

# SpaceX Environment and Wildlife Backgrounder

## Overview

The Boca Chica region of South Texas hosts some of the most unique wildlife in the United States. This meeting zone of untrammled habitats support rare, endangered, and threatened species.

Ten species listed as threatened or endangered under the Endangered Species Act (ESA) use the Boca Chica region surrounding the SpaceX project site. The area is also bottleneck in multiple migratory flyways that span the western hemisphere and a critical stopover site migrating birds.

## **A Unique Ecology**

This is an ecologically diverse area with a remarkable assemblage of species unlike any in the United States. This southernmost tip of Texas, where the Rio Grande empties into the Gulf of Mexico, is a meeting place of Mexican and U.S. ecosystems and wildlife, including terrestrial, coastal and marine environments. Given its unique qualities, the Boca Chica wetlands have been identified by the Environmental Protection Agency as an aquatic resource of national importance (ARNI).

## Endangered Wildlife

### *Piping Plover*

The SpaceX site directly overlaps with Piping Plover Critical Habitat designated by the USFWS. These endangered shorebirds spend their winter months at Boca Chica. Flocks as large as 100 of this endangered species have been seen in the area. The Piping Plover is endangered largely due to habitat destruction, as these birds have lost coastal beaches to commercial, residential, and recreational developments. Too much disturbance causes the parent birds to abandon their nests, imperiling the population.

### *Ocelot and Jaguarundi*

Texas is home to the only remaining breeding populations of ocelots in the United States with only 15 known individuals residing in Laguna Atascosa National Wildlife Refuge. Habitat quality and connectivity are the most important concerns to ensure the long-term survival of the cats. Development and infrastructure (roads, etc.) and human activity (light, noise) can fragment habitat and impact animal behavior. These cats are under substantial threat of development, including the SpaceX project as well as the construction of proposed liquified natural gas terminals along the Brownsville Ship channel, just miles from the SpaceX site.

As more roads fragment home ranges and travel corridors, the cats are left with smaller isolated patches to live. Increased human and vehicular traffic lead to wildlife injuries or mortalities. Collisions are the leading known cause of mortality of these cats. The loss of even one ocelot has a significant impact on the genetics of the species and population on the refuge.

Little is known about the ocelot and even less about the jaguarundi. The last known jaguarundi in the area was a mortality that occurred on Highway 4 – the road on which SpaceX is located.

## *Sea Turtles*

Five species of sea turtles, namely loggerhead, green, leatherback, hawksbill and the most critical endangered turtle of all, the Kemp's Ridley, can be found in the Boca Chica region. Light and noise pollution can impact nesting sea turtles and hatchlings, most of whom are active primarily at night. Noise pollution can disorient or prevent turtles from coming ashore and have potential to harm incubating eggs that are not found or relocated.

## **Impacts on People, Communities**

The SpaceX project has caused frequent closures of public roads and beach access. In addition to impeding public right of way, the project has raised concerns about the impact on clean air and water for the surrounding human communities given the potential release of hazardous fuels and vapors, falling debris in the nearby oceans and bays as well as fire and smoke from the testing site.

The nearest city to the development, Brownsville, Texas, is home to more than 182,000 people. In 2018, Brownsville had a population with a median household income of \$38,588 with 29.3% living in poverty. The largest ethnic groups are Hispanic or Latino (93.8%), White (Non-Hispanic or Latino) (4.9%), Black or African American (0.6%), Asian (0.6%).

## **Impacts on National Wildlife Refuges**

These lands are of high conservation value for a range of federally and state listed species and other protected species. Many SpaceX activities are incompatible with and threaten the integrity of the refuges due to a wide range of direct and indirect adverse impacts to listed and unlisted species and nationally significant shorebird and waterbird habitats.

The launch site is adjacent to and surrounded by national wildlife refuge land, state park land, tidal flats that host wading bird species and beach used by nesting sea turtles. Impacts from testing, launching, and failures include but are not limited to explosions, debris fields, debris left in the ocean and bays, fire, smoke and release of hazardous fuels and vapors.

When rocket debris lands in the refuges or parks, the debris may land in locations where it is very difficult to clean up and remove the debris without causing additional environmental damage. This was the case with the March 2021 explosion, where much of the debris field remains on public lands months later.

The existing and proposed vertical launch area facilities and rocket launch activities are just outside of the nearby Lower Rio Grande Valley National Wildlife Refuge. Referring to the Lower Rio Grande Valley, the U.S. Fish and Wildlife Service noted in the Final Lower Rio Grande Valley and Santa Ana National Wildlife Refuges Comprehensive Conservation Plan (1997) that the "combination of climate, geology, vegetation, and wildlife creates tremendous biological diversity. Many organisms found in the LRGV occur nowhere else in Texas or the United States."

Additionally, the SpaceX site sits within the Ocelot Coastal Corridor, a mix of protected lands anchored by the Laguna Atascosa National Wildlife Refuge as well as additional public and private lands that are essential for the ongoing survival and recovery of this species in Texas.

While the USFWS has spent millions in land acquisition and restoration in the immediate area through the South Texas Refuge Complex, SpaceX threatens to undo that work towards habitat connectivity.

### **Defenders Recommendations**

Development of an exponentially larger rocketry and an associated increase in testing and launches will have unanticipated and more significant impacts on wildlife, habitat and public access. Defenders calls for a new Environmental Impact Statement (EIS) to include impacts that were not considered under the 2014 Final EIS. The new EIS should consider the changes and provide a careful, science-based examination of the possible impacts to wildlife and the extraordinarily unique and sensitive ecological region.