

Assessing and Reducing BASH Risk Potential of Migrating Osprey



DoD Legacy Resource Management Project 06/07/08-292
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Situation

Recent advances in satellite tracking technologies allows for an unprecedented level of understanding and study of birds that migrate long distances, such as Osprey (*Pandion haliaetus*). As Osprey pose a significant risk to safe military flight operations, a better understanding of Osprey movement and activity patterns during their breeding and migratory periods in needed.



A DoD Legacy Natural Resource Management Program-funded multi-agency research project was initiated in 2006. The goal of this project is to quantify Osprey-strike risk derived from satellite tracking migratory and breeding movements in relation to military training operations in the Mid-Atlantic Chesapeake Bay Region. One of the major objectives of this project is to quantify the risk migrating Osprey pose to military flight operations along the Eastern seaboard and to find effective solutions for reducing Osprey-strike risk during military flight mission and training operations.

Tracking Osprey via Satellite

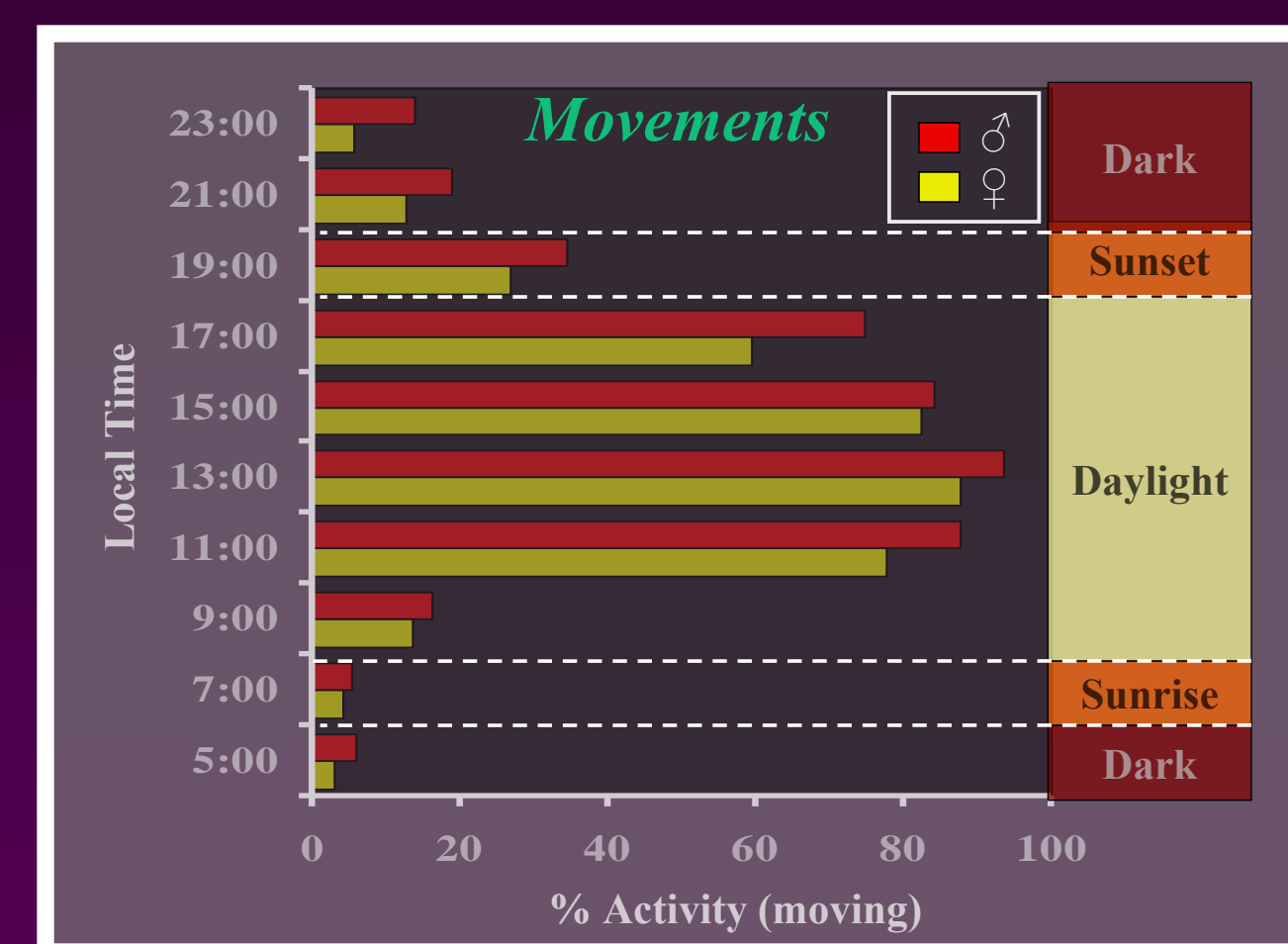
In May 2006 and 2007, we captured 13 adult Osprey (5 males & 8 females) in their nesting territories adjacent to Langley Air Force Base, in the Back River of the Chesapeake Bay of Virginia. We fitted each bird with a GPS-capable satellite telemetry package (GPS/PTT 100, 35g, Microwave Telemetry, Inc.). The packages provide highly accurate location and movement information.



Tagged Osprey were tracked via the ARGOS satellite network, allowing us to collect movement data (e.g., location, flight speed, altitude) during fall and spring migration periods during 2006–2009. A geo-database was created to manage and display migratory movement data of each Osprey using a geographic information system (GIS).

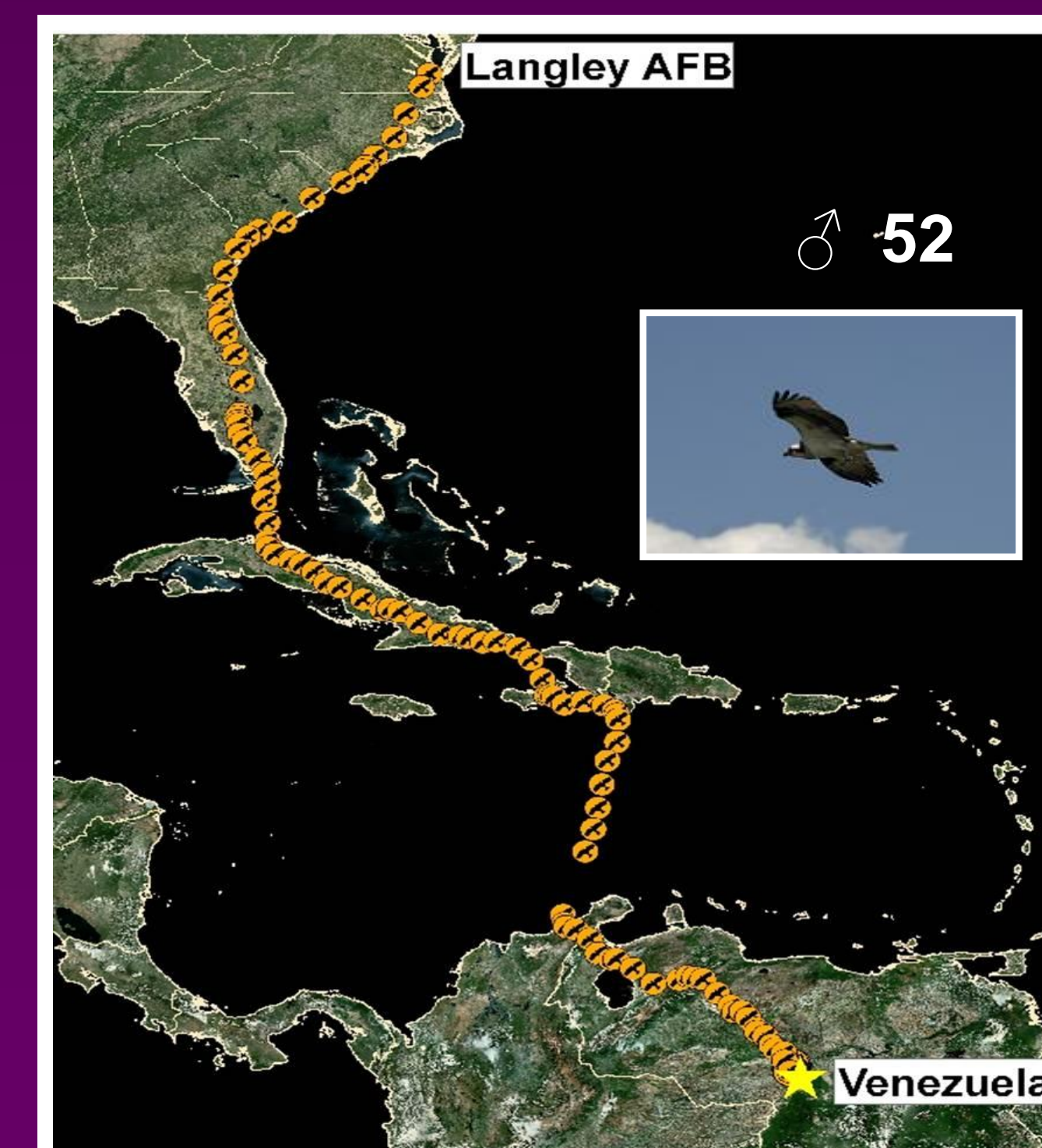
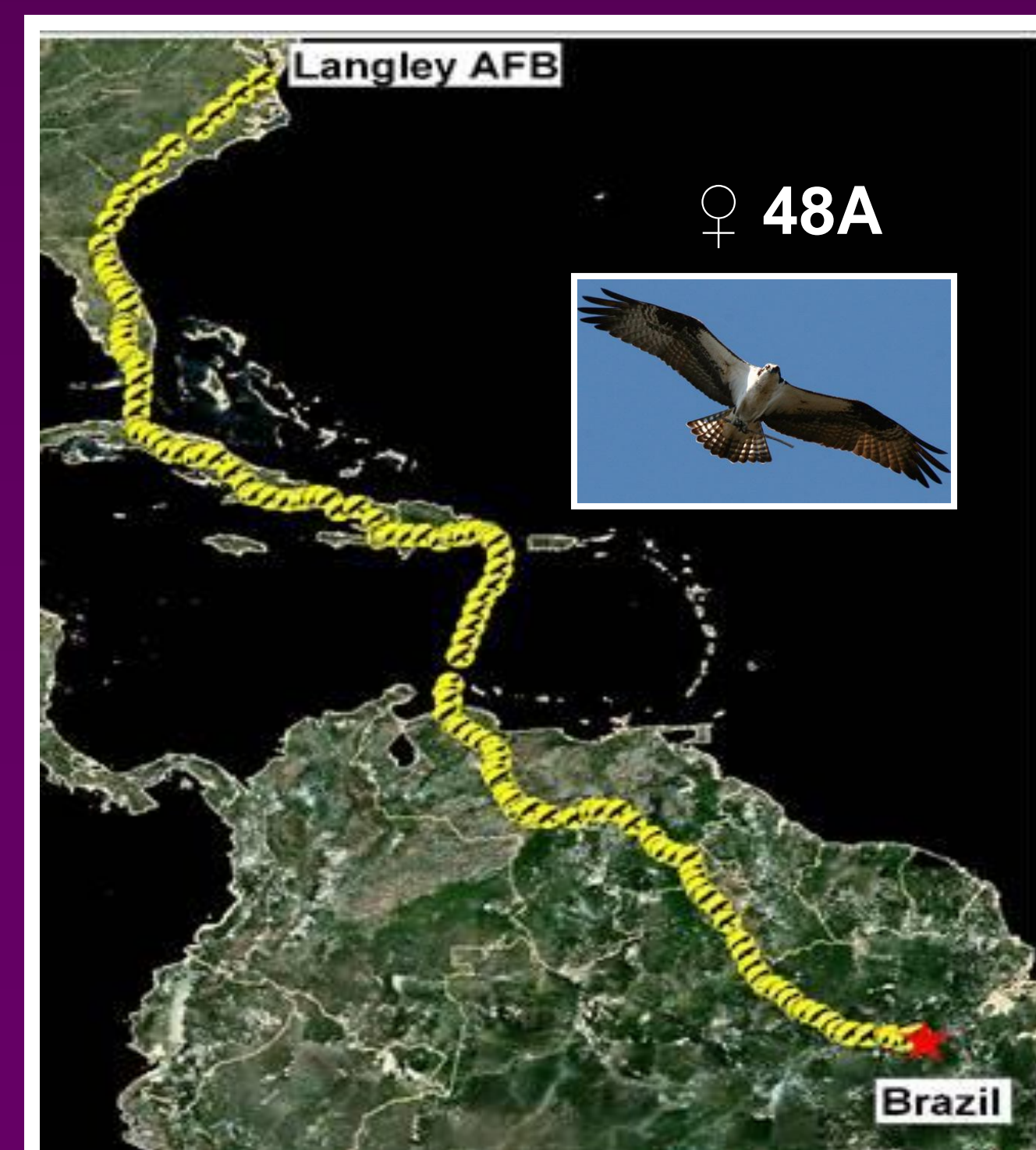
Flight Characteristics

All osprey utilized similar migration routes along the eastern coast of the United States and traveled from Florida to Cuba. Female Osprey begin their fall migrations in August, whereas males typically began migrating in September.

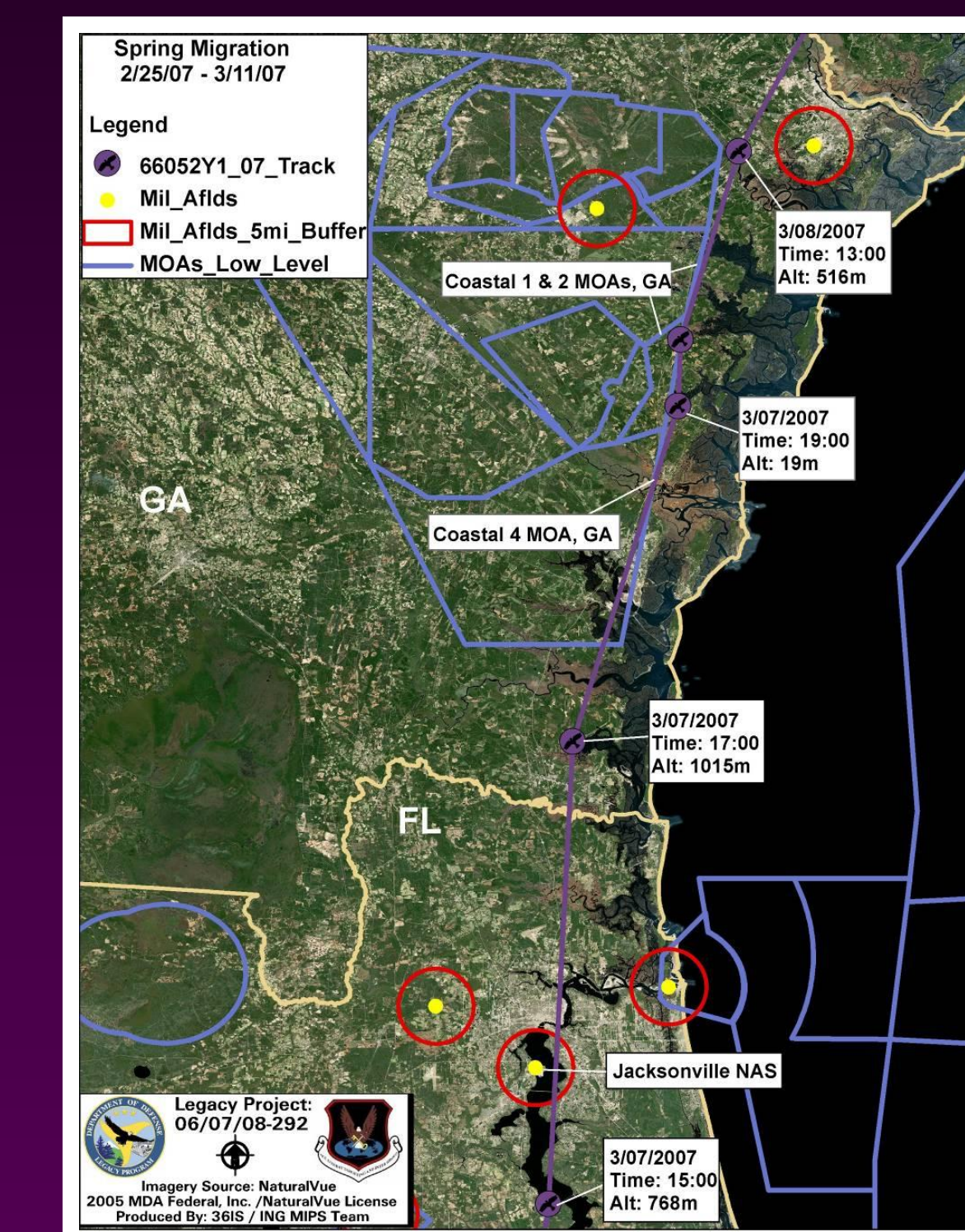
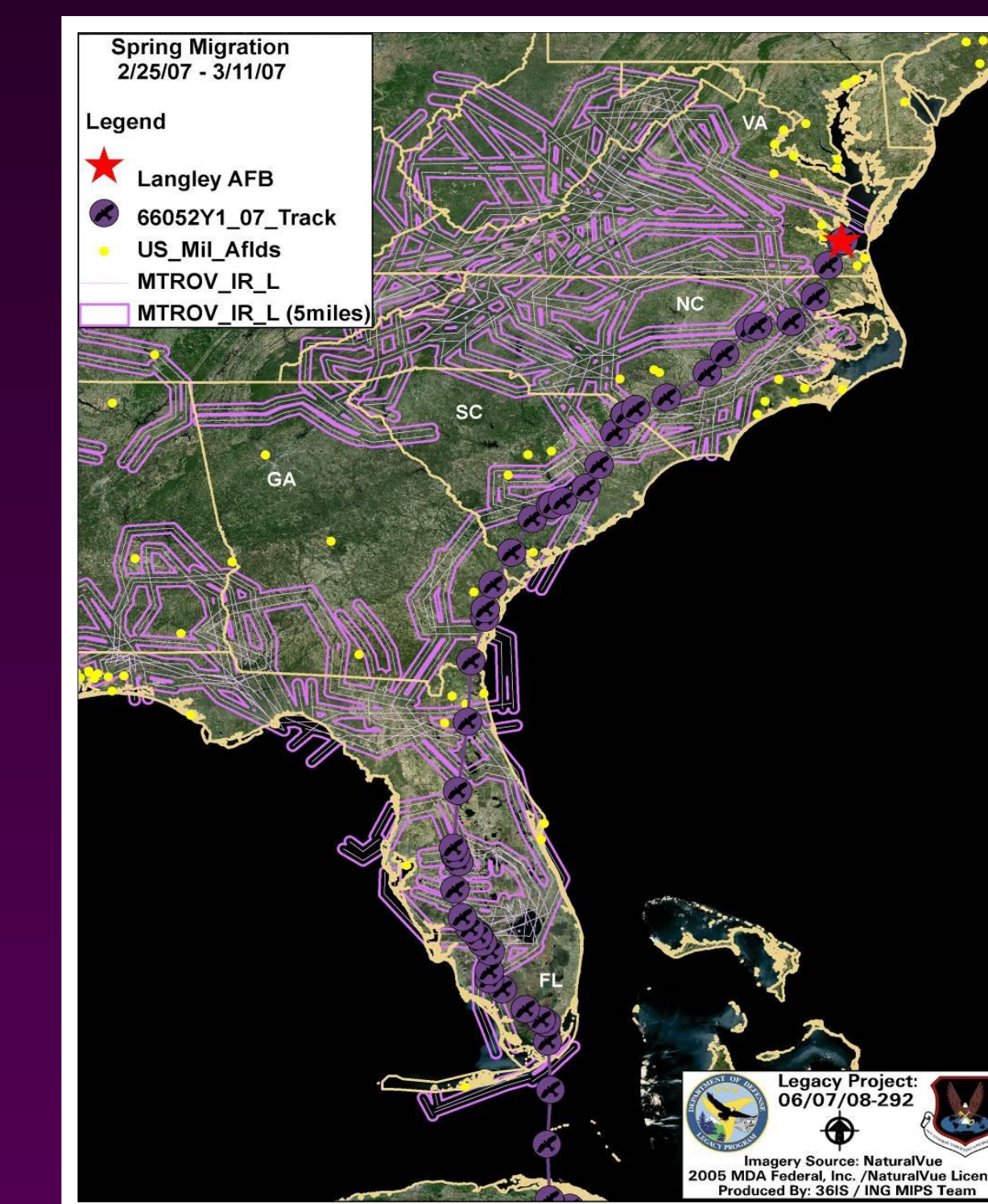


On average, migrating Osprey flew at ~ 40 kph and at ~ 355 meters AGL. Osprey migrated (e.g., actively flew) during a very defined period during the day (e.g., 11:00 to 17:00) and roosted at night. Information from the satellite telemetry suggests Osprey take opportunities to forage during stopovers as well.

Migration Routes



Osprey migration in relation to military airspace



All migrating Osprey traversed through multiple military Special Use Airspace areas (e.g., airfields, training routes, ranges) during their fall and spring migrations. We documented over 1,400 individual Osprey locations where the bird was within a military Special Use Airspace area in the southeastern United States.

Mission Achievement

- Migrating Osprey pose a direct threat to military flight operations
- Flight & mission planning should avoid aircraft operations during late morning & afternoon periods to reduce catastrophic BASH risk
- GIS-based Osprey-aircraft strike-risk management models will be developed to allow for a safer flying environment
- Osprey conservation & management can be enhanced
- Satellite telemetry is excellent tool for studying bird migration

We would like to acknowledge the gracious support & contributions of our project partners!