

Discovery of Invasive Nutria in California's San Joaquin Valley



Valerie Cook Fletcher
Senior Environmental Scientist
California Department of Fish and Wildlife



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















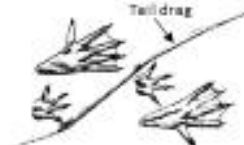


- **Reproductive by 4-6 months**
 - ≤ 3 litters/13 months
- **Live in social groups**
 - Dispersal ≤ 50 mi
- **Avg. home range size < 25 acres**
 - Movement 2 miles from den
- **Freshwater/brackish habitats**

Identification





Identifying Nutria (*Myocastor coypus*)

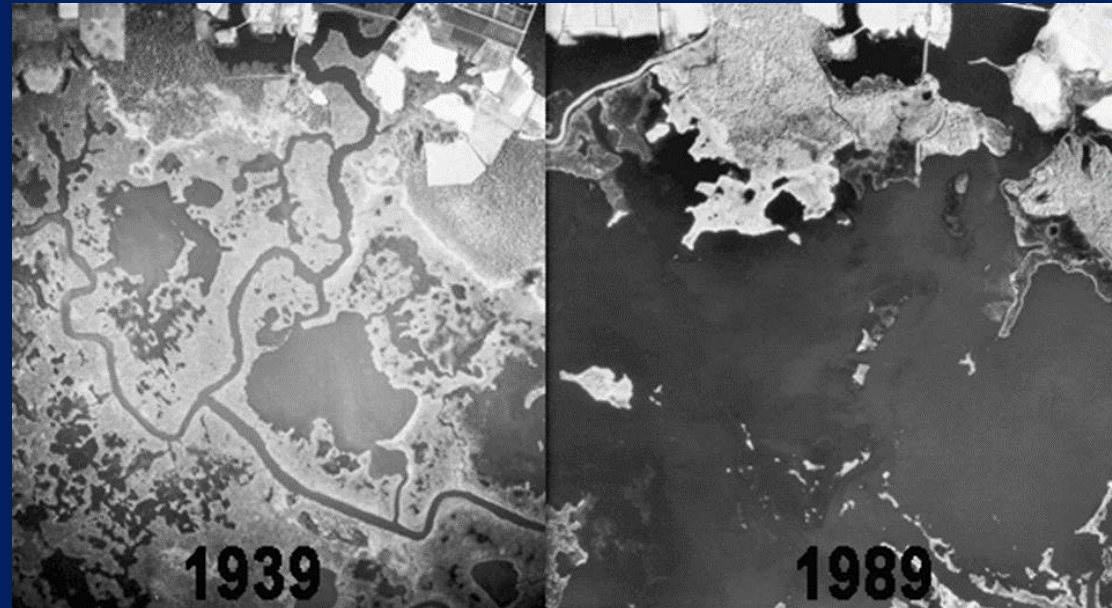
	Nutria <i>Invasive</i>	Beaver <i>Native</i>	Muskrat <i>Native</i>
Whiskers/ head	 <p>Photos courtesy of Tony Northrup and Joyce Gross</p>	 <p>Photos courtesy of Alaska DFO and Cheryl Reynolds</p>	 <p>Photos courtesy of N. Carolina State Parks and Merle Ann Lemay</p>
Tail	 <ul style="list-style-type: none"> • Conspicuous white whiskers • Muzzle often white • Tail rounded, rat-like, and sparsely covered in coarse hair • Tail still while swimming; body propelled by feet 	 <ul style="list-style-type: none"> • Black whiskers • Tail broad and flat. • Tail flattened top-to-bottom • Slap water with tail when disturbed 	 <ul style="list-style-type: none"> • Fine, black whiskers • Muzzle may be white • Tail flattened side-to-side • Tail used for swimming with rapid side-to-side serpentine motion
Body	 <ul style="list-style-type: none"> • Adult size: 10-20 pounds; body length to 2 feet, with 1 foot tail • Juveniles similar in size to muskrats • Hunched appearance on land 	 <ul style="list-style-type: none"> • Adult size averages 40 pounds • Length to over 3 feet, including tail 	 <ul style="list-style-type: none"> • Adult size: 2-5 pounds; body length up to 1 foot
Hind feet	 <p>Photo courtesy of M. Eise</p> <ul style="list-style-type: none"> • Partially webbed; one free toe 	 <p>Photo courtesy of Anh Vihn Nguyen</p> <ul style="list-style-type: none"> • Fully webbed 	 <p>Photo courtesy of USFWS</p> <ul style="list-style-type: none"> • No webbing
Tracks	 <p>Photo courtesy of Peggy A. Dahan</p> <ul style="list-style-type: none"> • 5 front toes; 4 visible in tracks • Rear track to 6 inches in length • Narrow tail drag may accompany tracks 	 <p>Photo courtesy of Ohio DNR Division of Wildlife</p> <ul style="list-style-type: none"> • 5 visible toes on front track • Rear track to 6 inches in length • Tracks may be accompanied by a broad tail drag 	 <p>Photo courtesy of WDFW</p> <ul style="list-style-type: none"> • 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 $\leq 25\%$ 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

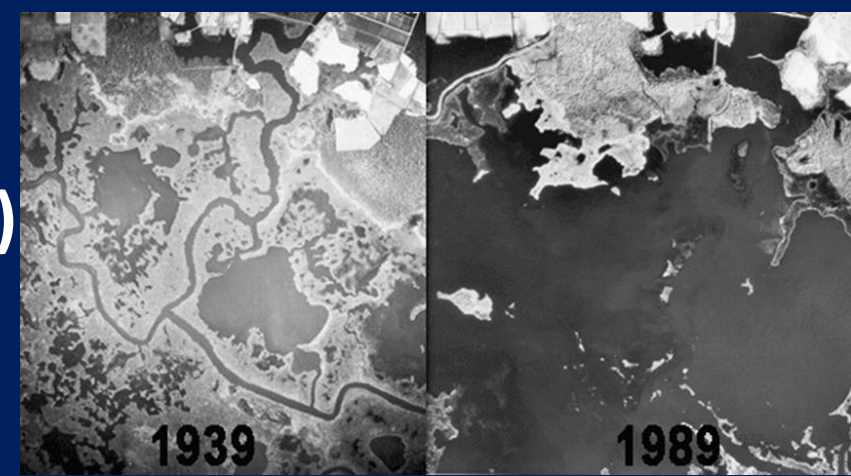
- **Burrowing damages infrastructure and levees**
 - **3-18 ft deep, may extend \leq 150 ft into bank**



Trevor Sheffels, Portland State University

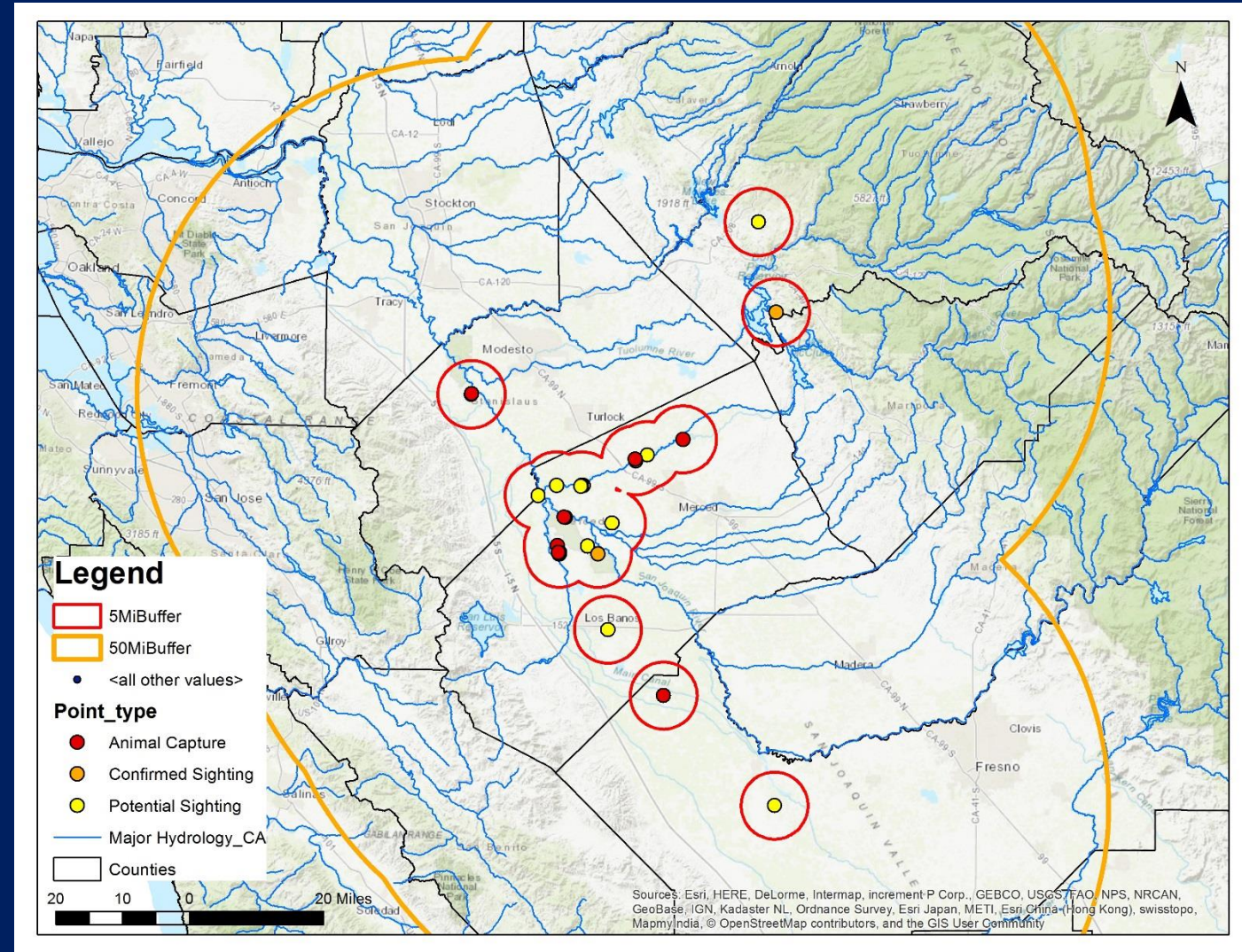
Impacts – Chesapeake Bay

- 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



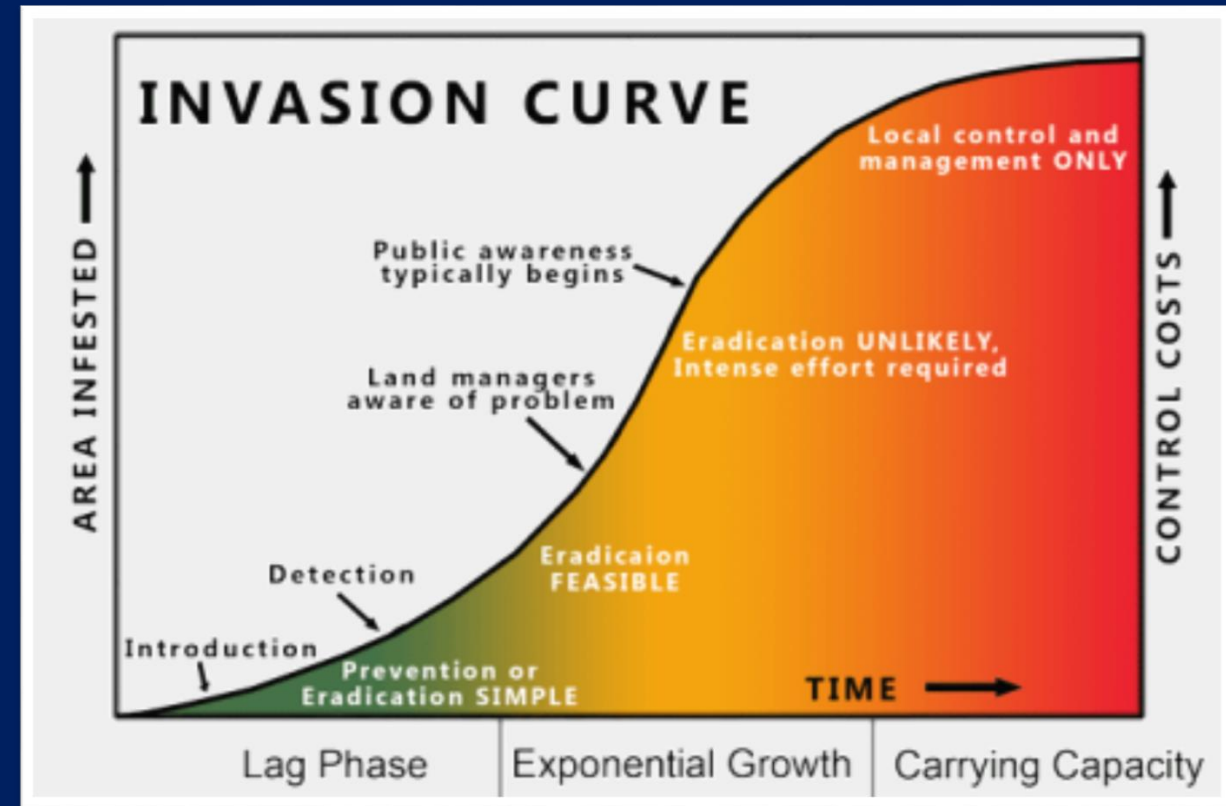
Discovery in California

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



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



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

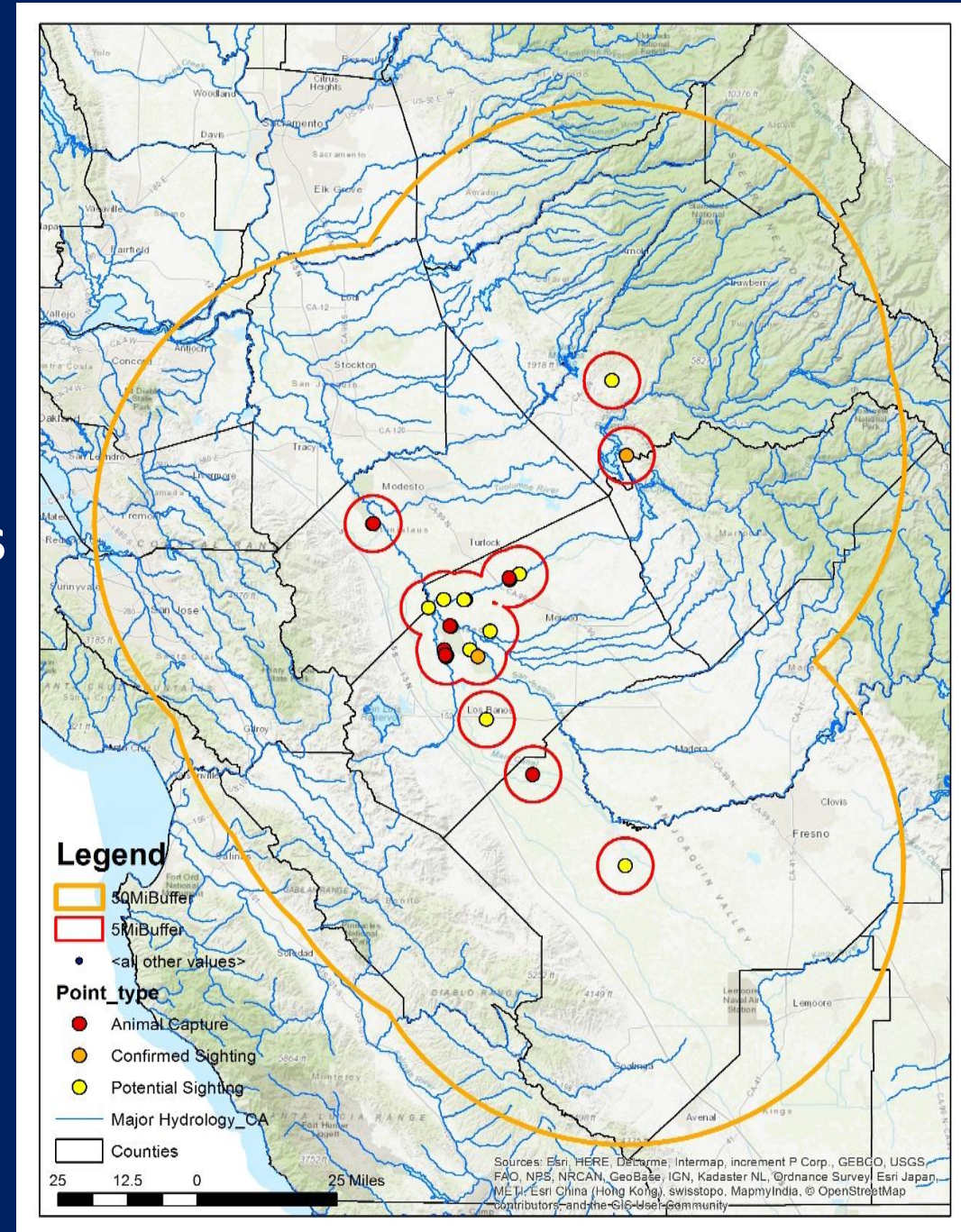
5-phase strategy

- **Survey** – delimit the distribution of nutria
- **Knock-down** – systematic trapping 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.



Response in California

- Multi-scale/concurrent phases
 - Home range vs. dispersal distance
- Eradication efforts
 - Maximize efficacy/efficiency of methods
 - Based on CBNEP methods/data
 - Monitoring platforms
 - Scat-detection dogs
 - Judas nutria
 - Avoid/minimize non-target take
 - Trap type/behavioral selectivity
 - Take by landowners vs hunters



Challenges and Needs in California

- **Availability of long-term funding/resources**
- **Widespread access to private properties**
- **Establishing/maintaining effective surveillance network**
- **Navigating animal welfare concerns**
- **Preventing reintroduction...?**

Nutria in California



Valerie.Cook-Fletcher@wildlife.ca.gov