



Bringing back the birds

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Dear Mr. Rushforth, Ms. Andrus & Ms. Zee,

American Bird Conservancy (ABC) is a 501(c)(3) organization whose mission is to conserve native birds and their habitats throughout the Americas. We respectfully request that the Federal Aviation Administration (FAA) consider the following comments during the Environmental Assessment (EA) scoping process for SpaceX's Starship Super Heavy Project in Boca Chica, Texas. Given the significant project scope changes from the initial 2014 Record of Decision (ROD) and the US Fish and Wildlife Service's (USFWS/the Service) Biological Opinion (BO), we are certain a new Environment Impact Statement (EIS) for this project is justified. Many of the actions currently occurring at this site are creating far more environmental impacts than what was originally planned and operations continue regardless of SpaceX's blatant violations of what was originally agreed upon in the ROD and BO.

The ecological importance of this region cannot be overstated. The SpaceX site is surrounded by critically important and sensitive habitat for many declining wildlife species, including the federally Threatened Piping Plover and Red Knot. The Service designated Critical Habitat for Piping Plovers (TX-01) that directly overlaps the site (see map). Another Piping Plover Critical Habitat designation is adjacent to the SpaceX site across the channel that separates the Laguna Madre from South Bay. While a Critical Habitat designation does not necessarily prevent development, it does require that federal agencies "ensure that actions they plan to undertake, fund, or authorize do not destroy or adversely modify that habitat"



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(<https://www.fws.gov/endangered/what-we-do/critical-habitats.html>). The FAA is not ensuring such measures.

The Lower Rio Grande Valley National Wildlife Refuge (NWR), Boca Chica State Park, Brazos Island State Park, and Las Palomas Wildlife Management Area-Boca Chica Unit all surround the SpaceX site. These conservation areas are home to some of the country's most diverse communities of wind tidal flats, mid-delta thorn forest, and mid-valley riparian woodlands that support rare, endangered, and threatened species, making it critically important to ensure impacts to these natural resources are minimized.

Furthermore, this area is an incredibly important region for migratory birds, with hundreds of thousands of birds depending on Boca Chica habitat during fallouts when they need to rest and refuel before continuing on with their journey – this includes numerous rare and federally Threatened and Endangered species. While there are some preliminary data available pertaining to bird abundance and distribution in this region (prior to and during SpaceX construction activities), there is not enough existing information to fully understand the impacts that the SpaceX Starship Super Heavy Project activities will have on avian populations, other wildlife, and habitats (Critical Habitat designations or otherwise).

Boca Chica – A Critically Important Region for Migratory Birds

The Laguna Madre is designated as a bi-national (U.S. and Mexico) WHSRN (Western Hemisphere Shorebird Reserve Network) site, meaning it is globally recognized as a site that is critically important to declining shorebirds. The Laguna Madre is just north of the SpaceX site and contains many acres of USFWS Piping Plover Critical Habitat designations, in addition to TX-01 which directly overlaps the SpaceX site. According to a recent study (Rosenberg et al 2019), North America has lost 2.9 billion birds since 1970. There are many factors that contribute to these declines, but habitat loss and degradation rank among the highest. Shorebirds (i.e. Red Knots, Piping Plovers and others), a guild of birds already in steep decline, have lost 17 million individuals (37% decline) and exhibit the steepest loss compared to many landbird and other waterbird populations.

During the SpaceX construction phase, monitoring conducted by the University of Texas Rio Grande Valley between July 2017 and September 2018 documented 793 Federally Threatened Red Knots on April 8, 2018. This concentration was a migration event and these birds were moving either from wintering grounds in Tamaulipas, Mexico to Texas or were making a longer trek from South America to the arctic. Thus, these observations support the Laguna Madre WHSRN designation and USFWS Critical Habitat designations. Recent Red Knot population estimates of the Western Gulf (Texas and Louisiana) and Texas Wintering populations are 5,500 and 3,000 respectively (David Newstead, Coastal Bend Bays and Estuaries, personal



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communication). Considering these numbers, that means that 14.4% to 26.4% of those populations were present that day – a significant overall proportion of the totals.

Data from the 2011 International Piping Plover Census indicate that approximately 50% of the total Piping Plover population winters on the Texas coast (Elliott-Smith et al. 2015), making the Texas coast important for the species. During 2017-2018 SpaceX construction phase monitoring (Hicks et al 2018), a maximum of 98 Piping Plovers and 205 Red Knots were observed within a designated quadrat on the same day. Between December 8, 2018 and February 20, 2019, there were nine occasions where Piping Plovers were documented in groups of over 100 individuals - those ranged from 122 – 166 individuals (David Newstead, Coastal Bend Bays and Estuaries Program, unpublished data). In February of 2009, Sid Maddock observed 239 Piping Plovers, of which 32 were banded. Banded birds were primarily from the U.S. Northern Great Plains population (20 of the 32) with portions from Canada and the Great Lakes as well.

According to the 2011 International Piping Plover Census, 2,145 wintering plovers were counted in Texas, meaning that *a minimum* of 5.7% to 11.1% of the wintering population uses the Boca Chica region (based on the aforementioned observations). In actuality these numbers and percentages are likely higher considering there are not regular monitoring efforts occurring to consistently account for the number of Piping Plovers using this area on a regular basis and during migration in any given year. Recovery plans for Piping Plovers in their breeding range recognize that survival and recovery of the species is dependent on the continued availability of sufficient habitat in their coastal migration and wintering range (USFWS 2015).

The Draft Revised Recovery Plan for the Wintering Range of the Northern Great Plains Piping Plover *and* Comprehensive Conservation Strategy for the Piping Plover in its Coastal Migration and Wintering Range in the Continental United States Volume II (USFWS 2015) recommends strategies with specific tasks to minimize threats to Piping Plovers in their migration and wintering coastal habitats. Plover species are known to have strong site fidelity, meaning they come back to the same area each wintering season after they finish breeding further north (i.e. Northern Great Plains or Great Lakes). Research has shown that disturbance doesn't impact site fidelity, so the birds will continue to return to the same areas even if the habitat becomes disturbed and/or the quality of the habitat degrades – this results in lower survival overall (Gibson et al 2018). Current and proposed SpaceX activities are both a direct threat and a disturbance to the birds, which justifies a full EIS to fully evaluate potential impacts with possible alternatives and mitigation strategies.

SpaceX Activities Require a New EIS

The 2014 ROD [FAA Order 1050.1F, Section 9-2] states that a supplemental EIS is not needed if one of the following three conditions applies:



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- “The proposed Action conforms to plans or projects for which a prior EIS has been filed and there are no substantial changes in the Proposed Action that are relevant to environmental concerns.”;
- “Data and analysis contained in the previous EIS are still substantially valid and there are no significant new circumstances or information relevant to environmental concerns and bearings on the Proposed Action or its impacts.”;
- “All pertinent conditions and requirements of the prior approval have, or will be, met in the current actions.”.

SpaceX’s activities do not meet any of these conditions. Current SpaceX activities were not planned and included in the original EIS (which is now seven years old) or the BO. The initial project that was authorized in 2014 allowed for up to 12 launches of Falcon 9 or Falcon Heavy rockets each year. Instead, the mission has changed to one of testing of various components and rockets/vessels including the Starship and Super Heavy, which are nearly ten times the mass, requiring far greater fuel loads and thrust and fuel that is more volatile and explosive than the Falcon 9. Testing of the Starship and Super Heavy booster prototypes have taken place on a 24-hour 7-day type of schedule with near-daily closures that mostly occur during business/daylight hours (0800-1700). The FAA’s Draft EA from May 2020 says “As flight tests become more successful SpaceX anticipates increasing orbital launch events” which equates to an unknown frequency of testing and launches.

Some of this testing resulted in explosions that put fuselage, debris, and fuel into the environment. In July of 2019, the Starhopper hop test resulted in an explosion that set 100 acres of Boca Chica State Park on fire. After the July 2019 fire, SpaceX installed five water cannons as a fire prevention measure. Such measures should be taken for any future development that may result in fires, but additional coordination with USFWS and local fire agencies (i.e. Brownsville Fire Department) is prudent and necessary.

In 2020, there were at least 3 explosions, some of which resulted in more fires that burned smaller areas (than 100 acres) of public lands. These explosions directly impact designated Critical Habitat used by federally listed and other declining species, and a new EIS should account for these scenarios. SpaceX is proposing additional infrastructure expansion, including another launchpad, a natural gas plant, 5 natural gas wells (established via convention drilling), desalination plant, solar farm, and towers. No information has been provided to evaluate such impacts. Appropriate analyses of noise, light, vibration, release of hazardous fuels and vapors, and frequency of these events (along with mitigation strategies) related to CURRENT and future activities should be included in an EIS.

Road closures occur frequently because testing occurs frequently, with announcements to the public usually occurring at the last minute. This creates issues with access for residents, visitors, and natural resource staff to the area. In the FAA’s May 2020 draft EA, it states “Approximately



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two weeks in advance of an operation requiring a closure, SpaceX would notify the Cameron County Commissioner's Court of the proposed operation date, the expected closure times, and back-up closure dates and times." Under current operations, closures occur frequently, at the last minute, and are posted on the Cameron County web site. In one instance, a closure and testing notice printed on a piece of paper were placed on Boca Chica residents' doors the day of the testing. Updated plans for closures of Highway 4 and Boca Chica Beach need to be developed, published well in advance, and account for access by residents and refuge, state park, and preserve staff (including external stakeholders that support these agencies).

ABC partners and other regional stakeholders impacted by SpaceX activities in 2020, reported that road and beach closures reached nearly 1200 hours over 110 days with numerous last minute public notifications and cancellations. The existing EIS indicates that closures were not to exceed 180 hours *per year*, meaning SpaceX has far exceeded what was originally agreed upon. SpaceX is requesting up to 300 hours (500 hours are documented in the FAA's draft EA from May 2020) per year, which is far less than the closures that actually occurred in 2020. SpaceX has continued to increase testing under the existing (non-applicable) EIS and the closure hours officially logged by SpaceX do not account for the entire time the area is closed to the public – they only log closure hours during the testing period, but in reality, the closure time period is longer. The closure data enclosed herein are based on actual closures accounting for the ENTIRE time that Highway 4 was closed to the public and natural resource staff and stakeholders.

Such actions have far reaching impacts to the lands, wildlife, the public, and the agencies working to conserve habitat and declining species throughout the Boca Chica region. With the introduction of the Starship Super Heavy Project, it is more important than ever to better understand the impacts to birds, wildlife, and the habitats they depend on within Boca Chica. *Ensuring continued and regular access to this area is imperative to managing the natural resources and monitoring bird and other wildlife responses to SpaceX activities.*

SpaceX construction and expansion of existing facilities in Boca Chica will further impact the environment and wildlife, not to mention the overall project footprint (originally proposed to be 21 acres). Over the past two years, much of the upland acreage owned by SpaceX (in addition to the launch site) was converted into industrial facilities and parking lots. ABC partners working in the area, have documented that there are typically about 400 vehicles on site per day, which includes heavy trucks delivering fill material and supplies throughout the day.

This influx of vehicles has led to wildlife mortality. ABC's local partner, Coastal Bend Bays & Estuaries Program (CBBEP), found dead animals that include Species of Special Concern (USFWS) and Texas Species of Greatest Conservation Need (SGCN) that were hit by vehicles

along Highway 4 between the checkpoint and the beach. These opportunistic observations from 2020 include 47 individuals representing 22 species of birds, mammals, and reptiles (see attachment). Lower Rio Grande Valley NWR staff found two dead Texas tortoises (in addition to the opportunistic observations), a state Threatened species, on Highway 4 that were hit by vehicles. SpaceX's 2020 annual report says that "FAA/SpaceX employees and construction personnel and FAA inspectors will be educated on the potential for vehicle collisions with wildlife...with strict internal repercussions, to reduce their speeds along SH4 between and within the vertical launch and control center areas to 25 miles per hour."

We can confidently say that this speed limit is NOT adhered to as our partners who work on site have frequently seen dump trucks and other vehicles traveling at high speeds on Highway 4 in and out of the SpaceX facility. The current construction activities and increased traffic related to this were not evaluated in the existing EIS. "Watch out for Wildlife" signage is obviously ineffective since road mortality continues to be an issue. More in-depth education, training, and enforcement is needed to minimize road mortality. A reduced speed limit throughout the entire complex would be ideal, coupled with enforcement of that speed limit and *regular bird monitoring that includes searching (and documenting) for carcasses hit by vehicles.*

Compliance with Future Measures and Terms and Conditions is Essential

SpaceX did not and currently does not comply with the Reasonable and Prudent Measures (related to Conservation Measures) that fed the terms and conditions in the existing BO. To reduce impacts to critically important habitats and species, the following Reasonable and Prudent Measures should be adhered to and used as a basis in creating a new EIS. Additional comments are presented in italicized text.

- **"Coordinate efforts with refuge staff to reduce impacts to refuge lands."** *We are aware of coordination efforts with the Lower Rio Grande Valley NWR to establish protective fencing. This is a positive step in habitat protection and we encourage such collaborations to safeguard habitat and wildlife.*
- **"Submit a detailed Bird Monitoring Plan."** *There are other threatened and endangered species monitoring plans that are critical as well; however, ABC is focused on threats to birds and mitigating for those threats.*
 - o **Term & Condition: "Develop a bird monitoring plan for pre, during, and post construction. Plan should include the piping plover, red knot, and northern aplomado falcon, and describe how, where, when, and who will be performing the surveys. It should also provide similar information for surveys to be performed during launch operations."** *ABC strongly encourages the FAA and SpaceX to use qualified staff to regularly and continuously perform bird monitoring during all phases of construction and post-construction activities. This includes monitoring along Highway 4 to document wildlife mortality as a result of increased construction activities.*

- **“Submit a detailed Vegetation Monitoring Plan.”** *Vegetation biodiversity, abundance, and distribution are an important part of the overall functioning ecosystem that birds and other wildlife depend on for survival. It is our understanding that vegetation monitoring is not occurring on a regular basis and certainly not after fires resulting from explosions. Given the impacts to the habitat, especially when fuselage, fuel, and other debris enter the habitat (and cause fires), ongoing vegetation management and monitoring is justified and necessary.*
 - o **Term & Condition:** **“Develop a vegetation plan to monitor changes in piping plover critical habitat adjacent to the vertical launch area. Figure 15 depicts the 8.66 acres of piping plover critical habitat that will be impacted by the water vapor ground cloud extending a maximum distance of 600 feet beyond the fenceline. Take has been issued for the loss of this habitat. An additional 1000-foot radius encompasses an additional 23.51 acres that may be subject to additional changes but the Service has not issued take for (Figure 16). The detailed vegetation plan should outline how the 23.51 acres will be monitored and action to be taken if changes begin to occur.”** *Considering the expansion proposed by SpaceX, the footprint of the overall facility has changed drastically. If the acreage has changed, this needs to be accounted for in a new EIS. Figures refer to the BO document.*
- **“Submit a detailed Stormwater Monitoring Plan.”** *According to SpaceX’s 2020 annual report, this plan is being updated to account for project changes. We would like to know how the plan has been updated and what is different to account for increased runoff that can cause soil loss and sedimentation, decreased water quality, and environmental pollution/contamination. Trash is entering the ecosystem from construction activities. This is a threat to migratory birds (federally listed or otherwise) and overall ecosystem function. While there are guidelines set forth in the Construction Stormwater Pollution and Prevention Plan to ensure trash is collected, stored, and removed appropriately, it is still entering the habitat. We are pleased to know that SpaceX participates in the Texas General Land Office’s Adopt-A-Beach program and participates in beach cleanups; however, additional effort (i.e. weekly or monthly) is needed to contain and remove trash.*
- **“Submit a detailed Light Monitoring Plan.”** *In SpaceX’s 2020 annual plan they state they will update this plan based on changes to the site. Further, they claim that no light emitted in 2020 had the potential to impact wildlife (i.e. sea turtles), although we refute this as operations and launches did occur at night in 2020 (as SpaceX contradictorily indicates in their 2020 annual plan). Like sea turtles, birds can be disoriented by light, which can interrupt migration or short distance movements.*
- **“Reduce noise related to generator use during construction or operation.”** *While it appears that measures are currently being taken to reduce construction noise, we are concerned about noise related to testing and rocket launches. How does this impact birds using the areas surrounding the launch pad? Will it somehow maim the birds, cause hearing loss, or result in neurological health issues? If so, this would certainly impact the bird’s ability to 1) survive, and 2) reproduce and raise young that can be recruited into the population. More information is needed and should be included in an EIS.*
- **“Reduce impacts to piping plover habitat during security patrols.”** *Do security patrols currently take place? If so, what are the best management practices used to minimize impacts to the habitat and birds during security patrols. In SpaceX’s 2020 annual report they say that “no*



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security patrol with the potential to impact habitat were conducted.” If anyone is doing a security patrol on foot or using an ATV or other vehicle, then the habitat IS being impacted. Best Management Practices to minimize impacts should be laid out in an EIS.

- **“Submit annual reports to the Service.”** *The 2020 annual report submitted to the Service is lacking in content and detail that would lend to more effective adaptive management practices and mitigation strategies. The FAA may want to consider designing a template format to ensure that the level of detail needed to make natural resource management decisions and adjustments is present in annual reports.*

It has come to our attention that SpaceX is not *consistently* conducting the required bird or vegetation monitoring set forth in the original ROD and BO. In SpaceX’s 2020 annual report, they report avian and vegetation monitoring being conducted from August 1 through November 25, 2020. This is a brief snapshot in time and doesn’t provide ample information to understand the context of observations within the seasons of a given year or across several years. If the mean group size of Piping Plovers, Red Knots, and Snowy Plovers “showed some evidence of a negative slope” (Hicks et al 2020), it’s quite possible their absence is due to SpaceX activities or more likely, there is not enough data to draw any conclusions about the current abundance and distribution of birds.

Birds and other wildlife are sensitive to human disturbances, especially ones with the capacity to generate noise, explosions, pollution and contaminants, vibrations, and other associated impacts, such as vapor clouds. Whether or not the activities/disturbances are causing birds to avoid the area – this is functional habitat loss and it’s not effectively evaluated by the current monitoring scheme.

Compared to the Hicks et al 2018 report, smaller maximum group observations were recorded for Piping Plover (26) and Red Knot (7) with a distribution preference for all species being within the mud flats (Hicks et al 2020). Future Conservation Measures and/or requirements should take this into account, ensuring that mud and algal flats are protected to the fullest extent possible.

One of the Conservation Measures requirements was to monitor around the construction site for active avian nests during the breeding season (Feb 15 – Aug 31) and to protect those nests until they hatch or fail. Our partner, CBBEP has conducted beach-nesting bird monitoring since 2017 and ABC conducted monitoring in 2019. There was never any assistance from SpaceX and no active biologist that we were aware of outside of pre- and during construction activities conducted by the University of Texas RGV. Ongoing and regular environmental and species monitoring is critical to comprehensively understanding the impacts of SpaceX activities and to better mitigate for such activities that have negative impacts. It would be beneficial for the FAA and/or SpaceX to hire one or more biologists to assist and further support local stakeholders (i.e. refuge, WMA, state park, CBBEP, etc...) with biological monitoring and natural resource



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management and to build a longer term, more consistent data set so that confident conclusions can be drawn about the impacts SpaceX activities are having on birds. Such a requirement was outlined in the Conservation Measures, but not consistently adhered to.

Additionally, we support the following existing Terms and Conditions which should be included in a future EIS. Additional comments are presented in italicized text.

- **“In the event that activities result in the direct take of an, piping plover, red knot, and/or nesting sea turtles, the person(s) responsible for monitoring shall notify the Service at 361-994-9005 immediately. A standard methodology for handling dead or injured species found during the project is to be established in coordination with the Service. This methodology shall be directed at determining the cause of death and ensuring that all data is recorded. The finder should ensure that the specimen and related evidence is not disturbed.”** *SpaceX reports “no known take” in 2020, which applies to Piping Plovers and Red Knots, but based on opportunistic road mortality observations provided with these comments it is obvious that wildlife road mortality is occurring which would constitute unintentional take under the Migratory Bird Treaty Act, which should be address in an EIS.*
- **“In coordination with refuge staff, identify further options that would assist in protecting refuge lands and species habitats from impacts that may result from the public intrusions prior to closures. For example, vehicle barriers, in the form of short, spaced posts, sufficiently close together to prevent a truck or ATV from entering, but wide enough apart to allow for terrestrial animals to pass. This could be done alongside SH4 or other identified roads where the footprint is already disturbed.”** *As previously mentioned, we are aware of coordination efforts with the Lower Rio Grande Valley NWR to establish protective fencing. Such measures are critical to protecting habitat and we encourage these practices. In 2019 and 2020, CBBEP and ABC observed tracks from off-road vehicles and/or ATVs/UTVs within the Piping Plover critical habitat, some of which came within inches of active Snowy Plover nests (see attachment).*
- **“To reduce impacts to piping plovers and red knots security patrol vehicles or other necessary equipment on the beach will be driven above the “wet line” to minimize disturbance of birds and protect feeding and roosting areas.”** *It should also be pointed out and updated in a new EIS that vehicles should avoid dunes and sensitive coastal habitat behind the primary dunes. These areas are also used by migrating, foraging, resting, and breeding birds, as well as other wildlife. Further, maintaining dune structure is important since they act as a mainland defense against storm surge. More specific instruction on low-impact beach driving should be included in a new EIS.*

As stipulated by NEPA, and clearly outlined above, a new EIS is required for the current and future SpaceX activities in Boca Chica, Texas. We strongly urge the FAA to pursue development of a new EIS that will facilitate maximum public input and to more closely monitor SpaceX activities to ensure compliance with such requirements. In the interim, we suggest that the FAA closely consult with SpaceX and the cooperating agencies, US Fish and Wildlife Service and the National Park Service, to ensure that any current activities and mitigations are more closely adhered to in terms of what was originally proposed in the ROD until a new EIS can be



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developed. Any expansion plans related to testing or increasing the overall footprint of the facility should be delayed until the impacts can be fully addressed in a new EIS that includes alternatives (i.e. offshore launches, alternate location(s), etc.) and an adequate public comment period.

We appreciate your attention to this request and look forward to being able to contribute to a new EIS that would solicit public comment. We offer our expertise to the FAA and SpaceX to mitigate impacts from activities that may have detrimental repercussions to the birds and the sensitive habitats they depend on in Boca Chica and south Texas. Please direct any questions to Kacy Ray, Gulf Coastal Program Manager at ABC (b) (6).

Regards,

(b) (6)

EJ Williams, Vice President of Southeast Region
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Enclosure

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Literature Cited

- Elliott-Smith, E. Bidwell, M. Holland, A.E., and Haig, S.M. 2015. Data from the 2011 International Piping Plover Census: U.S Geological Survey Data Series 922, 296 p. <http://dx.doi.org/10.3133/ds922>.
- Gibson D., M.K. Chaplin, K.L. Hunt, M.J. Friedrich, C.E. Weithman, L.M. Addison, V. Cavalieri, S. Coleman, F.J. Cuthbert, J.D. Fraser, W. Golder, D. Hoffman, S.M. Karpanty, A. Van Zoeren, and D.H. Catlin. 2018. Impacts of anthropogenic disturbance on body condition, survival and site fidelity of nonbreeding Piping Plovers. *The Condor* 120(3): 566-580.
- Hicks, D.W., C.A. Gabler, and K.S. Berg. 2018. Commercial Launch Site Construction-Phase Species Monitoring Survey. University of Texas Rio Grande Valley, Brownsville, Texas.
- Hicks, D.W., C.A. Gabler, and K.S. Berg. 2020. Commercial Launch Site Construction-Phase Species Monitoring Survey. University of Texas Rio Grande Valley, Brownsville, Texas.
- Rosenberg, K.V., A.M. Dokter, P.J. Blancher, J.R. Sauer, A.C. Smith, P.A. Smith, J.C. Stanton, A. Panjabi, L. Helft, M. Parr, and P.P. Marra. 2019. Decline of the North American avifauna. *Science* 366, 120-124.
- U.S. Fish and Wildlife Service. 2015. Recovery Plan for the Northern Great Plains piping plover (*Charadrius melodus*) in two volumes. Volume I: Draft breeding recovery plan for the Northern Great Plains piping plover (*Charadrius melodus*) and Volume II: Draft revised recovery plan for the wintering range of the Northern Great Plains piping plover (*Charadrius melodus*) and Comprehensive conservation strategy for the piping plover (*Charadrius melodus*) in its coastal migration and wintering range in the continental United States. Denver, Colorado. 166 pp.



Highway 4 Roadkill between Border Patrol Checkpoint and Boca Chica Beach

Opportunistic observations made by biologist working 1-4 days per week.

| <u>Date</u> | <u>Species</u> | <u>Latitude</u> | <u>Longitude</u> | <u>Species</u> | <u>Totals</u> |
|-------------|---------------------------------|-----------------|------------------|-----------------------------------|---------------|
| 2/14/2020 | Bobcat | 25.96221 | -97 29709 | Javelina | 10 |
| 3/4/2020 | Snowy plover | 25.96934 | -97 20500 | Raccoon | 5 |
| 3/5/2020 | Sanderling | 25.97833 | -97.19436 | Coyote | 3 |
| 3/8/2020 | Javelina | 25.95408 | -97 31744 | Nine-banded armadillo | 4 |
| 3/10/2020 | Plain Chachalaca | 25.96200 | -97 29136 | Common nighthawk | 3 |
| 3/14/2020 | Black-tailed jackrabbit | 25.99755 | -97.15427 | Bobcat | 2 |
| 4/7/2020 | Raccoon | 25.96227 | -97 27695 | Cottontail sp. | 3 |
| 4/10/2020 | Javelina | 25.96330 | -97 26193 | Texas indigo snake | 1 |
| 4/10/2020 | Raccoon | 25.96231 | -97 27688 | Western diamondback rattlesnake | 1 |
| 4/10/2020 | Raccoon | 25.96231 | -97 27688 | Snowy plover | 1 |
| 4/12/2020 | Javelina | 25.95165 | -97 33413 | Sanderling | 1 |
| 4/12/2020 | Turkey vulture | 25.96320 | -97 26225 | Harris's hawk | 2 |
| 4/16/2020 | Virginia opossum | 25.95961 | -97 30941 | Plain chachalaca | 1 |
| 4/18/2020 | Coyote | 25.96355 | -97 22379 | Northern mockingbird | 1 |
| 4/25/2020 | Nine-banded armadillo | 25.95294 | -97 32518 | Long-billed thrasher | 1 |
| 4/25/2020 | Laughing gull | 25.99817 | -97.15724 | Laughing gull | 1 |
| 5/1/2020 | Nine-banded armadillo | 25.96369 | -97 26033 | Turkey vulture | 1 |
| 5/1/2020 | Long-billed thrasher | 25.96385 | -97 23124 | Black-tailed jackrabbit | 1 |
| 5/3/2020 | Cottontail sp. | 25.96412 | -97 24478 | Striped skunk | 2 |
| 5/5/2020 | Striped skunk | 25.93019 | -97 36648 | Virginia opossum | 1 |
| 5/10/2020 | Common nighthawk | 25.99217 | -97.17737 | Snowy Egret | 1 |
| 5/12/2020 | Coyote | 25.93148 | -97 36546 | Texas Tortoise (state endangered) | 1 |
| 5/18/2020 | Cottontail sp. | 25.96266 | -97 26371 | 22 species | 47 |
| 5/20/2020 | Northern mockingbird | 25.96266 | -97 26371 | | |
| 5/27/2020 | Coyote | 25.96019 | -97 30849 | | |
| 5/27/2020 | Javelina | 25.96304 | -97 24930 | | |
| 6/6/2020 | Javelina | 25.96321 | -97 26015 | | |
| 6/6/2020 | Javelina | 25.96372 | -97 26015 | | |
| 6/8/2020 | Javelina | 25.95092 | -97 33993 | | |
| 6/10/2020 | Texas indigo snake | 25.96190 | -97 30026 | | |
| 6/12/2020 | Harris's hawk | 25.95229 | -97 32999 | | |
| 6/13/2020 | Javelina | 25.96444 | -97 24345 | | |
| 6/13/2020 | Common nighthawk | 25.99549 | -97.16559 | | |
| 6/13/2020 | Common nighthawk | 25.99524 | -97.16632 | | |
| 6/27/2020 | Javelina | 25.96234 | -97 27162 | | |
| 7/3/2020 | Nine-banded armadillo | 25.96321 | -97 25229 | | |
| 7/8/2020 | Javelina | 25.96307 | -97 26230 | | |
| 7/11/2020 | Raccoon | 25.95269 | -97 32711 | | |
| 7/11/2020 | Western diamondback rattlesnake | 25.93880 | -97 35962 | | |
| 7/14/2020 | Bobcat | 25.96674 | -97 20997 | | |
| 10/7/2020 | Snowy Egret | 25.96361 | -97 22389 | | |
| 10/7/2020 | Raccoon | 25.96218 | -97 28423 | | |
| 10/22/2020 | Cottontail sp. | 25.96440 | -97 24369 | | |
| 10/22/2020 | Striped skunk | 25.96326 | -97 25257 | | |
| 10/22/2020 | Texas tortoise | 25.95172 | -97 33367 | | |
| 10/22/2020 | Harris's hawk | 25.94025 | -97 35852 | | |
| 11/11/2020 | Nine-banded armadillo | 25.96360 | -97 25876 | | |



Nest locations of Snowy Plovers in vicinity of SpaceX launch site – Boca Chica, Cameron County, Texas





January 22, 2021

Ms. Stacey Zee
Office of Commercial Space Transportation
Federal Aviation Administration
800 Independence Ave SW
Washington D.C. 20591

Sent per email: spacexbocachica@icf.com

RE: Public Scoping Period for Boca Chica Launch Site

Dear Ms. Zee,

The Air Line Pilots Association, International (ALPA), representing more than 59,000 pilots at 35 United States (U.S.) and Canadian airlines, appreciates the opportunity to provide comments during the public scoping period to assist the Federal Aviation Administration (FAA) in determining the scope of issues in preparation of a Programmatic Environmental Assessment (EA) for SpaceX Starship/Super Heavy commercial space operations at the Boca Chica Launch Site, Texas. ALPA supports a National Airspace System (NAS) that is safe and efficient for all stakeholders. However, gaps in previous commercial space EAs require careful review and revision to the EA process. ALPA has identified several issues that need to be addressed by the FAA during the Scoping and EA process.

Since 2018, EAs no longer evaluate NAS impacts. Airspace impacts during previous EAs have been unduly vague, have ignored fundamental airspace safety and operational issues essential to a safe and efficient NAS. The FAA should consider revising current airspace evaluation requirements for EAs to include:

- Environmental and safety impacts to traditional NAS stakeholders above 10,000 feet.
- Additional information needed to more thoroughly review and comment on the intended operation including the flight profiles, the speeds at the altitudes where a commercial space vehicle will encounter commercial aviation traffic.
- The amount of time involved in the operation from take-off, reentry, and landing.
- The performance envelope of the space vehicle when operating in airspace shared with commercial aircraft.

- Airspace impacts on surrounding/adjacent airports, based on vehicle trajectories.
- Operational impacts for airspace closures such as longer flight routes, additional fuel burn/carbon emissions, longer flight duration, and delays to access airports.

Instead of merely conducting an EA and carrying out the minimal amount of necessary review and process as established by law and policy, the FAA should be conducting a comprehensive impact assessment for the reasons stated above.

As with any new entrant or technology introduced into the NAS, the safety of existing aircraft operations must be maintained at their previous high levels of safety, and the operational impacts must be known and documented. ALPA supports the safe operation of commercial space activities in the NAS when and where possible and welcomes the opportunity to work with the FAA and stakeholders to ensure that the operations are compatible with existing aircraft operations without major disruptions or decreased levels of safety.

ALPA appreciates the opportunity to provide comments during the EA scoping process. If you would like to discuss ALPA concerns, please do not hesitate to contact Engineering and Air Safety at eas@alpa.org or (800 424-2470).

Sincerely,



Air Traffic Services Group (ATS)
Air Line Pilots Association, Int'l



7700 Hwy 71 West, Suite 330
Austin, TX 78735

tx.audubon.org

January 21, 2021

Mr. Brian Rushforth, Chief of Staff
Office of Commercial Space Transportation
Federal Aviation Administration
brian.rushforth@faa.gov

Re: Scoping Comments on FAA Programmatic Environmental Assessment for SpaceX Starship Super Heavy Project at the Boca Chica Launch Site

Audubon Texas is the state office of the National Audubon Society. We have been working along the Texas coast since 1923, focusing on birds and the places they need to survive and flourish. We are also leaseholders of multiple islands along the Texas coast, which we maintain, often with dedicated partners, for the benefit of resident and migratory birds.

Bird lovers, like space enthusiasts (and many of us are both), often look to the skies for inspiration. Still, we are observing the activities of SpaceX and the FAA with concern, because of significant changes to the original scope and mission; because of the location of the launch site, situated among state lands at Boca Chica and federally protected lands at the Lower Rio Grande Valley National Wildlife refuge; and finally, the relatively novel and ill-understood long-term impacts of such infrastructure in this sensitive setting.

Since the initial draft environmental impact statement and record of decision (ROD) dated July 9, 2014, there have been eight (8) written re-evaluations of the 2014 final environmental impact statement (FEIS) for the SpaceX launch site, or addenda to those re-evaluations, so needed as SpaceX modified site and equipment plans for the area. While we certainly understand how business plans can and do change, particularly in a field as novel, iterative, complex, and uncertain as private space exploration, we are also mindful of the underlying goals of the laws which apply to these studies and activities. We

believe these continued amendments, changes in scope, changes in the kinds of rockets and materiel that will be used, etc. must be carefully considered against FAA Order 10501f, which states, in part

b. Scope of Proposed Action. To determine the scope of an EA or EIS, the responsible FAA official must consider:

(1) Connected actions. Connected actions are closely related actions that: (a) automatically trigger other actions; (b) cannot or will not proceed unless other actions are taken previously or simultaneously; or (c) are interdependent parts of a larger action and depend on the larger action for their justification (see 40 CFR § 1508.25(a)(1), CEQ Regulations). Connected actions and other proposed actions or parts of proposed actions that are related to each other closely enough to be, in effect, a single course of action must be evaluated in the same EA or EIS (see 40 CFR §§ 1502.4(a) and 1508.25(a)(1), CEQ Regulations). A proposed action cannot be segmented by breaking it down into small component parts to attempt to reduce impacts (see 40 CFR § 1508.27(b)(7), CEQ Regulations).

(2) Cumulative actions. Cumulative actions, when viewed with other proposed actions, have cumulatively significant impacts. Cumulative actions should be discussed in the same EIS (see 40 CFR § 1508.25(a)(2), CEQ Regulations). (See Paragraph 4-2.d(3) for a discussion of cumulative impacts).

(3) Similar actions. Similar actions, such as those with common timing or geography, should be considered in the same environmental document when the best way to assess their combined impacts or reasonable alternatives to such actions is in a single document (see 40 CFR §§ 1502.4(b) through (c) and 1508.25(a)(3), CEQ Regulations).¹

Today's SpaceX activities do not much resemble the plan considered under the original record of decision (ROD); combined with the revisions to the proposal since then, fresh consideration is merited

¹ From https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1050_1F.pdf, p. 22, sec. 2-7

under a new environmental impact statement (EIS), which would also allow for more transparent public comment and input. The standard for whether this may be the case tends to rest on whether “there are no substantial changes in the action that are relevant to environmental concerns.”² We agree with other groups that the changes to SpaceX’s actions over the past seven years are substantial and are clearly relevant to environmental concerns.

Among the key differences between today’s project and the activities authorized in the 2014 ROD:

- Nearly doubling the number of hours of public access closures from 180 in 2014 to 300 today to accommodate the licensed testing program; we are also concerned that SpaceX has far exceed both of these hours of closure during operations;
- The decision to focus on Starship/Super Heavy launch operations, as opposed to the initial Falcon 9 plans, which were never initiated. The Starship/Super Heavy launches are far larger, more massive, rely on different fuels, and intended to fly into sub-orbit and orbit, activities that are not contemplated under the original permit;
- Changes to the vertical launch area (VLA);
- Significant changes to the number of “hops” and static fire tests;
- Upward revisions to proposed pollutants and greenhouse gases (GHGs) or CO₂ equivalent (CO₂e). We do appreciate the GHG accounting that has been performed by SpaceX and the FAA and we encourage SpaceX to look for ways to avoid 1) venting and 2) flaring methane and instead focus on beneficial use if possible.
- Plans for on-site desalination facilities

Moreover, we are generally aware of the kinds of impacts that can result from large infrastructure projects such as this, in addition to the impacts from those activities named above. We are gaining increased awareness of the kinds of “forever chemicals” (so-named because they do not biodegrade easily and tend to accumulate in soils, groundwater, and biological tissue) that are used in airports, for example, in detergents, surfactants, and firefighting foams, and the literature suggests that principal environmental impacts result from “fuel storage, stormwater runoff and drainage systems, fuel hydrant

² Paragraph 9-2.c of FAA Order 1050.1F

systems, fuel transport and refueling, atmospheric deposition, and fire rescue and firefighting training areas,” among others: precisely the sorts of activities and challenges we can expect of the SpaceX site.³

The substantial changes have inevitable environmental impacts. We are specifically concerned about the impacts to coastal and wetland habitats in the surrounding area and impacts to resident and migratory birds relying on these habitats. The SpaceX facility is located directly adjacent to the Lower Rio Grande National Wildlife Refuge and nearby the Laguna Atascosa Wildlife Refuge. More than 515 species of birds have been recorded in the lower Rio Grande Valley, many of which are classified as Species of Greatest Conservation Need (SGCN) in Texas and three of which are federally listed under the Endangered Species Act: the Aplomado Falcon, Piping Plover, and Red Knot. Shorebirds from around the world converge on the refuge during the nonbreeding season (September – March) to forage, rest, and build a large enough energy reserve to continue their migration to their nesting grounds. Included in these wintering and stopover species are two of the listed species noted above, the Red Knot and the Piping Plover, which depend on healthy and productive bay and estuarine shorelines and tidal flats. As stated in the Biological Opinion,⁴ “Since Piping Plovers spend 55 to 80 percent of their annual cycle associated with wintering areas, factors that affect their well-being on the wintering grounds could substantially affect their survival and recovery (Service 1996).” We are also concerned about the potential for direct and indirect disturbance of nesting birds which can cause abandonment of nests and the loss of productivity in these bird populations. For example, Snowy Plover (SGCN) nests have been documented in the vicinity of the SpaceX property. Based on the conditions created by SpaceX operations, such as noise, night lighting, and vehicle traffic in areas where Piping Plover, Snowy Plover, and other shorebirds are present, the chance for disturbance and impacts to long-term survival is high. In addition to the direct impacts to wildlife and wildlife habitats, many Audubon members and citizens interested in observing biodiverse natural habitats visit the impacted areas and generate revenue for local communities. These birding sites are at the northernmost range of many of the observed species’ ranges and, therefore, provide the only opportunity to observe these species in the continental United States. The lack of access to these places and the degradation of these habitats will not only impact local

³ Environmental impacts on soil and groundwater at airports: origin, contaminants of concern and environmental risks; L M Nunes, Y-G Zhu, T Y Stigter, J P Monteiro, M R Teixeira, *Journal of Environmental Monitoring*, 2011 Nov;13(11):3026-39. ³

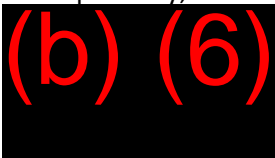
⁴ U.S. Fish and Wildlife Service’s Final Biological and Conference Opinions. December, 2013. Page 32.

the local ecotourism economy, it will also forever change the quality of life of the people who live near and visit these special places.

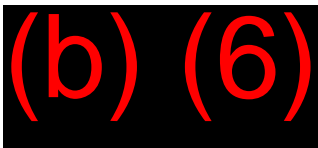
The surrounding habitats in the Bahia Grande coastal corridor are so important to the ecological health and coastal resilience of the state that they have been prioritized for restoration in the 2019 Texas Coastal Resilience Master Plan (project R4-1 Bahia Grande Hydrologic Restoration). The Bahia Grande restoration effort has been supported with a \$4.38 million investment by the RESTORE Council and a \$12.5 million investment by the National Fish and Wildlife Foundation's Gulf Environmental Benefit Fund. It has also been highlighted by the state as a successful example of cross-agency coordination and regional restoration planning. Any impacts to the local water quality in this region have the potential to jeopardize these large-scale restoration investments made and underway by the state and the BP Restoration planning bodies and funders.

SpaceX operations are necessarily laser-focused on precision, attention to detail, and safety. Human lives are at stake, and enormous capital is at risk. We are optimistic that the same caution and level of understanding of cause and effect can be applied to the potential environmental risks to this fragile ecosystem. As we write, we are aware of the latest news that researchers believe that Mars once had a climate similar to Iceland's. We should be focused on Mars, absolutely; in the meantime, let us also heed carefully our local scientific concerns, and steward the planet to which we are all bound, at least for the time being.

Respectfully,

A black rectangular redaction box covering a signature. The text "(b) (6)" is written in red inside the box.

Coastal Program Manager, Audubon Texas

A black rectangular redaction box covering a signature. The text "(b) (6)" is written in red inside the box.

Policy Director, Audubon Texas

cc: Edward Boling, Associate Director for NEPA Compliance
edward_a_boling@ceq.eop.gov

Resolution No. 2021-008

A Resolution of the City Commission of Brownsville, Texas, in support of SpaceX Starship Super Heavy Project at Boca Chica Launch Site.

Whereas, in 2014, SpaceX selected Boca Chica as the location of their new commercial launch facility; and

Whereas, the City of Brownsville and the Brownsville Economic Development Corporation were in full support of the SpaceX Launch Facility; and

Whereas, since 2018, SpaceX activity in our community has dramatically increased by the employment and relocation of SpaceX employees to Brownsville to support the new Starship Endeavour; and

Whereas, on December 9, 2020, the eyes of the world and our local community were fixated on the skies over Brownsville to witness the launch of SN8; and

Whereas, the Federal Aviation Administration (FAA) has begun the Environmental Process for the Starship Super Heavy Project at Boca Chica Launch Site; and

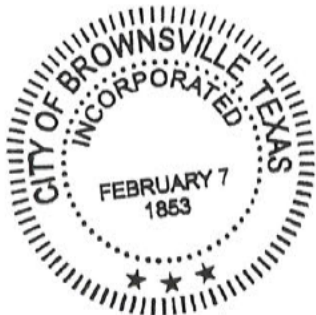
Whereas, the City of Brownsville and its economic development corporations are working to foster a NewSpace Ecosystem and the NewSpace Economy in Brownsville; and

Now, therefore, be it **Resolved by the City Commission of the City of Brownsville, Texas:**

1. Supports the Federal Aviation Administration Environmental Review Process
2. Supports the Expansion of SpaceX Activities in and around the City of Brownsville
3. Supports the Starship Super Heavy Project at Boca Chica
4. Encourage the continued collaboration amongst all local entities to address citizen concerns

Adopted by the City Commission of the City of Brownsville, Texas on January 19th, 2020.

(Seal)



BY: _____

(b) (6)

Mayor

ATTE

(b) (6)

Approved as to form and legality:

(b) (6)

Rene De Coss, City Attorney



Southwest Program Office

210 Montezuma Avenue, Suite 210 | Santa Fe, New Mexico 87501 | tel 505.395.7330
www.defenders.org

January 22, 2021

Stacey M. Zee
Office of Commercial Space Transportation
Federal Aviation Administration

Copy:
Mr. Brian Rushforth, Chief of Staff
Office of Commercial Space Transportation
Federal Aviation Administration
brian.rushforth@faa.gov

Submitted via electronic mail to: spacexbocachica@icf.com

Re: Scoping Comments Regarding the Federal Aviation Administration Programmatic
Environmental Assessment for SpaceX Starship Super Heavy Project, Boca Chica Launch Site,
Texas

To Whom It May Concern:

Defenders of Wildlife (“Defenders”) submits the following scoping comments to the Federal Aviation Administration (FAA) regarding the Programmatic Environmental Assessment (EA) for the SpaceX Starship Super Heavy Project at the Boca Chica launch site in South Texas. Defenders submits these comments to express our deep concerns about the impacts of ongoing and proposed activities at this SpaceX site on resident wildlife and native habitat within the Lower Rio Grande Valley National Wildlife Refuge, Laguna Atascosa National Wildlife Refuge, and other federal and state lands surrounding Boca Chica, Texas.

Founded in 1947, Defenders of Wildlife is a national non-profit conservation organization focused on wildlife and habitat conservation across the country. Headquartered in Washington, DC, the organization also maintains six regional field offices and represents more than 1.8 million members and supporters in the United States and around the world. Defenders’ Texas program, based in Austin, represents more than 98,500 members and supporters in the state. Protection of the ocelot and other engendered and threatened native species in South Texas are a key component of Defenders’ work in the state.

We assert that the FAA must require an Environmental Impact Statement (EIS) rather than an Environmental Assessment (EA), as this project requires the thorough analysis afforded under the EIS process. SpaceX’s ongoing and proposed activities at this site are significantly different and greater in scope than the project the FAA authorized in its 2014 Record of Decision (ROD), and these actions have significant potential for substantially greater environmental impacts.

The SpaceX site at Boca Chica sits in an ecologically diverse area with a remarkable community of wildlife unlike any other place in the United States. This is a hemispheric meeting place of tropical and subtropical species on a unique matrix of terrestrial, coastal, marine environments, representing one of the greatest diversity of plants and animals found in one place in North America. This area is home to ten federally recognized endangered and threatened species, including the charismatic ocelot. Other endangered and threatened species in the area of SpaceX operations include Gulf coast jaguarundi, piping plover, aplomado falcon, red knot and the Eastern black rail. This area is a unique flyway for western hemisphere avian species, and more than 400 different bird species have been identified in the area, most of them migratory; 300 butterfly species also migrate through this area. Five species of sea turtles, all of them endangered, nest on Boca Chica beach, including the loggerhead, green, leatherback, hawksbill, and the most critically endangered of all, the Kemp's Ridley. The ecological sensitivity and vulnerability of this area cannot be overstated, and activities in this area must be carefully managed to reduce, avoid, and mitigate impact to resident and migrant wildlife.

A species of particular concern at this site is the ocelot. Texas is home to the only remaining breeding population of ocelots in the United States. This is a very rare species, with only 15 known individuals residing in the area of Laguna Atascosa National Wildlife Refuge, adjacent to the SpaceX site. With so few individuals remaining, each cat matters for the genetic health and survival of the population. The safety of the individual cats from anthropogenic threats and the quality and connectivity of their preferred thornscrub habitat are crucial to ensure their long-term survival. Development and associated infrastructure (including road expansion and use and habitat alteration) can fragment habitat, and activity at the site (including light, noise, vibration, and explosions) can affect animals' behavior and use of space within their home environments. The SpaceX site sits within the Ocelot Coastal Corridor, a mix of protected lands anchored by Laguna Atascosa NWR as well as a matrix of other public and private lands. Conservation efforts in this corridor focus on restoration of the dense thornscrub habitat required by this cat, and it is essential that SpaceX infrastructure and activities do not disrupt habitat connectivity or the lives of the cats themselves—measures that can only be addressed by first instituting a new EIS to assess these impacts.

Another endangered cryptic cat, the jaguarundi is believed to have similar habitat preferences to ocelots in South Texas. The last verified jaguarundi near Boca Chica was a mortality that occurred on State Hwy 4 (also known as Boca Chica Boulevard)—the road on which SpaceX is located and by which all employees and visitors must travel. FWS strategy for recovery of both ocelots and jaguarundis in this area involves: assessing, protecting, reconnecting, and restoring sufficient habitat; reducing the risk of road mortality; reducing the effects of human population growth and development on potential habitat for both ocelots and jaguarundis (USFWS Recovery Plan for the Ocelot, 2016; USFWS Gulf Coast Jaguarundi Recovery Plan, 2013). Both endangered cats are already under pressure from other developments in the immediate area, including planned liquified natural gas terminals along the Brownsville Ship Chanel, just miles from the SpaceX site. An EIS is necessary to better assess the cumulative impacts of these activities on the ocelot-occupied landscape.

The SpaceX launch site is adjacent to and surrounded by national wildlife refuge land (including lands comprising the Ocelot Coastal Corridor), state park land, tidal flats that host many wading bird

species, and beach used by nesting sea turtles. Construction and operational impacts include, but are not limited to, light, sound, and vibration impacts. Impacts from testing, launching, and failures, include but are not limited to explosions, debris fields, debris left in the ocean, fire, smoke, and release of hazardous fuels & vapors. Light for night-time construction and operations impact nocturnal wildlife like ocelots, nesting sea turtles and turtle hatchlings. Vibrations from testing and launches may disorient or deter cryptic species like ocelots from utilizing otherwise suitable habitat.

We call attention specifically to the perils of increased vehicular traffic to the resident ocelot population at Laguna Atascosa NWR. Roads fragment ocelot home ranges and travel corridors, leaving isolated patches that constrain, expose, and endanger cats. Increased and prolonged traffic due to construction, and an increase in employees and visitors pose increased chances of vehicular collisions resulting in wildlife injuries or mortalities. Vehicular collisions are the leading known cause of mortality for ocelots in Texas, and every measure must be taken to reduce the likelihood of such collisions. An EIS can start the process of assessing the expansion of roads and traffic in this area connected with a current activities and future plans for a Spaceport in terms of potential risk to ocelots—and assist scientists and transportation planners on how best to initiate necessary mitigation processes including wildlife underpasses to ensure safe passage for this species before losses are sustained.

Development of larger spacecraft, increased testing, launches, and traffic all also increase impacts on wildlife and habitat. A new EIS is needed to identify impacts not anticipated and evaluated in the 2014 Final Environmental Impact Statement. Already, development of the Starship has led to unanticipated impacts that have included explosions, debris, and brush fire, all of which impact wildlife. There is a need for transparent, public process to consider the changes that SpaceX has made and will be making to their activities at this site, with a science-based examination of the potential impacts in this extraordinarily sensitive ecological region. Finally, we are very concerned about the FAA's inadequate enforcement of many of the conditions and requirements listed in the ROD and the USFWS Section 7 Biological Opinion. The FAA must also pursue measures to ensure compliance, enforcing the conditions set forth through this process so that harms to the landscape and its wild inhabitants do not result in unrecoverable losses.

Sincerely,

(b) (6)

Sharon Wilcox, Ph.D.
Texas Representative
Defenders of Wildlife
Austin, Texas

(b) (6)



Southwest Program Office

210 Montezuma Avenue, Suite 210 | Santa Fe, New Mexico 87501 | tel 505.395.7330
www.defenders.org

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