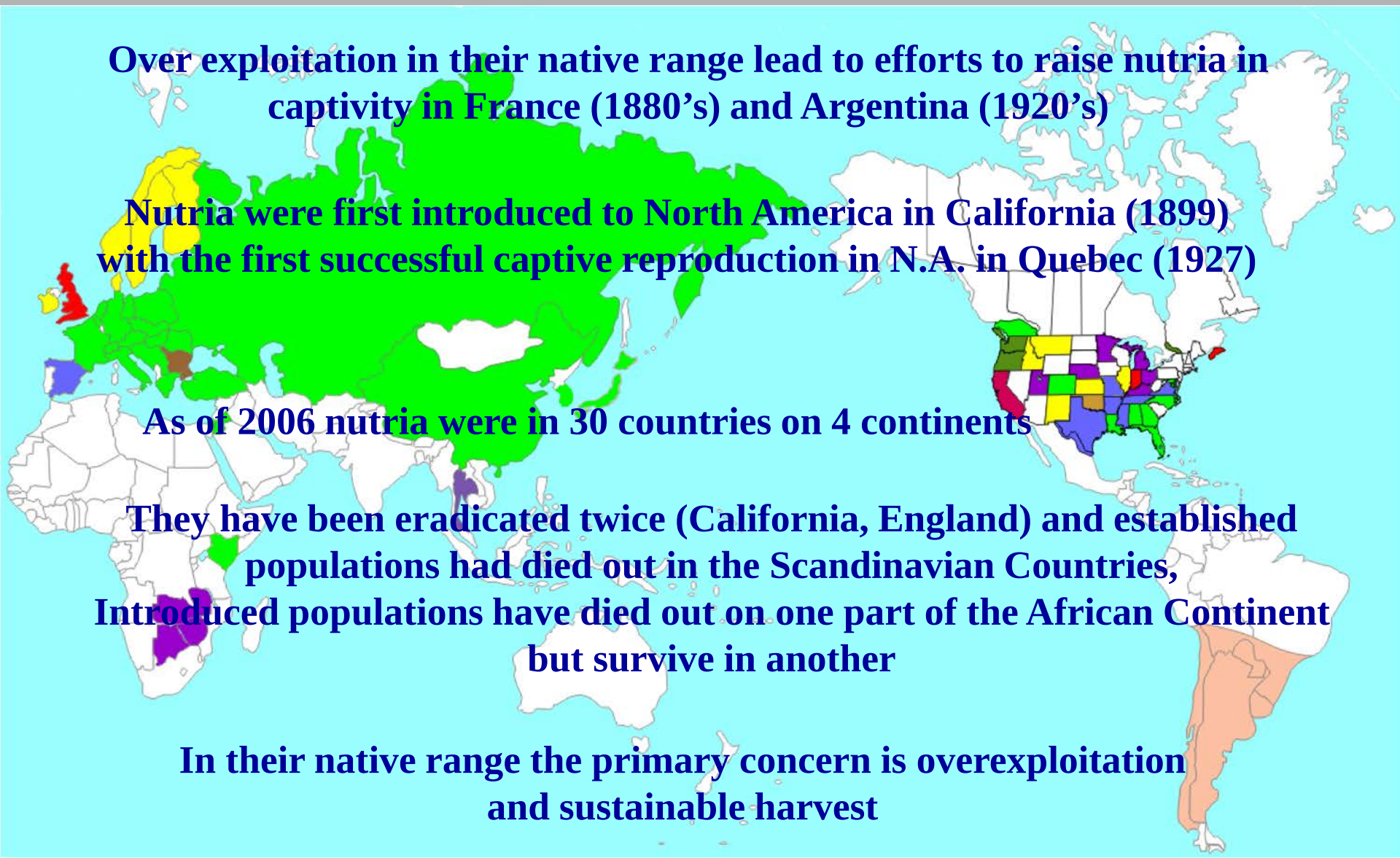
Can weigh up to 17 kg (37 lbs).

Round tail, orange incisors, webbed feet, nipples on back.

High reproductive rate with an average litter size of 7 to 8, a gestation period of 19 weeks and 3 months to sexual maturity.

Generalist feeders.

The Worldwide Status of Nutria



Over exploitation in their native range lead to efforts to raise nutria in captivity in France (1880's) and Argentina (1920's)

Nutria were first introduced to North America in California (1899) with the first successful captive reproduction in N.A. in Quebec (1927)

As of 2006 nutria were in 30 countries on 4 continents

They have been eradicated twice (California, England) and established populations had died out in the Scandinavian Countries, Introduced populations have died out on one part of the African Continent but survive in another

In their native range the primary concern is overexploitation and sustainable harvest

Nutria can damage the marsh and under some circumstances can cause marsh loss. These areas are often termed “eat outs”

Muskrats have also historically cause “eat outs” and at one time nutria were promoted as a better alternative to muskrats. So to some extent, eat outs may be thought of as a natural process

There are three different control strategies being used in the U.S. for nutria

1. Use of state trapping regulations. No special incentives. Most States.

2. Federal funded state run program to incentivize trappers (pay per tail) in LA (south of I-10/I-12 only).

3. Federal (USDA-WS) program to eradicate nutria on the DeMarVa Peninsula (and beyond?).

Nutria are not restricted to ‘classical’ open marsh habitats.

Resident nutria populations have been noted:

Along a river system flowing through a city in Germany and a golf course in Argentina

Forested Wetlands

Atchafalaya Basin LA, Caddo Lake TX/LA, Lake Martin LA

Farm/Forest Interface

North Mississippi National Wildlife Refuge

Can travel through ‘hostile’ environments to get to habitat islands

Big Bend National Park Texas

Horn Island, Gulf Islands National Seashore (2 miles from land)

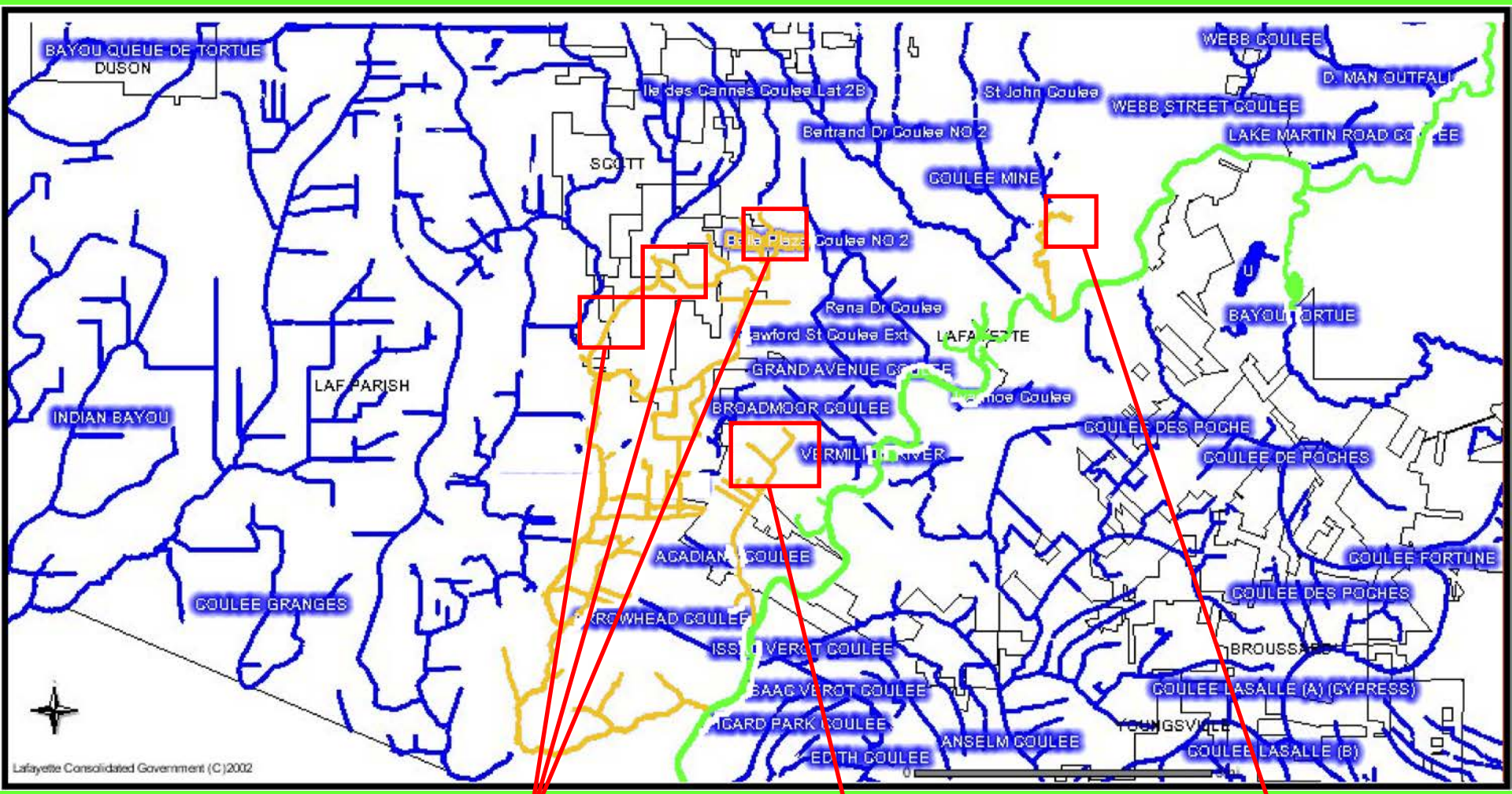
Urban Lakes

Lake Washington (Seattle WA)

Girard Park

Suburban/Urban Lafayette, Louisiana (Some examples)

Map of drainage system for Lafayette LA

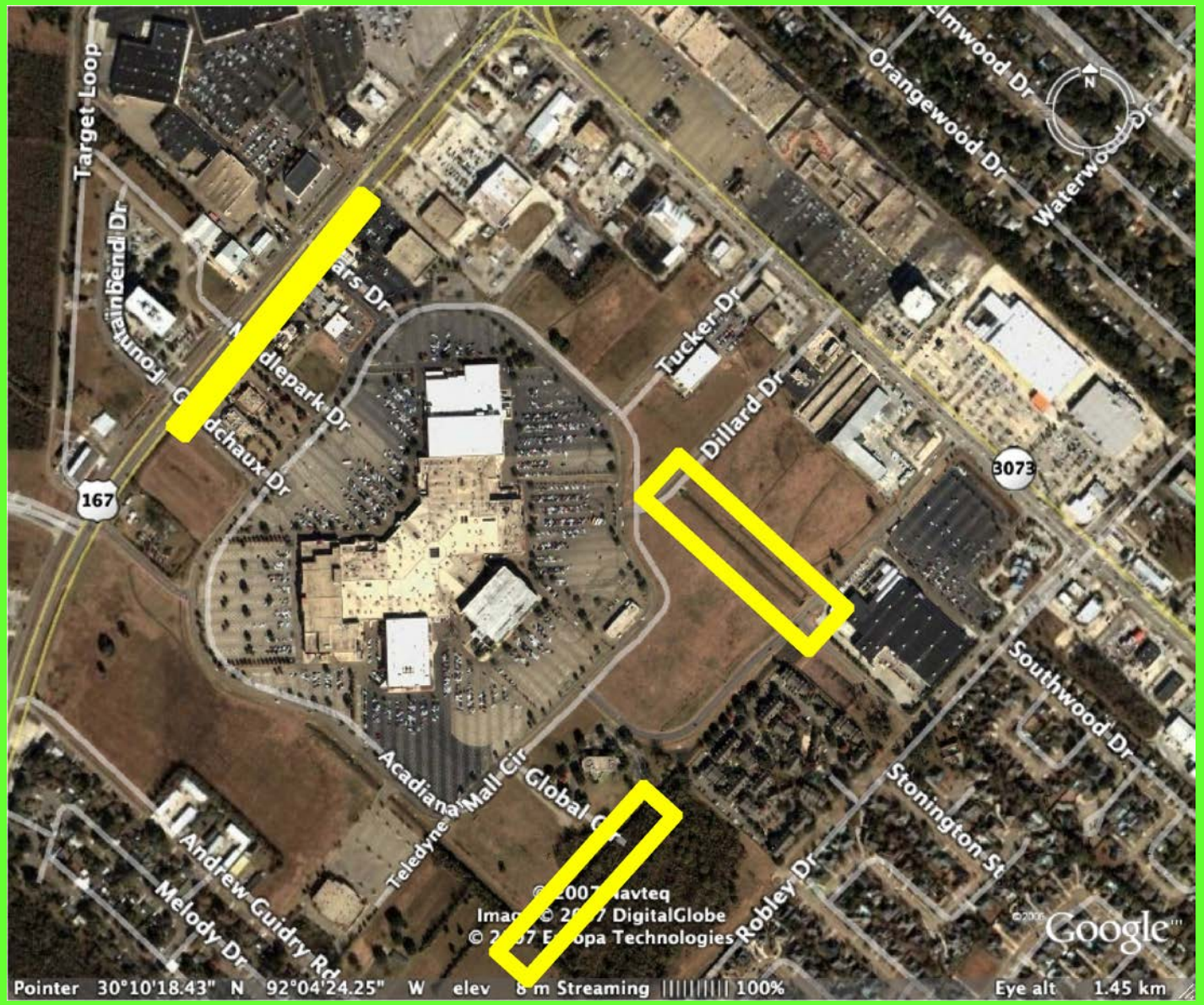


Forested Margins **Shopping Mall** **Urban Park**

Girard Park, Lafayette LA

Area where the nutria are concentrated

Acadiana Mall, Lafayette LA

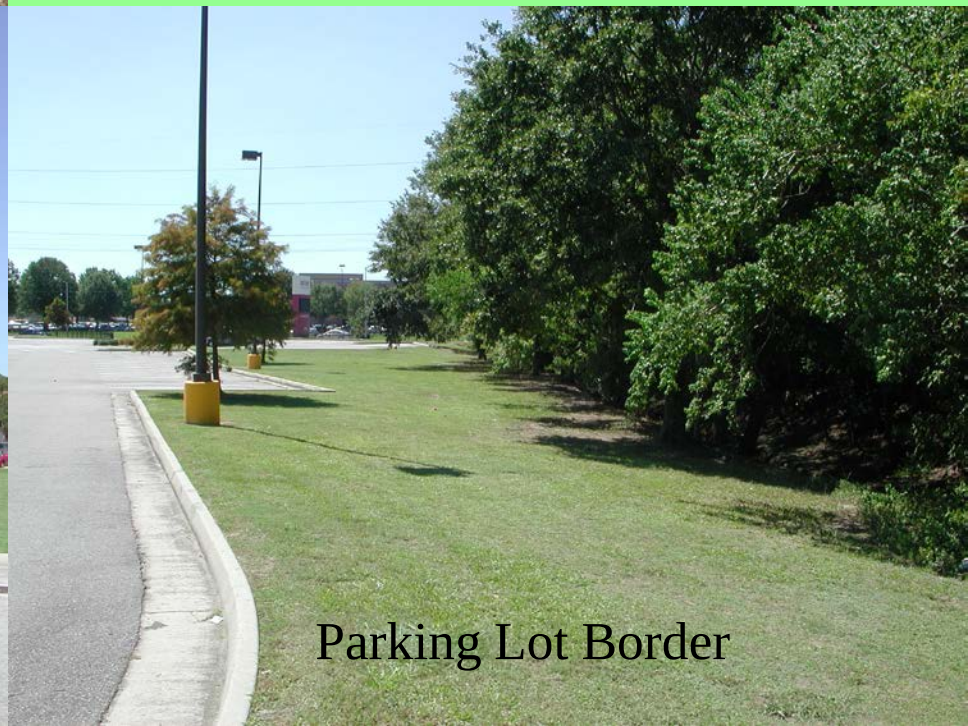


Two Coulee des Cannes nutria ‘Hot Spots’, Lafayette, LA

“Upland” areas bordering the Urban Study Site

Undeveloped Land (Herbaceous Wetland Plants Border the Trees on Right)

Lawn & Parking Lot



Parking Lot Border

Looking East Down Drainage Creek at Urban Study Site

Looking West Down Drainage Creek at Urban Study Site

Observation at the Urban Site started in September 2005 and continues to present.

The primary focus of the study was to test nutria research technology. Population estimation was a secondary goal.

What we did do at the Urban Site?

- Mark/Recapture using PIT tags, Hav-a-Heart traps, and a variety of bait.
- Tested two different telemetry systems, GPS and traditional system.
- Sign surveys including noting of scat, observation of feeding, recovery of dead animals.
- Camera trap monitoring.

Nutria Caught By Camera Trap

More nutria observed than caught at trap, confirming low capture rate.

Nutria Mortality at the Guilbeau Study Site

During one 2 week period we recovered 5 nutria kills.

Examples of Nutria Feces

We have found fresh nutria sign at the study site continuously.

Mark-Recapture Using PIT Tags

Population Estimates for Urban Site

Trapping Data from the Guilbeau Site.

Trapping Session	Date of Session	Year	Total Captures	New Captures	Pop Estimate	Std. Error
1	May 2-June 1	2006	25	16	16	10
2	August 21-October 6	2006	37	8	26	20
3	April 4-June 1	2007	16	2	10	8
4*	Aug 17- Sept 21	2007	12	2	5	1
5	Oct 1-Nov 30	2008	0	0	0	-

*Found 5 dead over the course of 2 weeks During our 4th Trapping Session.

Estimates made using Jolly-Seber Method grouping data by week and averaging weekly average for the session.

Average Nutria Size in Nearby Marshes is about 6-7kg.
No nutria at the Urban Study Site Weighed More than 5.7kg

Trapping Session	Date of Session	Year	Sample Size	Avg Weight (kg)	Min-Max (kg)
1	May 2-June 1	06	16	3.9	1.8-5.7
2	August 21-October 6	06	29	3.4	1.4-5.4
3	April 4-June 1	07	14	3.5	1.3-5.1
4	Aug 17- Sept 21	07	10	2.9	2.1-3.4
5	Oct 1-Nov 30	08	•	•	•

Problems Encountered

Low Capture Rates

Small Population Size

We have observed nutrias and nutria sign throughout the study period, even during times we were not able to capture nutria for mark-recapture.

Significant Observations

- Nutria feeding on acorns
- Grass a significant portion of diet (nothing else to eat)
- Population was reproducing at study site, not just transient
- Average weight lower than at other sites studied
- Evidence of depredation, most likely by dogs.
- Nutria not in all apparently suitable habitats. Barriers to movements or competitive exclusion?

What do nutria want?

Not Much! Just a place to live with:

* Water: A constant source of water (deep enough to swim)

* Food: Seem to prefer at lease some wetland/aquatic plants, but will even eat lawn grass.

* Shelter: A place to dig a burrow.

How do they get there?

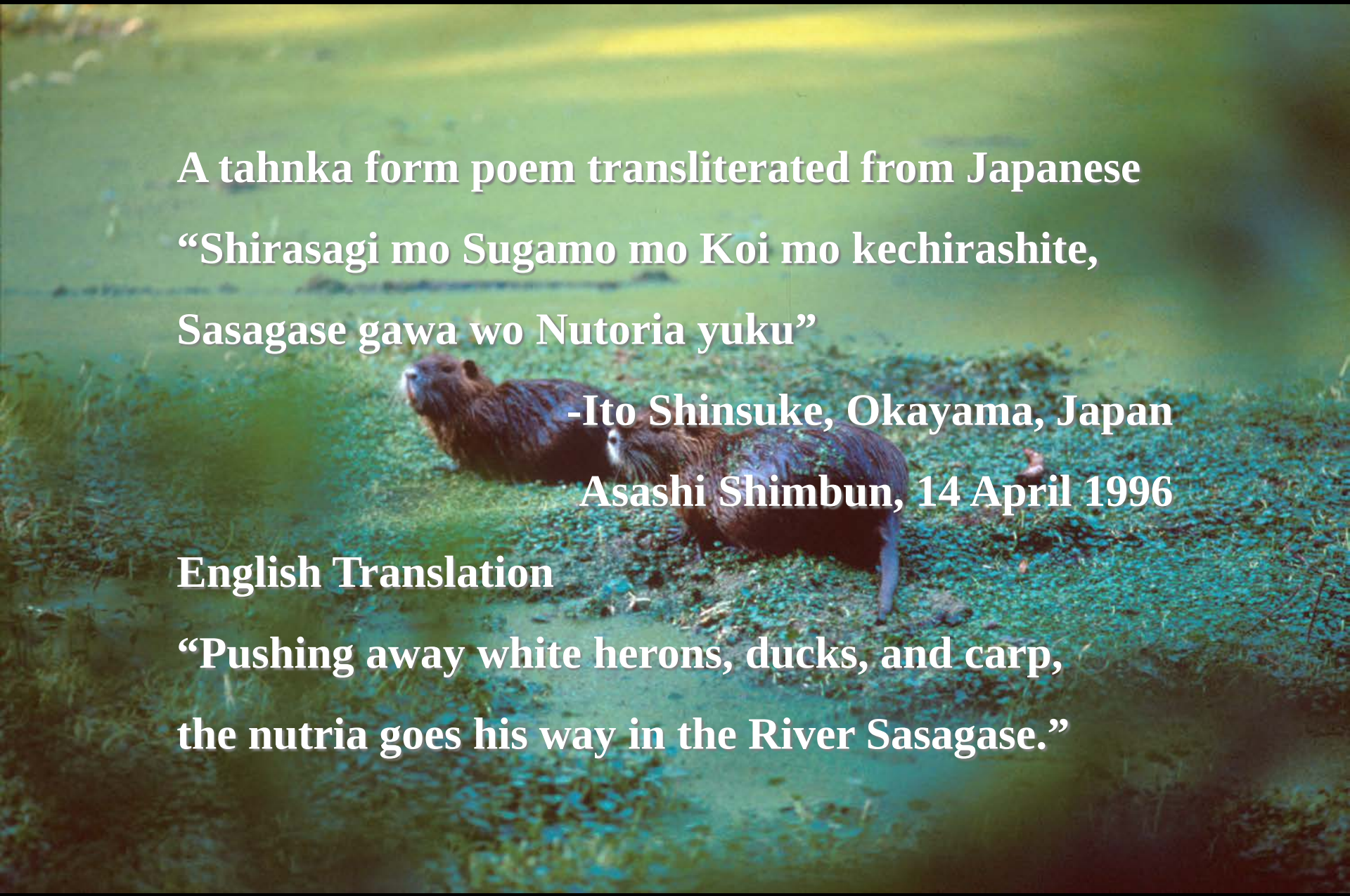
* The can use rivers, streams, coulees, canals, and drainage tunnels as corridors and have been documented reaching islands over 2 miles from shore in the Gulf of Mexico.

What limits their distribution?

Unknown but we conjecture weather. Given time and a swim-able or walk-able water route, they seem to be able to get almost anywhere.

Take Home Message

Nutria control will may need to consider ‘non-traditional’ non-marsh habitat, otherwise reinvasion is likely!



A tahnka form poem transliterated from Japanese

“Shirasagi mo Sugamo mo Koi mo kechirashite,

Sasagase gawa wo Nutoria yuku”

-Ito Shinsuke, Okayama, Japan

Asashi Shimbun, 14 April 1996

English Translation

“Pushing away white herons, ducks, and carp,

the nutria goes his way in the River Sasagase.”