



# Trash Just Goes Away, Doesn't It?

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## The Problem

Anthropogenic influences can have significant negative impacts on the natural environment. Over the last 3 decades, the use of synthetic organic polymers (i.e., plastics) has increased greatly and these products have moved into all aspects of everyday life. However, when they are not properly disposed of, plastics and associated products can be a threat to the natural environment. Plastic waste enters aquatic ecosystems by direct deposition by the fishing and packing industries, accidental or careless handling by beachgoers, with runoff from terrestrial ecosystems, and other land-based sources.

Marine ecosystems appear to be highly susceptible to the impacts of plastic waste materials. In addition to being aesthetically unpleasant, the threats to marine life are primarily mechanical in nature. Documented problems include:

- > Ingestion of plastics by seabirds
- > Ingestion and entanglement of plastics and netting by cetaceans
- > Ingestion of polythene bags by sea turtles and entanglement of turtles in nets
- > Introduction of polychlorinated biphenyls (PCBs) in plastic pellets
- > Accumulation of plastics on the sea floor
- > Invasive species range expansions due to drifting plastic debris



## Effective Solutions?

- 1) Legislation – local to international levels
- 2) Education – young and old
- 3) Recycle / reuse plastic grocery bags
- 4) Get Involved – community clean up projects



As an example of the problem created by plastic litter, an Osprey under study as part of a DoD Legacy Resource Management project was found dead in 2007; the victim of entanglement in a plastic grocery bag.

## LITTERING: A FATAL MISTAKE

By Amy L. Robinson, 1st Fighter Wing Public Affairs  
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She was found about a month ago -- dead. The exact time and date of her death is unknown, but it's likely, she died of starvation and stress. All because of a plastic bag. Osprey 48 had been a part of Langley's satellite tracking project for almost a year when the lifeless 4-year-old bird turned up -- tangled in a duck blind on the Little Back River near Langley. She was probably gathering debris for her nest after her recent spring migration from South America, according to Tom Olexa, a U. S. Department of Agriculture wildlife biologist with the 1st Fighter Wing Safety Office. Although it took her 29 days to get to Brazil last fall, she made her way back to Langley in 22 days. "She traveled a total of 4,200 miles, down and back, and more than 50 percent of her journey was over open water," said Troy Andersen, 1st Civil Engineer Squadron natural resource manager. "To learn that she died from a piece of litter after a major trek like that ... it's really disappointing." "We thought the global positioning system had fallen off of the bird," said Mr. Olexa, after noting some "bizarre location data" in April.



Number 48 was the most physically active Osprey to date in Langley's tracking project, with more than 2,900 location points along her migratory routes since she was fitted with her GPS "backpack" May 16, 2006. The project, which was approved and funded by the Department of Defense Legacy Resource Management Program, studies the behavioral movements of osprey, which not only helps the Department of Defense, but also aids in research for local colleges and conservation groups. "We've been able to obtain data that we couldn't capture before," said Mr. Olexa. "We're learning about their behavior in South America, which will allow us to better monitor populations." By monitoring populations, the safety office can help reduce and even prevent bird strikes on aircraft, which can cost millions of dollars, and more importantly, lives. Luckily, Langley aviators have avoided injuries caused by bird strikes; however, the aircraft were not always as auspicious. Seven years ago, a four-pound Osprey caused an estimated \$700,000 in damage to an Eagle - an F-15C Eagle. "We want to do what's best for both birds - the Osprey and the aircraft," said Mr. Olexa. While Langley continues to protect its resources -- both natural and human -- through the tracking program by tagging eight more ospreys by June 3; however, the local community can also help conserve resources by being conscious of litter and its effects on the environment. People may not pick up every piece of trash they pass, Mr. Andersen said, but the incident has affected him personally. "This has really made me more aware of how our actions really have an effect ... the next time I see a plastic bag, I'll definitely pick it up," he said. "An incident like this really underscores the reason for events like Clean the Bay Day."

The Langley Fighter – 1 June 2007