Discovery and Management of Invasive Nutria in California’s San Joaquin Valley

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Invasive Species Program
Nutria (*Myocastor coypus*)

- Large, semi-aquatic rodent
- Fresh and brackish waters
- Native to South America
- Introduced for fur trade
- Declared eradicated in 1970s
# Identification

**Identification of Nutria (Myocastor coyopus)**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Nutria</th>
<th>Beaver</th>
<th>Muskrat</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Whiskers/Head</strong></td>
<td>Conspicuous white whiskers</td>
<td>Black whiskers</td>
<td>Fine, black whiskers</td>
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<tr>
<td></td>
<td>Muzzle often white</td>
<td></td>
<td>Muscle may be white</td>
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<tr>
<td><strong>Tail</strong></td>
<td>Tail rounded, rat-like, and sparsely covered in coarse hair</td>
<td>Tail broad and flat.</td>
<td>Tail flattened side-to-side.</td>
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<tr>
<td></td>
<td>Tail still while swimming; body propelled by tail</td>
<td>Tail flattened top-to-bottom</td>
<td>Tail used for swimming with rapid side-to-side serpentine motion</td>
</tr>
<tr>
<td><strong>Body</strong></td>
<td>Adult size: 10-20 pounds; body length to 2 feet, with 5 foot tail</td>
<td>Adult size: averages 40 pounds; length to over 3 feet, including tail</td>
<td>Adult size: 2-5 pounds; body length up to 1 foot</td>
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<tr>
<td></td>
<td>Juveniles similar in size to muskrats; hunched appearance on land</td>
<td></td>
<td></td>
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<tr>
<td><strong>Hind feet</strong></td>
<td>Partially webbed; one free toe</td>
<td>Fully webbed</td>
<td>No webbing</td>
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<tr>
<td></td>
<td>Tail drag</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tracks</strong></td>
<td>5 front toes; 4 visible in tracks; Rear track to 6 inches in length; Narrow tail drag may accompany tracks</td>
<td>3 visible toes on front track; Rear track to 6 inches in length; Tracks may be accompanied by a broad tail drag</td>
<td>Rear track is 2-3 inches in length</td>
</tr>
</tbody>
</table>

*Images courtesy of Tony Northrup and Wayne Gross, Photos courtesy of Annie GPO and Denny Reynolds, Photos courtesy of M. Ellis, Photos courtesy of Jon Van Sant, Photos courtesy of CDFW Division of Wildlife, Photos courtesy of CDFW, Photos courtesy of CDFW Invasive Species Program.*

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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.
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

Urban Dallas/Fort Worth – photos Chris Jackson
Nutria population growth over 5 years (N_t=rN; r=b-d avg)
Response in California
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
**Battling the Big Cane and the Little River Rat**

Riparian Landowners Band Together to Combat Perfect Storm of Invasives on the Nueces and Sabinal Rivers

In the water-rich, riparian environment of the Nueces and Sabinal floodplains, arundo, also called river cane or giant reed, is spreading like wildfire as the drowned, floating stalks take root from its multiple joints. Growing stalk ends point to part of the problem. A water-centric, rat-like animal called nutria is cutting the stalks and exacerbating the spread of the already prolific arundo colonizes along the upper reaches of these floodplains.

"It appears that nutria and arundo, both non-native species, have crossed paths to create a perfect storm of invasive damage," according to Sky Jones-Lewey of the Nueces River Authority.

Arundo donax is an aggressive, non-native plant considered an invasive species in these river bottoms. Technically a grass, arundo forms thick colonies that can grow to more than 20 feet in height. It sprouts from nodules at joints of the stalk, forming a compact mass of interconnected fibrous roots and dense stalks, often creating an impenetrable wall of vegetation.

The genotype of Arundo donax colonizing the upper Nueces basin is native to the Sierra area of Spain. The plant was considered useful by Spanish colonists and initially propagated on upland sites for its value as building material, as livestock forage, and even used for piping water because of its hollow center. First reported on the Nueces River headwaters in 1995 in the Moulton area, arundo is now rapidly colonizing sections of the Nueces and Sabinal rivers in Bandera, Uvalde and Zavala counties. It is estimated that arundo covers as much as 50 percent of the floodplain in those headwaters.
Impacts

• Burrowing damages infrastructure and levees
  • 3-18’ deep, may extend ≤ 150’ into bank
Impacts - Louisiana
• Coastwide Nutria Control Program
  • 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)
  - Led by USDA-Wildlife Services and USFWS
  - $15.8 M over 15 years
  - Over 14K nutria removed
Population Control

Native range

Louisiana

Chesapeake Bay

California?
Response in California

- CDFW survey/trapping teams
  - San Joaquin Valley (3)
  - Delta (2)

- Wildlife Service trappers (3)
  - Pursuing contract expansion

- CDFA survey teams (3- N Delta)
  - Training in Merced County
CBNEP Eradication Strategy

5-phase strategy:

- **Survey**
  - Classifying habitat suitability
  - Confirmed/potential sign
  - Cameras/monitoring platforms
- **Knock-down**
- **Mop-up**
- **Verification**
- **Surveillance**
Response in California

• Gaps in property access
• Long-term funding
• Grants
  • Wildlife Conservation Board
  • State Wildlife Grant (USFWS)
  • SSJ Delta Conservancy Prop 1 grants
• Next steps:
  • Judas nutria/telemetry
  • Detection dogs
Questions?

Report sightings to:

(866) 440-9530
OR

invasives@wildlife.ca.gov

Additional information:

www.wildlife.ca.gov/nutria

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