Nutria in California: Status and Response

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Background

- Nutria or coypu (Myocastor coypus)
- Large, semi-aquatic rodent
- Native to South America
- Introduced for fur trade
  - Aquatic vegetation management
- Declared eradicated in 1970s

Biology/Ecology

Urban Dallas/Fort Worth – photos Chris Jackson

- **Reproductive by 4-6 months**
  - **≤ 3 litters/13 months**
- **Live in social groups**
  - **Dispersal ≤ 50 mi**
- **Avg. home range size < 25 acres**
  - **Movement 2 miles from den**
- **Freshwater/brackish habitats**

Identification

Identifying Nutria (*Myocastor coypus*)

	Nutria *Invasive*	Beaver *Native*	Muskrat *Native*
Whiskers/ head	 *Photos courtesy of Tony Northrup and Joyce Gross*	 *Photos courtesy of Alaska DFG and Cheryl Reynolds*	 *Photos courtesy of N. Carolina State Parks and Merle Ann Leeson*
	• Conspicuous **white whiskers** • Muzzle often white	• **Black whiskers**	• Fine, **black whiskers** • Muzzle may be white
Tail			 *Drawings courtesy of Danielle M. Crosier*
	• Tail **rounded**, rat-like, and sparsely covered in coarse hair • Tail still while swimming; body propelled by feet	• Tail **broad and flat**. • Tail flattened top-to-bottom • Slap water with tail when disturbed	• Tail **flattened side-to-side** • Tail used for swimming with rapid side-to-side serpentine motion
Body			 *Silhouettes courtesy of USFWS*
	• Adult size: 10-20 pounds; body length to 2 feet, with 1 foot tail • Juveniles similar in size to muskrats • Hunched appearance on land	• Adult size averages 40 pounds • Length to over 3 feet, including tail	• Adult size: 2-5 pounds; body length up to 1 foot
Hind feet	 *Photo courtesy of M. Enos*	 *Photo courtesy of Anh Viet Nguyen*	 *Photo courtesy of USFWS*
	• Partially webbed; one free toe	• Fully webbed	• No webbing
Tracks	 *Photo courtesy of Peggy A. Dutton*	 *Photo courtesy of Ohio DNR Division of Wildlife*	 *Photo courtesy of WDFW*
	• 5 front toes; 4 visible in tracks • Rear track to 6 inches in length • Narrow tail drag may accompany tracks	• 5 visible toes on front track • Rear track to 6 inches in length • Tracks may be accompanied by a broad tail drag	• Rear track is 2-3 inches in length

If nutria are found in CA, immediately contact the CDFW Invasive Species Program to report your sighting at Invasives@wildlife.ca.gov or by calling (866) 440-9530

Impacts

- **Consume ≤ 25% of their weight each day**
- **Prefer basal portion of emergent vegetation**
  - **Destroy up to 10x the amount consumed**
- **Severe erosion, conversion to open water**

Impacts

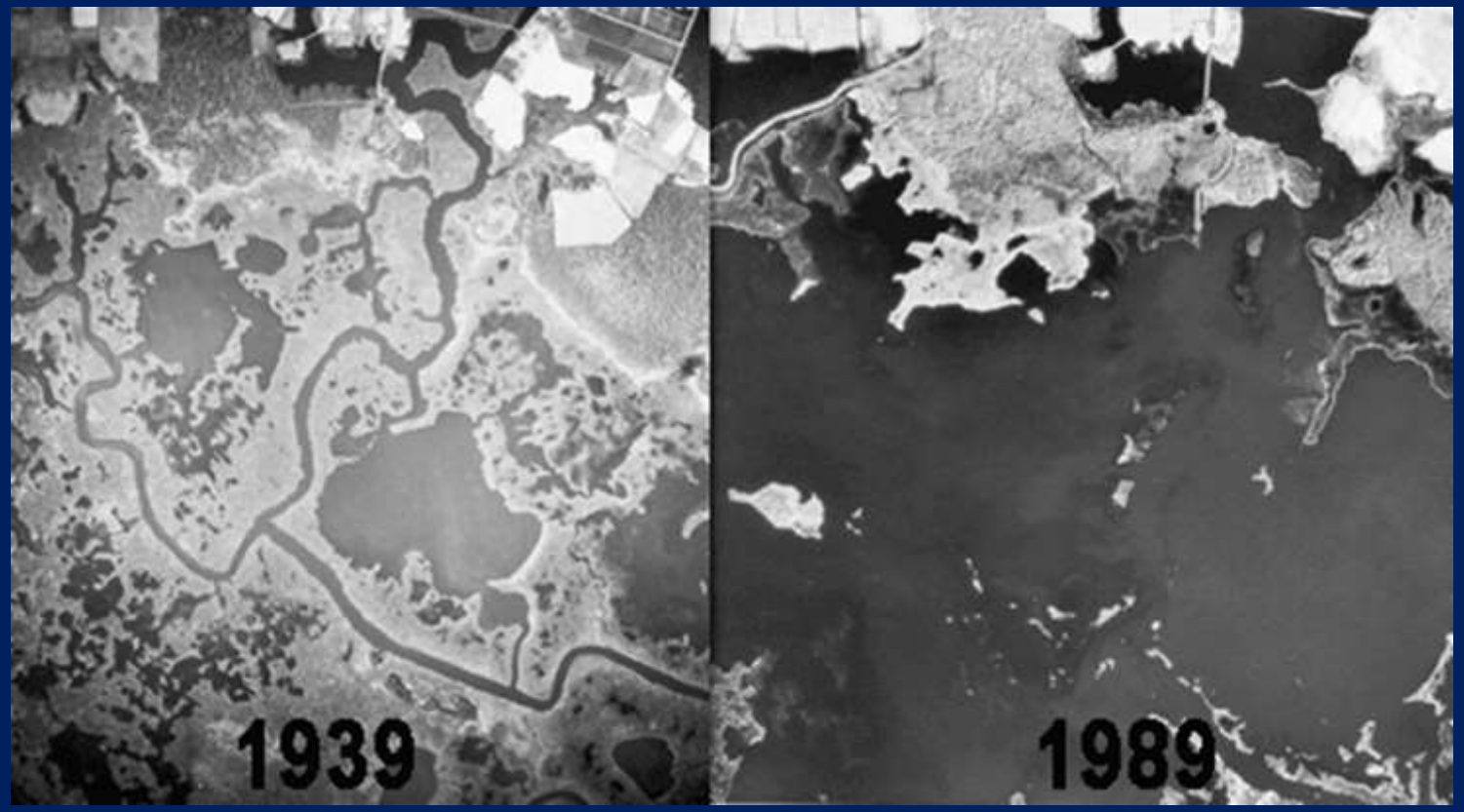
- **Burrowing damages infrastructure and levees**
  - **3-18 ft deep, may extend ≤ 150 ft into bank**

Impacts - Louisiana

- **Coastwide Nutria Control Program**
  - **Coastal Wetlands Planning, Protection, and Restoration Act**
  - **Incentives - $5/tail, 250 – 350 trappers**
  - **Since 2002, 5 M harvested ($24 M)**
  - **Estimated > 100K coastal acres damaged**

Impacts – Chesapeake Bay

- **Chesapeake Bay Nutria Eradication Project (CBNEP)**
  - **Control efforts began in 1950s**
  - **Nutria Eradication and Control Act of 2003**
    - **Authorized $4 M/yr/5 years**
  - **Led by USDA-APHIS-Wildlife Services and USFWS**
  - **$15.8 M over 15 years; current budget $1.5 M**



Restoration and Recovery – Chesapeake Bay

Population Control

Native range

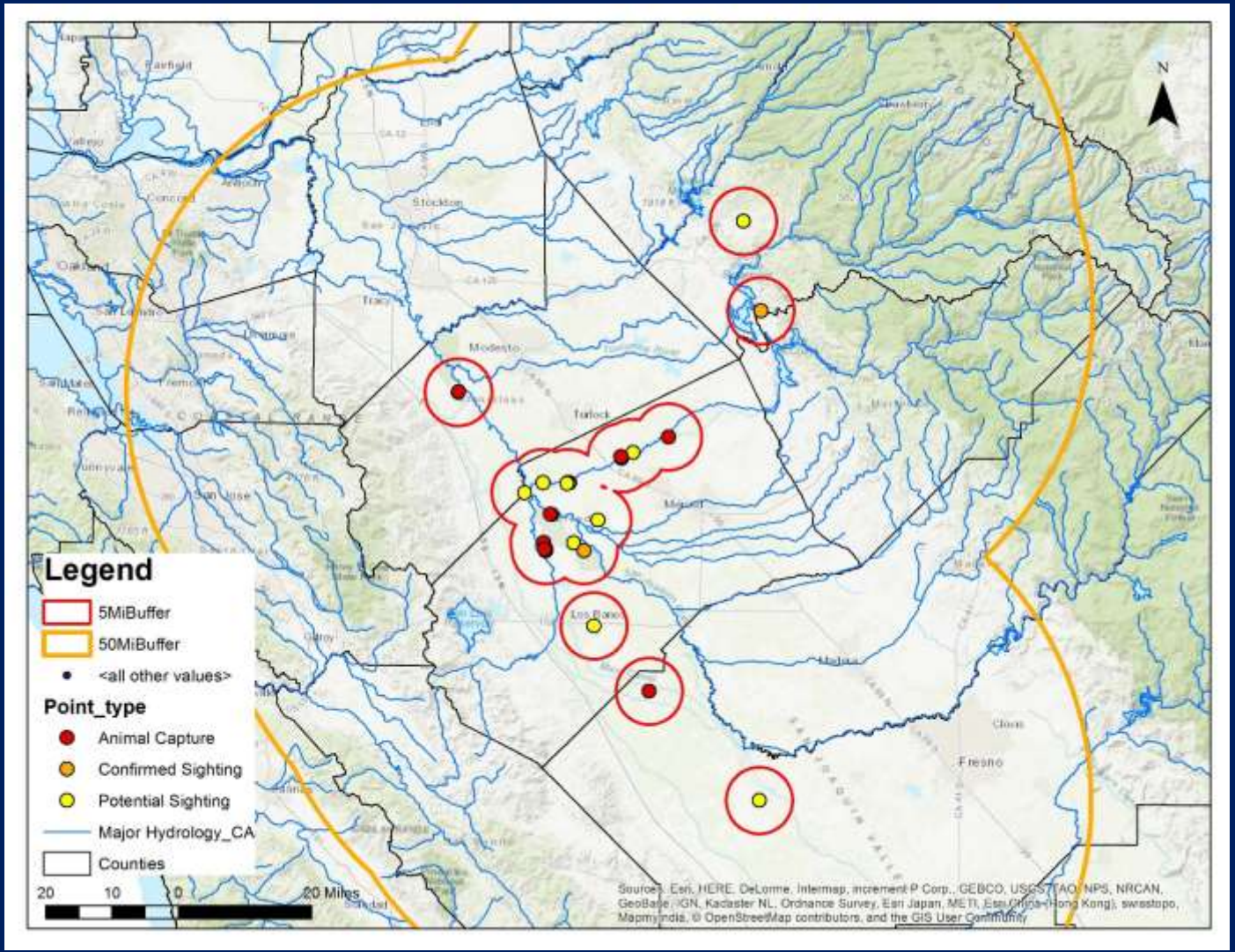
Louisiana

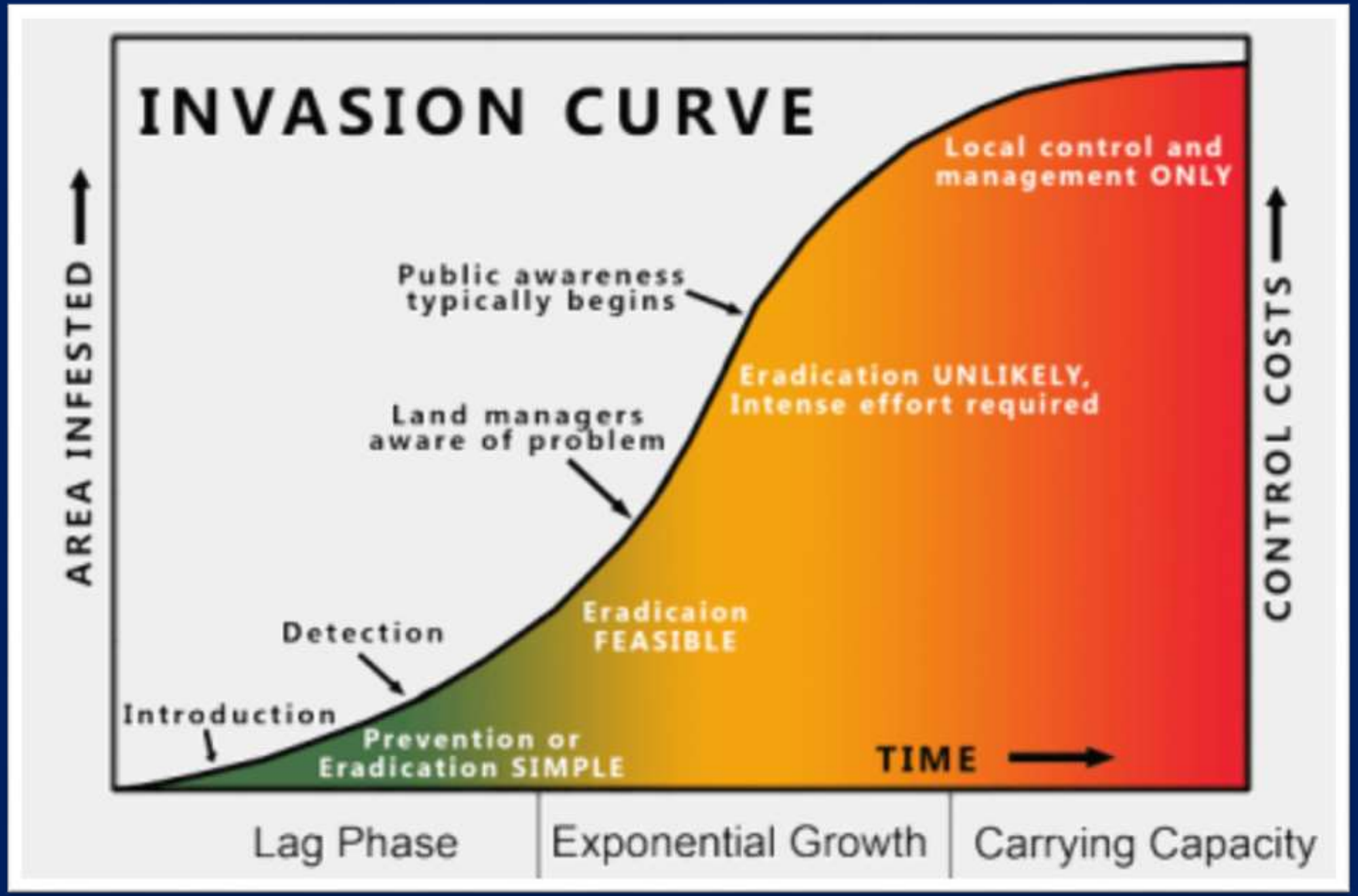
Chesapeake Bay

California?

Discovery in California

- **Initial discovery - March 2017**
- **31 taken, additional confirmed**
- **Juvenile/adult, M/F**
- **Stanislaus, Merced, Fresno, Tuolumne Counties**
- **Federal, State, and private land**




INVASION CURVE
AREA INFESTED
CONTROL COSTS
Local control and management ONLY
Public awareness typically begins
Eradication UNLIKELY, Intense effort required
Land managers aware of problem
Eradicaion FEASIBLE
Detection
Introduction
Prevention or Eradication SIMPLE
TIME
Lag Phase
Exponential Growth
Carrying Capacity

Response in California

- **Interagency Nutria Response Team**
  - **Dept. of Fish and Wildlife**
  - **USDA-APHIS-Wildlife Services**
  - **Dept. of Food and Agriculture**
  - **County Ag Commissioner's Offices**
  - **Dept. of Parks and Recreation**
  - **US Fish and Wildlife Service**
  - **Dept. of Water Resources**
- **Eradication Implementation Plan and Incident Command System**

Response in California

- **To date, limited resources for:**
  - **Trapping**
  - **Surveys**
  - **Local outreach**
  - **Interstate consultations**
  - **Pursuit of funding**

- **CDFW allocation/redirection of resources**
  - **Seeking partner commitments**

- **Preparing eradication plan**
  - **Modeled after CBNEP**

Response in California

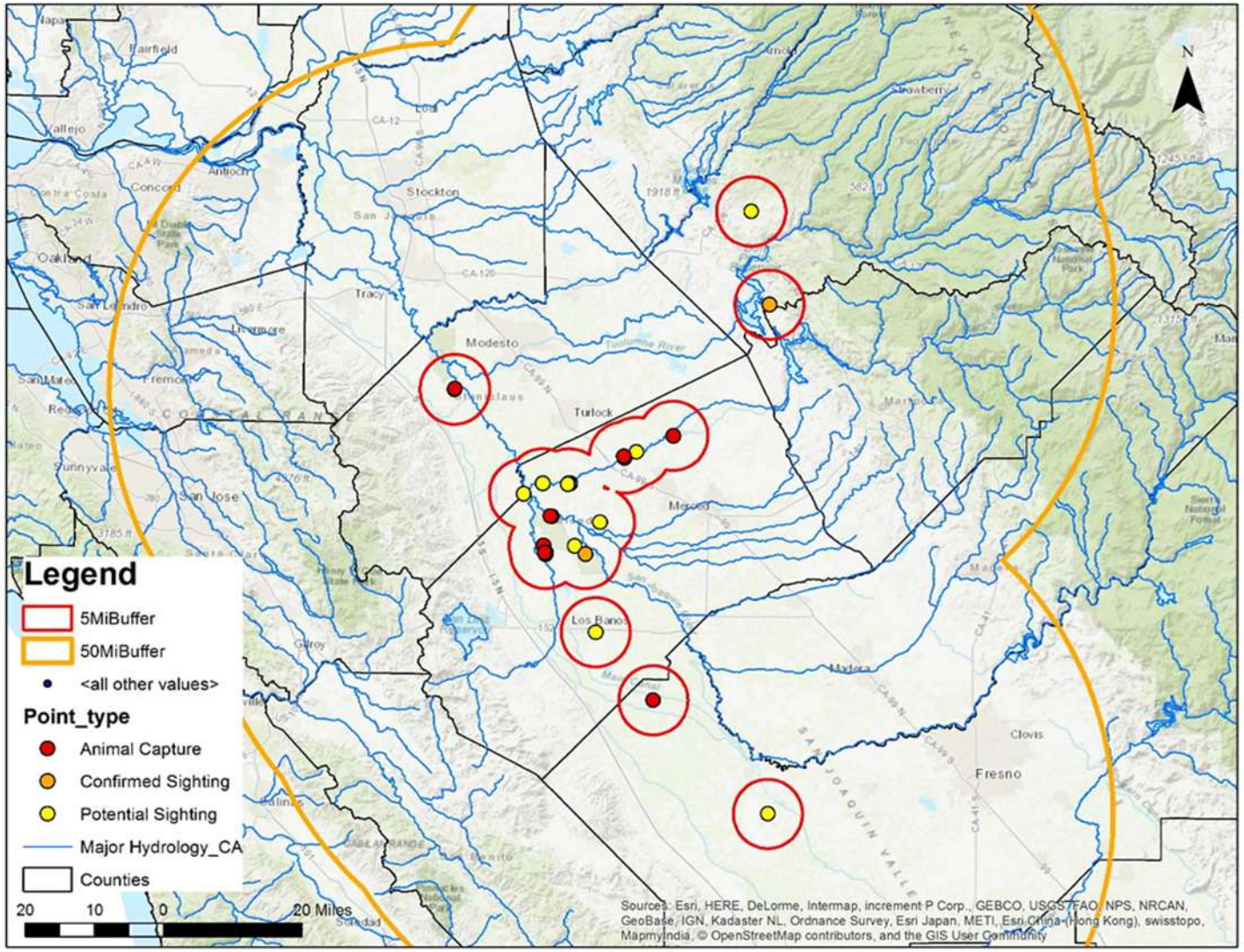
- **Multi-scale/concurrent phases**
  - **Home range vs. dispersal distance**
- **Eradication efforts**
  - **Maximize efficacy/efficiency**
  - **Based on CBNEP methods/data**
  - **Avoid/minimize non-target take**
    - **Trap type/behavioral selectivity**
  - **Take by landowners vs hunters**

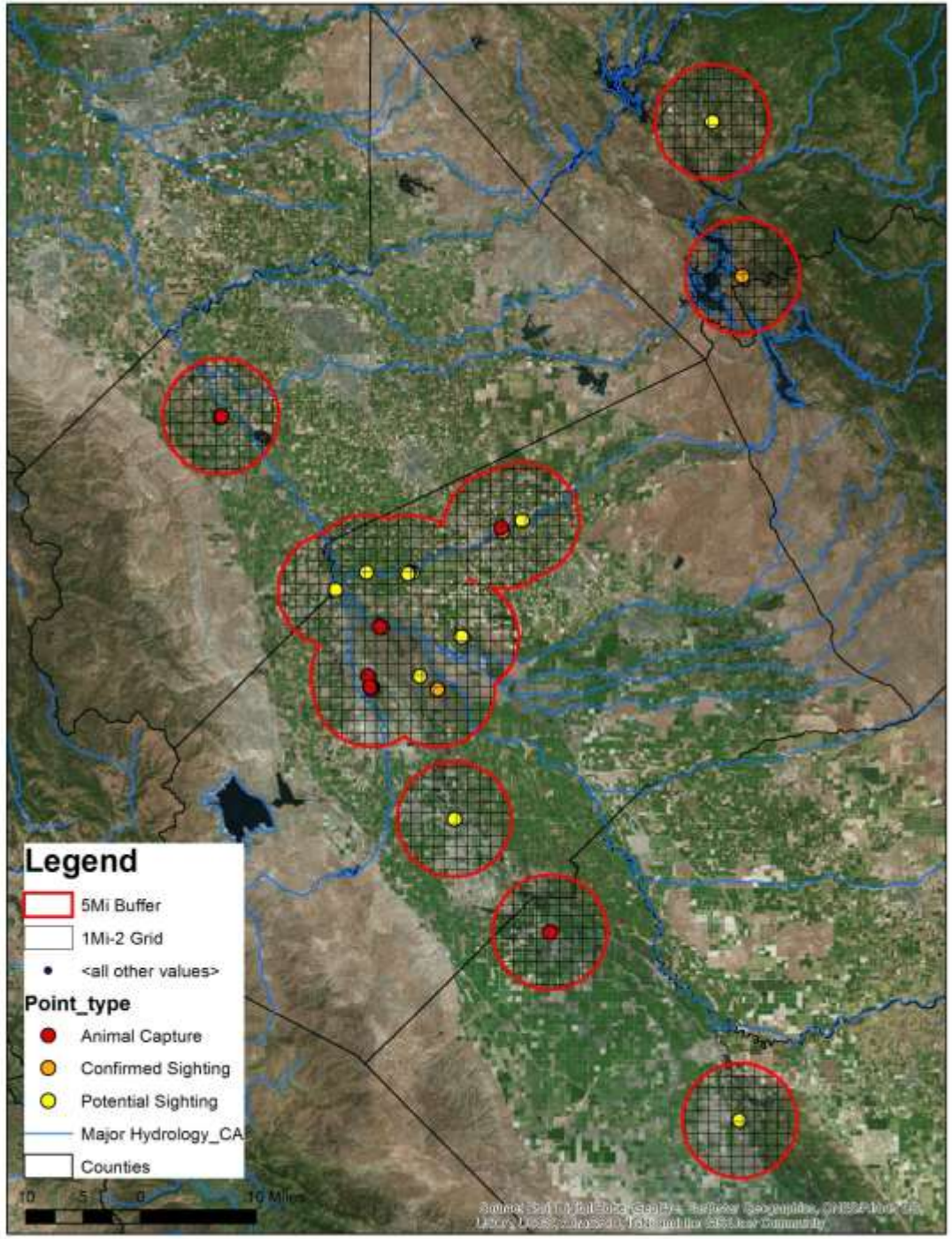
CBNEP Eradication Strategy

5-phase strategy

- ***Survey*** – delimit the distribution of nutria
- ***Knock-down*** – systematic trapping/take to reduce populations to zero densities.
- ***Mop-up*** – early-detection and rapid removal of any remnant or immigrating nutria within previously trapped areas.
- ***Verification*** – repeated and on-going application of detection methods. Continued failure to detect nutria or signs of presence indicate site eradication has been achieved.
- ***Surveillance*** – continual monitoring at a reduced intensity to ensure eradication is achieved and maintained.

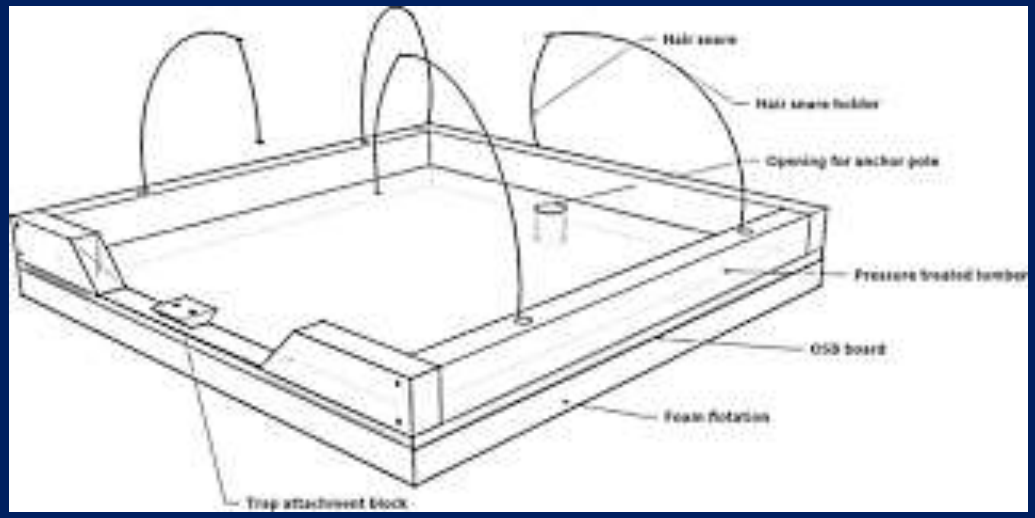
CBNEP Eradication Strategy





CBNEP Eradication Strategy

- **Monitoring platforms – attractant**
- **Hair snares**
- **Judas nutria**
- **Scat detection dogs**



Challenges and Needs in California

- **Telemetry – evaluate home range size, movements, dispersal**
- **Geographic Information System support – classify suitable/preferred habitats**
- **Establishing/maintaining effective network of trappers/surveillance**
- **Landowner engagement/access to private properties**
- **Navigating animal welfare concerns**
- **Preventing reintroduction…?**

Questions?

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