



AGENDA MEMORANDUM

*Natural Resources
Department*

City Council Regular Meeting Date: November 4, 2025

To: City Council
From: Rachel Rainbolt, Conservation Officer
Holly Milbrandt, Natural Resources Director
Date: October 27, 2025

SUBJECT: Wildlife Mortality Monitoring and Reporting

BACKGROUND: Although not consecutive, Sanibel has a long history of monitoring wildlife mortality events starting with the Wildlife Advisory Committee and residential volunteers in 1988. They surveyed the roads and causeway islands for a twelve-month period and provided a foundational dataset (477 mammals, 114 birds, 42 reptiles). Another large-scale effort was not attempted again until 2002, when SCCF's Habitat Management office began documenting reptiles and amphibians for their ongoing research studies.

Other species-specific surveys have been completed on a smaller scale, including by resident Doris Hardy who documented the number of deceased Eastern Screech Owls (92 total) observed on her daily walk along Sanibel Captiva Road from 2012 to 2022. Her efforts resulted in a citizen-backed initiative to install "low flying owl" signage along mile markers 5 and 7, which was approved by City Council and installed in 2015. Other wildlife signage historically found on Sanibel includes "gopher tortoise crossing" (still utilized) and "please slow down for us" (removed in 2013). The "Low Flying Owls" signage timeline is as follows:

- April 2015 - City Council approves installation of (2) lighted owl signs
- June 2015 - Lighted owl signs installed
- November 2018 - Lighted signs removed for repair
- January 2019 - Signs replaced without lighting (per City Council direction)
- March 2019 - City Council votes to replace signs with amended verbiage and no lighting
- July 2019 - Replacement signs (amended verbiage, no lighting) installed

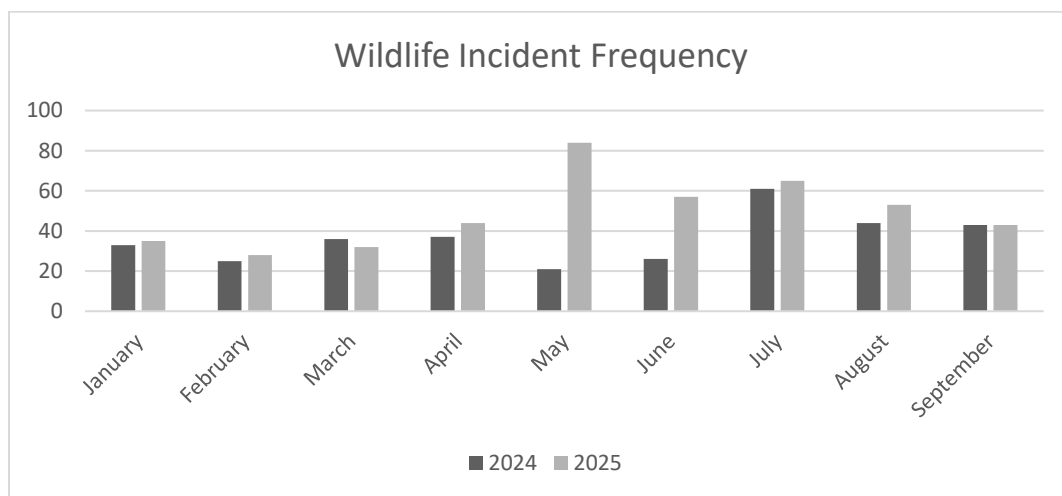
The most recent iteration of the Wildlife Mortality Report (WMR) initiated in late 2021. To encourage comprehensive data on all types of wildlife species, Natural Resources collects information not only from other City departments, but also from other conservation organizations on the island, including SCCF, CROW, and the J.N. "Ding" Darling National Wildlife Refuge. Toward that end, when birds, mammals, reptiles or amphibians are discovered on the City's collector and arterial roads, the deceased or injured wild animal is photographed, its GPS location is recorded, and the species identification is confirmed. City staff consolidate these

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observations into the WMR and share the document with partnering organizations. Public interest has since increased for ways to mitigate wildlife mortality events. Natural Resources thus identified peer-reviewed articles and reports demonstrating best management practices for incorporating the WMR into actionable projects. An annotated bibliography is attached for reference.

WILDLIFE MORTALITY REPORT KEY FINDINGS: Natural Resources documented 1,159 wildlife mortality events on Sanibel's roads from January 2022 to December 2024 and 441 year-to-date (YTD) 2025 (through September). Hurricane Ian drastically impacted wildlife habitat and vehicle demographics (e.g. resident vs. visitor vs. contractor) making it difficult to distinguish storm-related changes from natural trends. Based on the current recovery status, 2024 and 2025 are more representative of complete datasets. Key findings from the WMR are as follows:

- **Most Frequent Species** – Eastern Screech Owl - 60 YTD (14%), 199 total (12%)
- **Road with Most Incidents** – Sanibel Captiva Road - 147 YTD (33%), 570 total (36%)



2024/2025 Year Over Year Comparison



2024 WMR Image Collage

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Public and private roadways meander through different habitat types on the island, so wildlife mortality events provide the community with valuable information aside from incident frequency.

1. Wildlife Conservation and Biodiversity Monitoring

- **Population Insights:** information on species distribution, abundance, and seasonal movement patterns which is useful in monitoring both native and exotic species.
- **Threat Identification:** identifying hotspots where certain species are at risk, supporting targeted conservation measures.
- **Early Detection System:** unusual patterns (e.g. sudden increase in certain species) may indicate ecological shifts or disease outbreaks.

2. Transportation and/or Infrastructure Planning

- **Mitigation Design:** data guides potential placement of wildlife crossings or signage to reduce wildlife mortality events.

3. Public Safety and Welfare

- **Driver Awareness:** informing the public of wildlife crossings enhances road safety.
- **Collision Prevention:** identifying high-risk areas also reduces likelihood of human injuries from vehicle–animal incidents.

4. Scientific Research and Education

- **Data Resource:** wildlife mortality reporting contributes to a greater understanding of island recovery and resiliency, including wildlife behavior and species adaptation.
- **Public Engagement:** wildlife mortality reporting fosters community participation in conservation efforts.

CONSERVATION LISTING DEFINITIONS:

Providing reports on species at a greater risk of decline helps differentiate between general mortality events and incidents that may have larger population consequences. Municipalities have a responsibility to consider listed species (e.g. gopher tortoises) in planning, infrastructure, and maintenance activities, so including this information also ensures compliance with state and federal requirements. Species are classified by conservation listing in the WMR, allowing staff to more efficiently allocate time and resources toward mitigation strategies.

The status of all of Florida's federal and state species is found in Florida's Endangered and Threatened Species List, meeting criteria to be qualified as federally endangered, federally threatened, state threatened or Species of Special Concern. *Imperiled species meet the criteria but are yet to be listed.

- Endangered means a species is in danger of extinction throughout all or a significant portion of its range.
- Threatened means a species is likely to become endangered in the foreseeable future.
- Species of Special Concern are either “Near Threatened” or “Recently Recovered”.

The International Union for Conservation of Nature (IUCN) uses a set of criteria to convey the urgency of conservation issues, and the IUCN Red List, is an objective assessment system for classifying the status of plants, animals, and other organisms threatened with extinction.

- Critically endangered (CR) – in a particularly and extremely critical state.
- Endangered (EN) – very high risk of extinction in the wild, meets any of criteria A to E for Endangered.
- Vulnerable (VU) – meets one of the 5 red list criteria and thus considered to be at high risk of unnatural (human-caused) extinction without further human intervention.
- Least concern (LC) – unlikely to become endangered or extinct in the near future.

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WILDLIFE MORTALITY REPORTING TOOL AND DASHBOARD: As of October 2025, the WMR data points were fully integrated into a GIS-enabled platform created by the locally owned Hammerhead Technology firm. Leveraging advanced GIS reporting tools will not only build upon decades of dedicated wildlife monitoring by various island organizations but will also address existing data management challenges. It improves accuracy and enables sophisticated spatial analysis which assists with more informed decision-making. New data points are entered via the ESRI Survey123 application and displayed on an accompanying dashboard. *A demonstration will be provided as part of this agenda item.

GIS reporting tools serve distinct but complementary purposes for City staff and the public. Internally, a secure platform collects, analyzes, and maps details in real time to support planning efforts and inter-agency collaboration. However, these tools may include complex information that often require either technical expertise or context to interpret correctly. Due to these factors, as well as the potential for sensitive information (e.g. protected nesting sites or property details), the reporting software was designed for internal use. However, a public dashboard can be generated to communicate the data with clear visual displays in an open, user-friendly format.

- Hammerhead Technology indicated that this could be accomplished in around 10-12 hours of additional worktime.

RECOMMENDED ACTION:

Recent analysis of WMR data indicates several roadway segments (e.g. Sanibel Captiva Road, Rabbit Road, Tarpon Bay Road) where driver speed and wildlife movement intersect, creating potential safety risks for motorists, cyclists, and wildlife. These areas correspond to known wildlife corridors and high-traffic routes where posted speed limits are more likely to be exceeded. Ensuring driver compliance with posted speed limits and increasing public awareness of wildlife movement patterns with outreach initiatives are key to reducing collision incidents and maintaining roadway safety standards.

Based on the WMR, staff would recommend deployment of wildlife crossing signage at the following locations:

- Sanibel Captiva Road (near Tarpon Bay Road 4-way stop)
- Sanibel Captiva Road (near Rabbit Road intersection)
- Sanibel Captiva Road (near Wulfert Road/Wildlife Drive access)
- Tarpon Bay Road (near entrance to Bailey Tract)

Staff would also recommend further discussion on traffic calming strategies at the following location:

- Sanibel Captiva Road (Legion Curve)