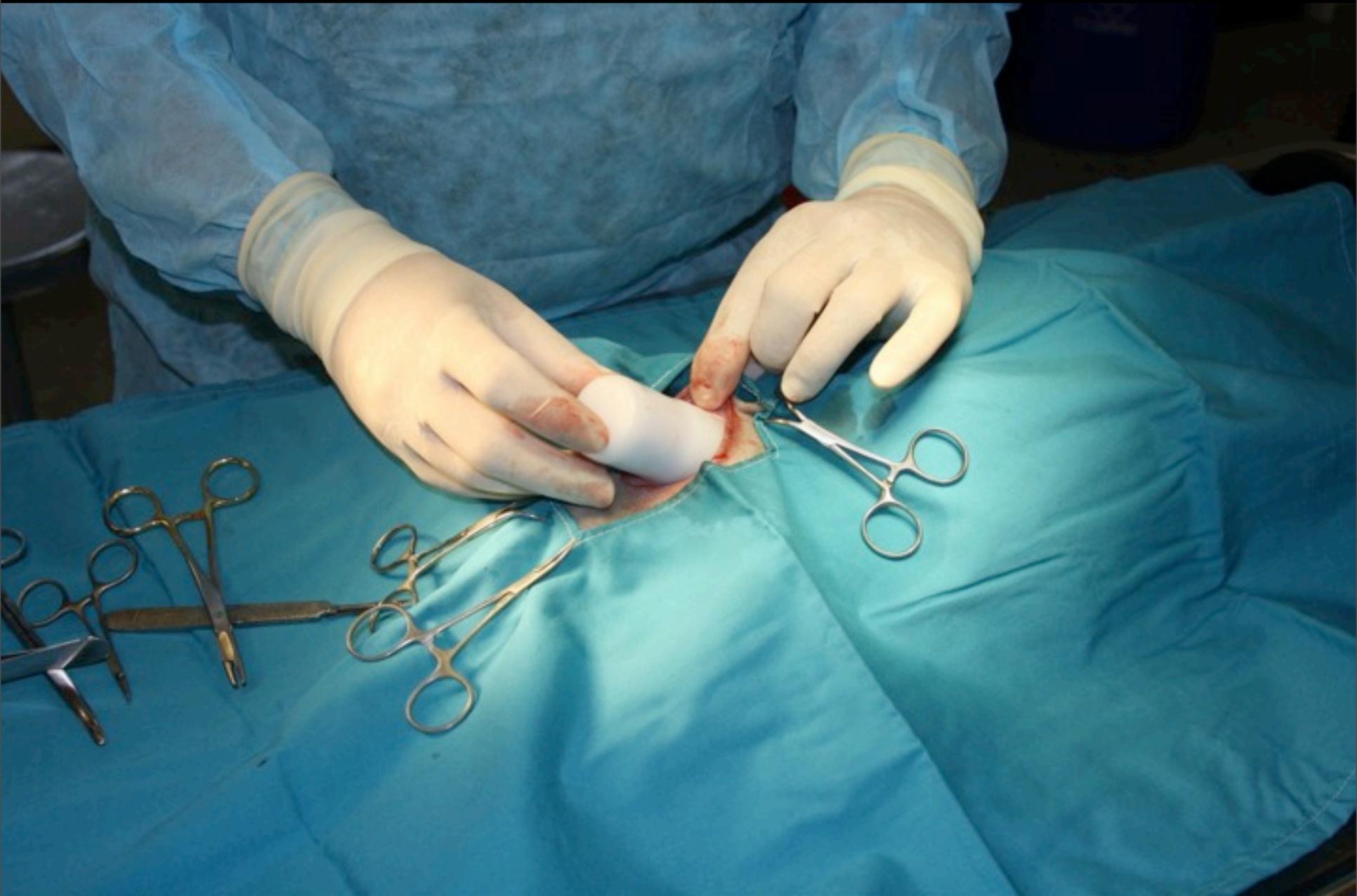


Nutria Control in Chesapeake Bay Watershed (MD)

Project Number
2008-0059-001



Wildlife
veterinarian Dr.
Glenn Olsen from
Patuxent Wildlife
Research Center
performs a
vasectomy on an
adult male Judas
nutria.



Tuesday, September 6, 2011



USDA Wildlife
Specialist Chet
Martinek
releases a Judas
nutria at
Blackwater
National Wildlife
refuge.

Tuesday, September 6, 2011

USDA Wildlife Specialists Ed Majors and Matt Jones use radio telemetry to locate a Judas nutria.



Tuesday, September 6, 2011

Judas nutria were released at Blackwater National Wildlife Refuge in August 2009, July 2010 and October 2010.

Four Judas nutria were released in the Island Pond area of Fishing Bay Wildlife Management Area in October of 2010.

Judas Project Site Overview

Colors represent different nutria and the squares and triangles indicate the release location and recapture location respectively.



 Nutria HQ  Fishing Bay WMA  Blackwater NWR

Judas Nutria Tracking:  Release  Recapture

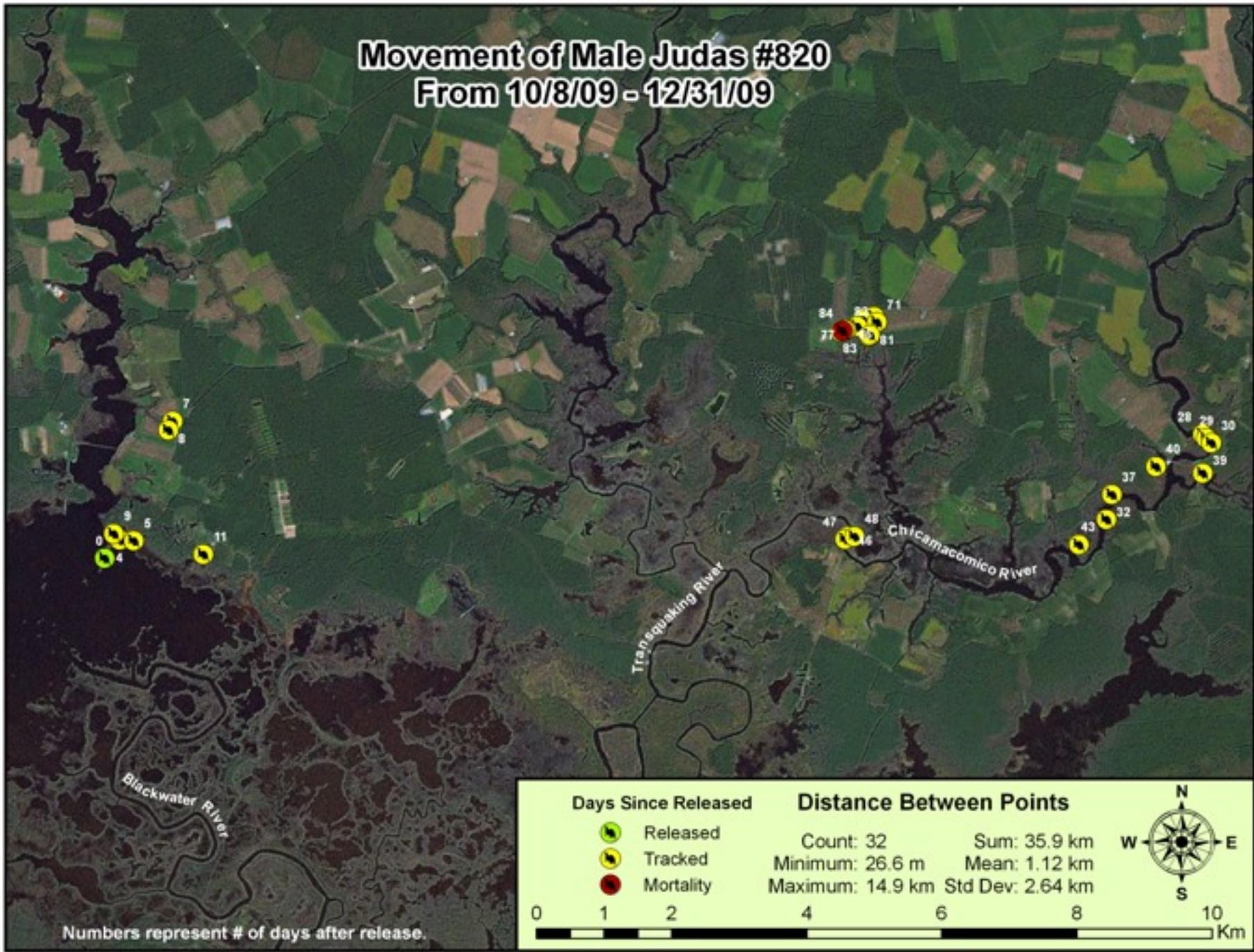
(The different colors represent different Judas Nutria)

USDA Nutria Eradication Project Headquarters: Lat: 38.44882; Long: -76.09307

Tracking Judas nutria via radio telemetry proved challenging in the marsh environment. Some animals, such as this male (next slide), moved extreme distances – making it difficult to keep up with them. Specialists tracked this animal for 11 days as it explored areas a mile from his release site.

He was next located 17 days later nearly 16 kilometers (10 miles) away up the Chicamicomico River. He then traveled back down the Chicamicomico River and eventually took up residence in a waterfowl impoundment at the head of Layton's Creek on Tudor Farms where he was found dead three months after his release.

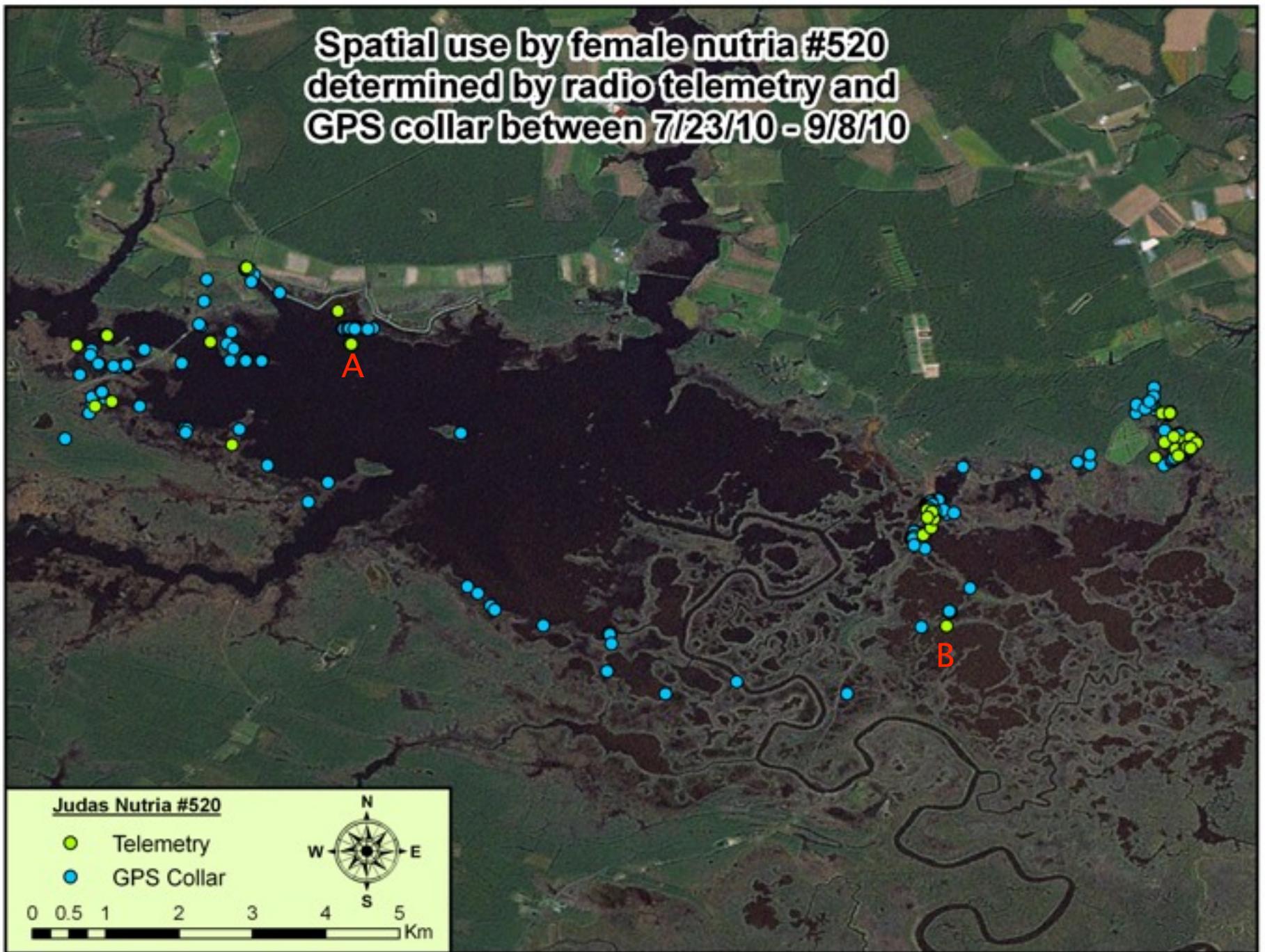
Movement of Male Judas #820 From 10/8/09 - 12/31/09



The benefits of GPS collars became clear as we recovered animals, downloaded the GPS data, and compared it to locations obtained through radio telemetry. This female nutria (next slide) moved more than 12 kilometers in a day and a half, and although specialists were able to relocate the animal using radio telemetry (green dots), we had no information about the animal's travel route from point A to B until we mapped points downloaded from its GPS collar (blue dots).

Understanding how nutria move across the landscape can help us strategically locate detection devices.

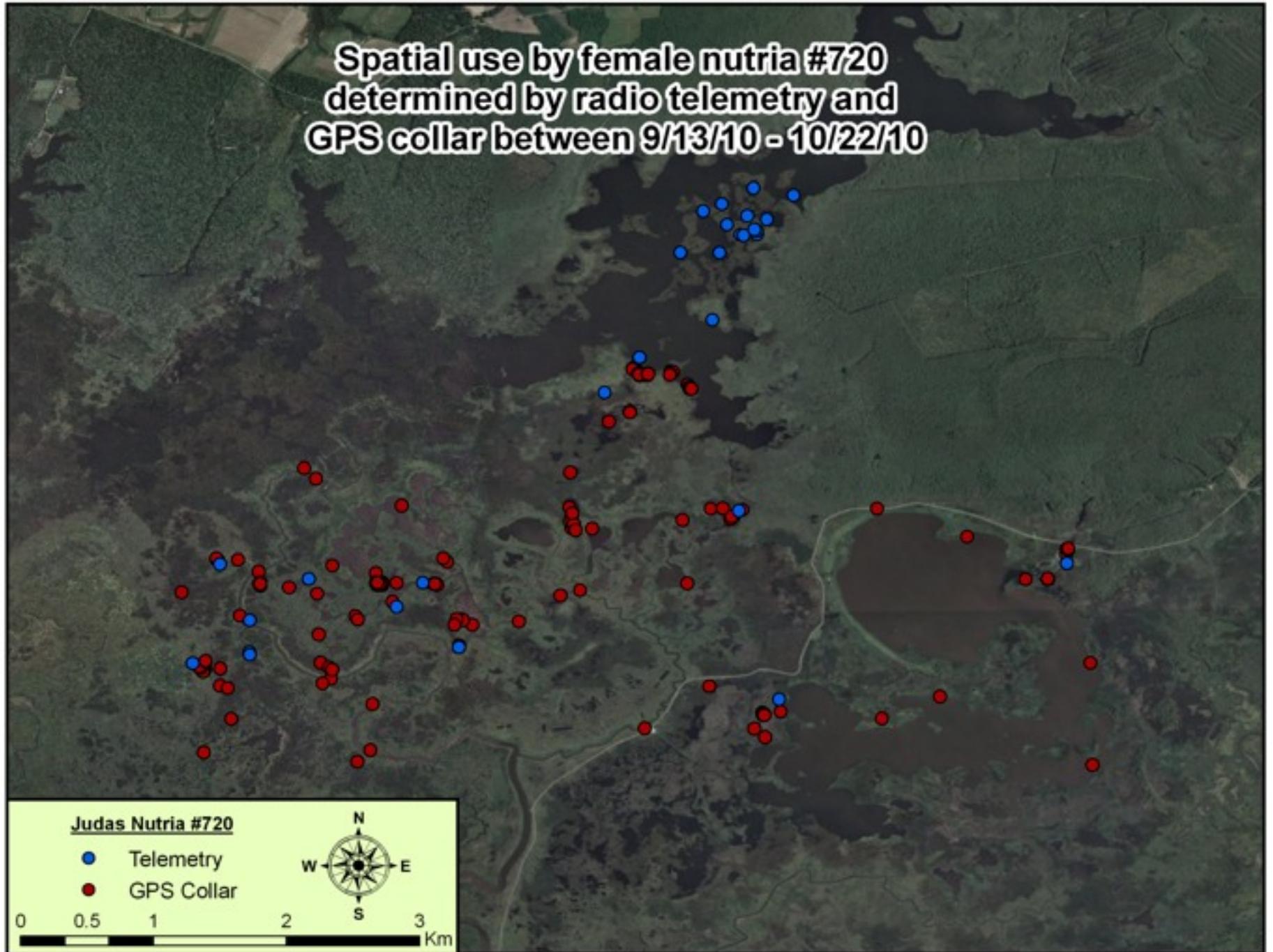
**Spatial use by female nutria #520
determined by radio telemetry and
GPS collar between 7/23/10 - 9/8/10**



In another example, GPS collar data (red dots) revealed much more information about the movement and behavior of this female nutria (next slide) than locations collected via radio telemetry (blue dots).

One limitation of the GPS collars is the short battery life – the collar collected a location every 90 minutes for about three weeks before the battery died, thus explaining the cluster of telemetry locations without corresponding GPS points.

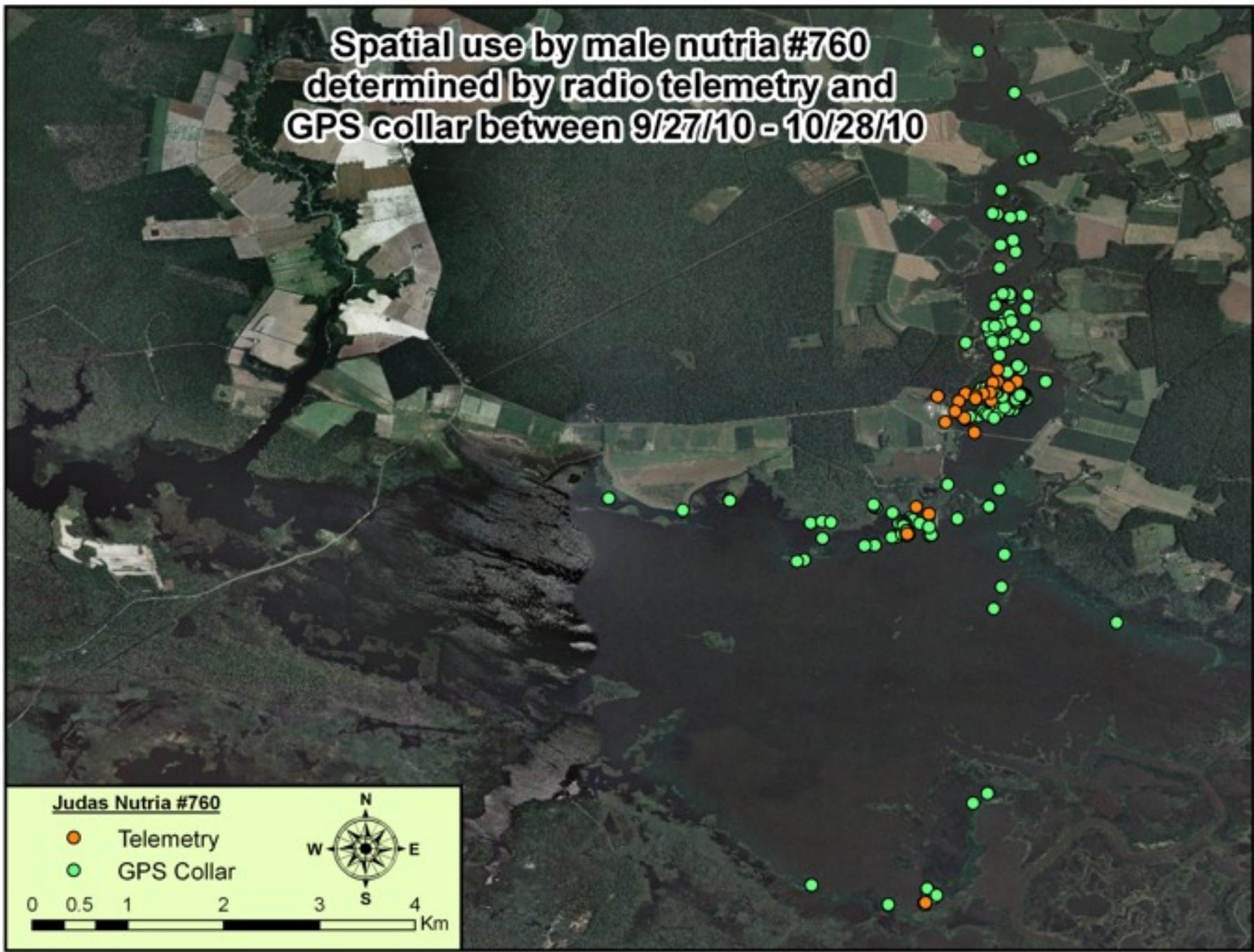
**Spatial use by female nutria #720
determined by radio telemetry and
GPS collar between 9/13/10 - 10/22/10**



Male nutria #760 (next slide) led a sedentary life according to daytime telemetry locations obtained by staff.

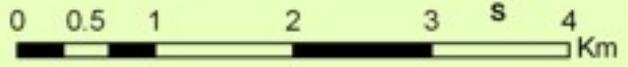
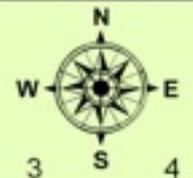
However, GPS data downloaded from his collar revealed that he was quite active at night, often traveling 2–3 miles nightly, only to return to the same loafing site each day.

**Spatial use by male nutria #760
determined by radio telemetry and
GPS collar between 9/27/10 - 10/28/10**



Judas Nutria #760

- Telemetry
- GPS Collar

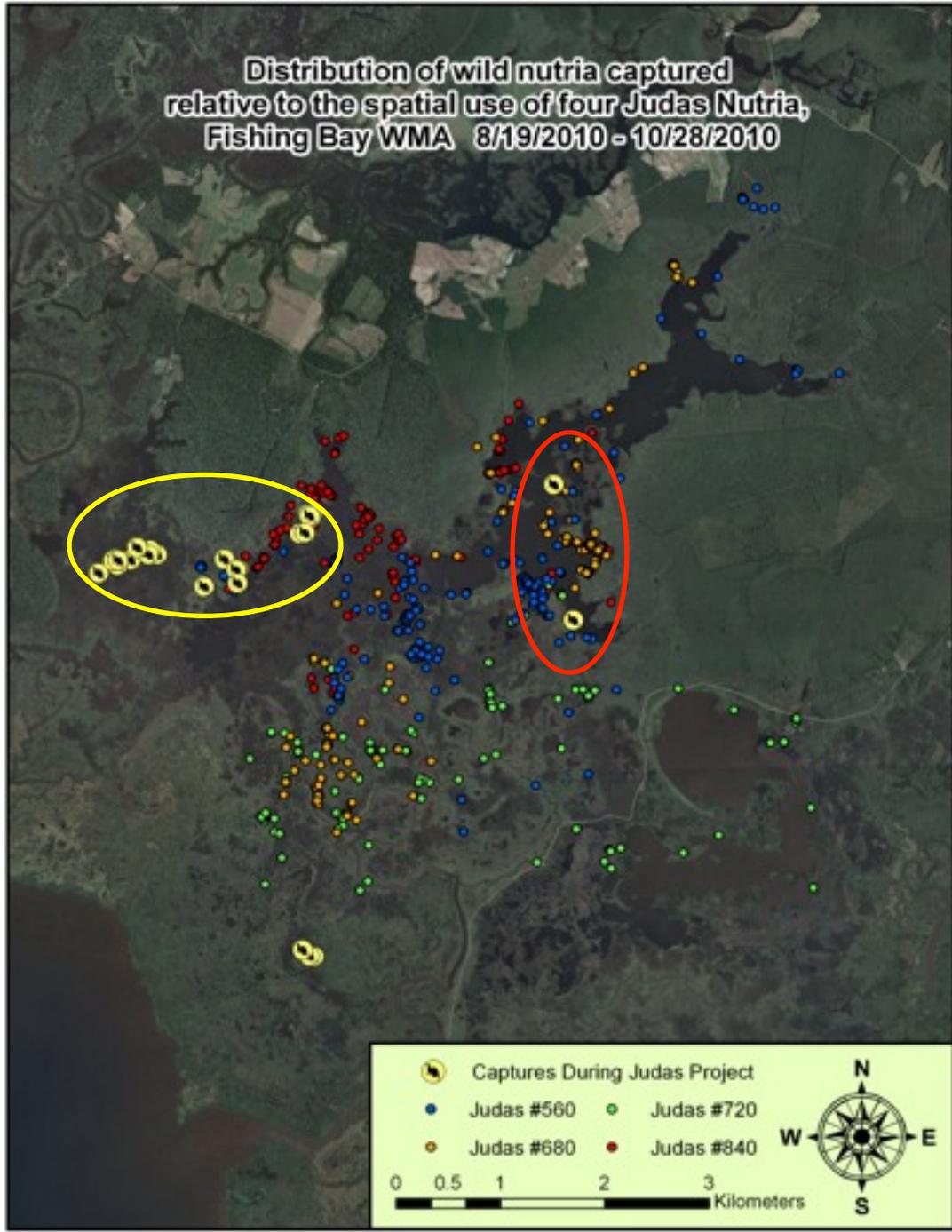


The next map shows the areas used by four Judas nutria released at Fishing Bay WMA and the locations of wild nutria captured during Judas recovery efforts and subsequent trapping to remove non-Judas nutria.

The two wild nutria circled in red were captured in cage traps set to recapture Judas nutria. The cluster of nutria circled in yellow were trapped on private property approximately three months following the recovery of Judas nutria.

Closer inspection of the areas used by Judas # 840 and 560 revealed the presence of these wild nutria.

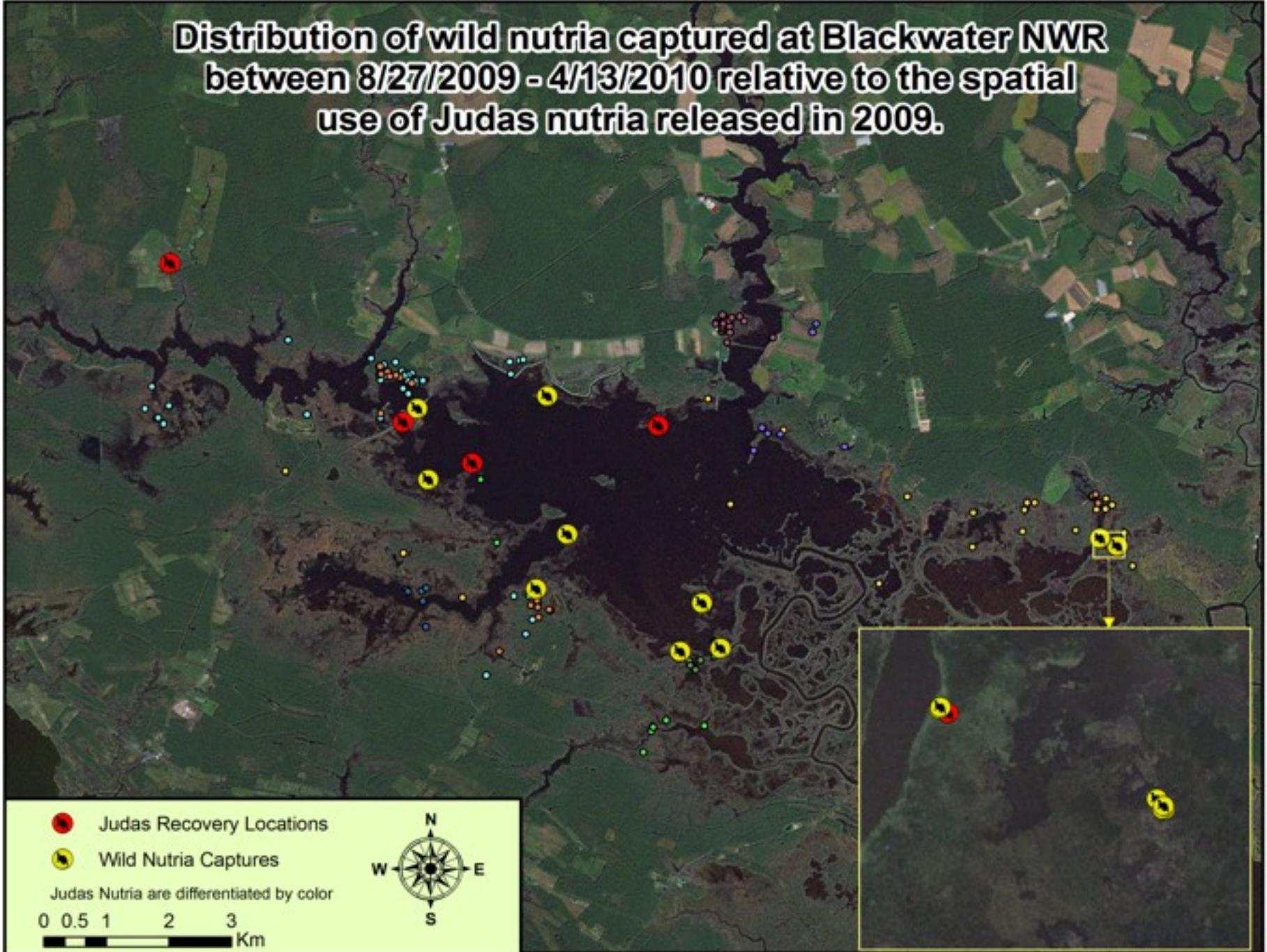
Distribution of wild nutria captured
relative to the spatial use of four Judas Nutria,
Fishing Bay WMA 8/19/2010 - 10/28/2010



The movements and behavior of Judas nutria at Blackwater National Wildlife Refuge drew attention to areas where additional sign was discovered.

Subsequent trapping and hunting resulted in the capture of 13 wild nutria (and one road kill) during the 8 months following the initial release of Judas nutria in August 2009.

Distribution of wild nutria captured at Blackwater NWR between 8/27/2009 - 4/13/2010 relative to the spatial use of Judas nutria released in 2009.

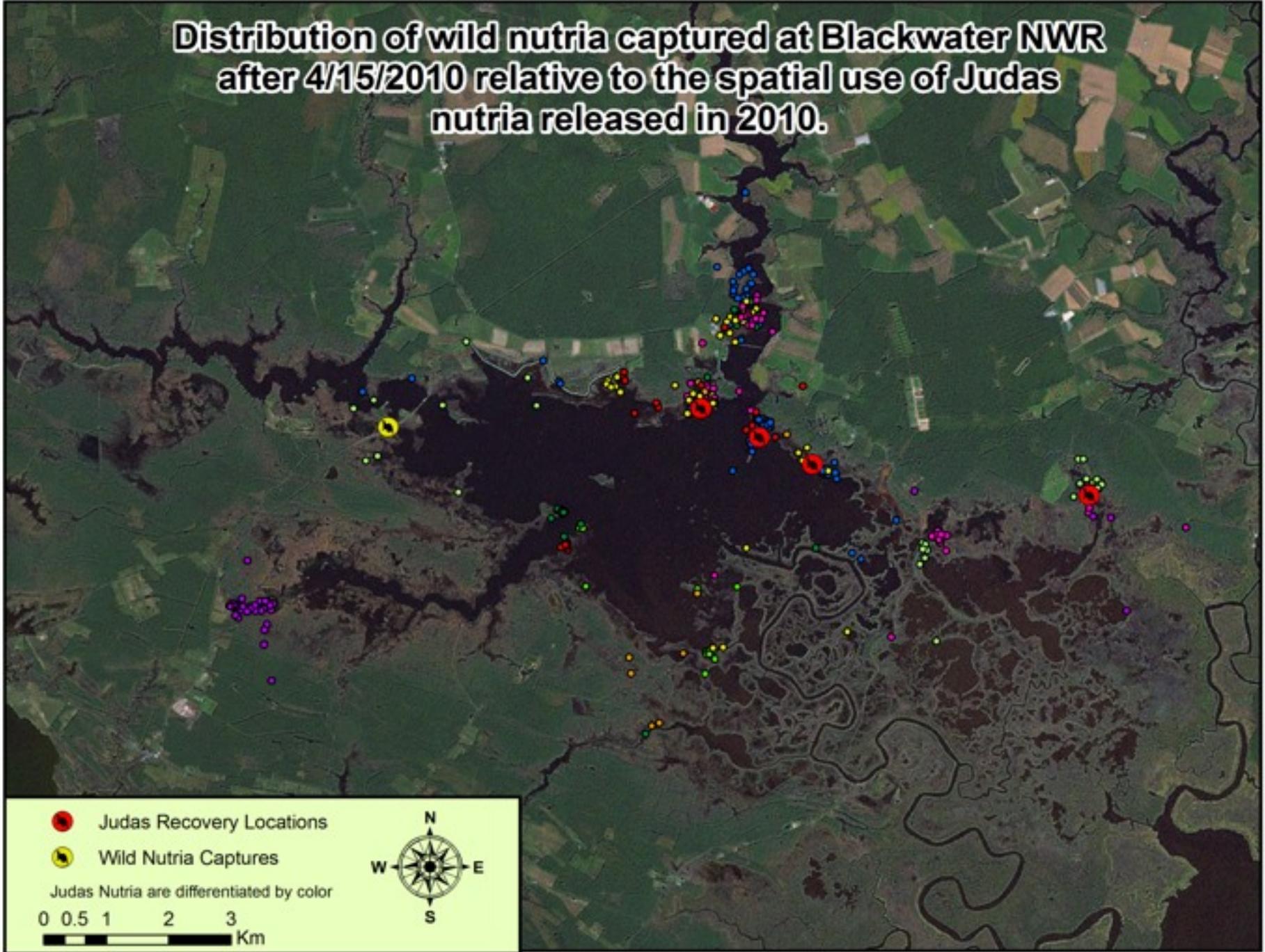


In 2010, another 8 Judas nutria were released at Blackwater NWR.

Careful sign searches in areas used by Judas nutria, and trapping to recover Judas animals, yielded no wild nutria captures except for a road killed wild nutria in October of 2010.

These observations suggest that the Judas concept can be used not only to find previously undetected nutria, but also to help confirm their absence.

**Distribution of wild nutria captured at Blackwater NWR
after 4/15/2010 relative to the spatial use of Judas
nutria released in 2010.**



Conclusions

- The use of Judas nutria successfully led to the discovery and subsequent removal of wild nutria in previously trapped areas.
- For the Judas concept to be an effective and efficient operational tool, real time GPS collars should be integrated to allow eradication specialists to interpret and act on nutria behavior as it occurs.

Partners

- Friends of Blackwater Inc.
- USDA APHIS Wildlife Services
- USGS Patuxent Wildlife Research Center
- Maryland Dept. Natural Resources
- US Fish and Wildlife Service