

The Efforts of the USDA National Rabies Management Program for Controlling Rabies

on Public Land



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United States Department of Agriculture
Animal and Plant Health Inspection Service

Protecting People/Protecting Agriculture/Protecting Wildlife



Global Rabies Statistics

- More than 70,000 people die each year worldwide from rabies (1 person every 7.5 minutes)
- >20 million people receive rabies prophylaxis annually
- Global rabies burden > \$6 billion annually
- Hotspots: Africa and Asia



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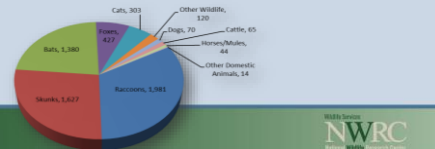
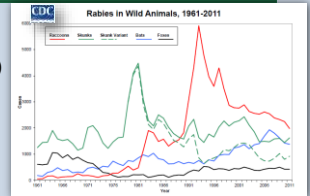
U.S. Rabies Statistics (2012)

- 6,163 rabies cases (1 human)
- 92% of rabies cases were in wildlife
- Global rabies burden > \$6 billion annually
- Up to 40,000 people exposed each year
- >\$300 million annually



Rabies in the U.S.

- Major Animal Groups:
 - 1,981 raccoons (33%)
 - 1,627 skunks (27%)
 - 1,380 bats (23%)
 - 427 foxes (7%)
 - 65 cattle (1%)



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Rabies in the U.S. Managing Rabies at the Sources

- Multiple Variants
- Diverse Hosts
- Wide Open Spaces
- Economics.....

CDC
USDA

Why Manage Rabies at its Source?

- Protect Human Health
- Protect Animal Health/Food Supply
- Protect Biodiversity/Rare Species
- Economics

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National Program Goals

- Phase 1: Prevent spread of specific rabies variants in carnivores
- Phase 2: Eliminate specific rabies variants

Enhanced Rabies Surveillance

Contingency Actions

Coordinated ORV

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Economics of Preventing the Spread of Raccoon Rabies (2013)

Modeling the negative impacts of the spread of raccoon rabies with REMI Model

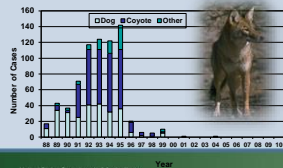
- By 2035 the raccoon variant of rabies would stretch from central Wisconsin to the Texas-Louisiana border.
- The present value of the negative impact of rabies would be approximately \$907 million (roughly \$45 million per year)
- Livestock at risk ~ 20 million
- 2,757 years of employment lost

20 year spread horizon

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Rabies Management Accomplishments (1997-2014)

- ✓ **No canine rabies in U.S. since 2004, declared free in 2007**
- ✓ **Only one case of gray fox rabies in Texas since May 2009**
- ✓ **No cases of bat-like virus in gray foxes near Flagstaff, AZ**
- ✓ **No appreciable spread of raccoon rabies to West**
- ✓ **Conducted broad-scale Field Trials in 5 states in a quest for the safest, most effective vaccine**



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Enhanced Rabies Surveillance



direct Rapid Immunohistochemistry Test

Year	Enhanced Surveillance Samples	RIIT Tested	Rabid by RIIT	Percent Rabid by RIIT
2005	3,788	2,848	59	2.1%
2006	6,930	6,072	109	1.8%
2007	9,959	8,136	157	1.9%
2008	10,999	8,790	142	1.6%
2009	12,256	10,534	160	1.5%
2010	9,231	7,294	145	2.0%
2011	9,492	7,574	141	1.9%
2012	7,783	6,605	117	1.8%
2013	5,861	5,462	142	2.6%
Total	76,299	63,315	1,172	1.9%



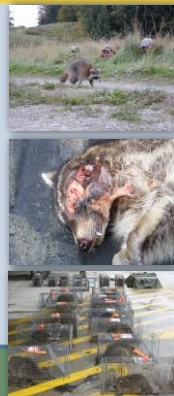
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120 rabid animals found on private land

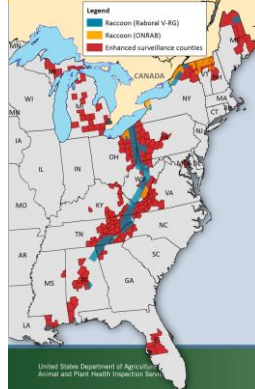


Enhanced Surveillance: Sampling Emphasis

- **No human or pet exposure history**
- **Strange behaving animals**
- **Animals with suspect lesions**
- **Animals removed – “hot rabies focus”**
- **Road kills/other dead animals**
- **Nuisance control or hunter harvested**
- **Proximity to ORV zones**



Enhanced Surveillance: Sampling



- **Determines geographic distribution of specific rabies virus variants**
- **Complements public health surveillance**
- **Conducted in 24 states by WS (19 raccoon states)**



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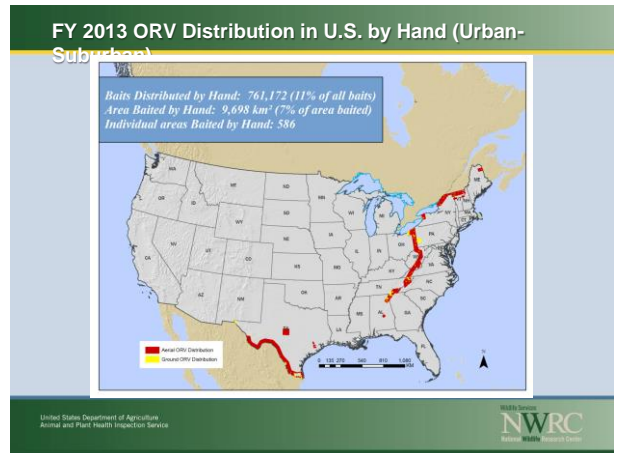


2013 ORV Operations Summary

A collage of images illustrating ORV operations: an aircraft in flight, bait preparation in a large bowl, a small plane on a runway, a person handling bait, bait in a container, a truck, a person in a field, and a person in a blue protective suit. A map of the United States highlights the states where operations took place.

Baits Distributed: 6,820,467
5.7 million on Private Land
Distance Flown: 213,957 km
Area Baited: 140,246 km²
84% Public Land
Hours of Flight: 906
Across 15 States

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Contingency Action Methods

- Enhanced rabies surveillance
- Oral rabies vaccination (75 or 150 baits/km²)
- Trap-vaccinate-release
- Local population reduction

Contingency Action



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NWRC
National Wildlife Research Center

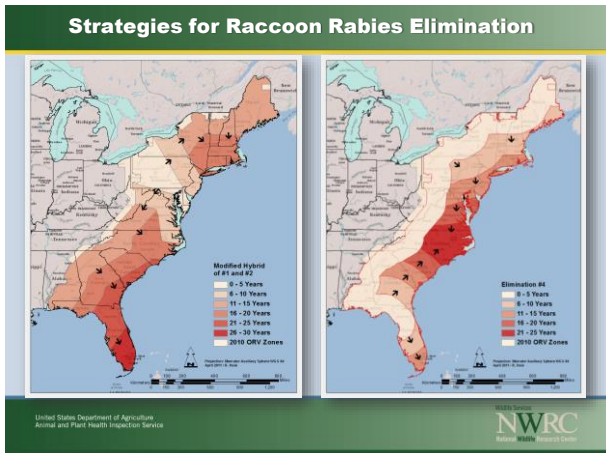
Raccoon Program Monitoring (1997-2013)

- >120,000 mesocarnivores trapped and sampled in 20 states (10 K a year)
- Conducted >300 raccoon density studies in 17 states to index abundance by habitat
- Agreements in place to work on private land




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Questions?



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