

From: [Gardiner, Dawn](#)
To: [Combs, Brett A](#)
Subject: Fw: [EXTERNAL] FYI
Date: Tuesday, April 11, 2023 1:46:36 PM

From: Perez, Chris <chris_perez@fws.gov>
Sent: Thursday, February 16, 2023 11:13 AM
To: Gardiner, Dawn <dawn_gardiner@fws.gov>; Orms, Mary <mary_orms@fws.gov>; Reyes, Ernesto <ernesto_reyes@fws.gov>
Cc: Bilodeau, Stephanie A <stephanie_bilodeau@fws.gov>
Subject: Re: [EXTERNAL] FYI

That sounds like a good idea to me. We need to have some idea as to the effects these tests are having on birdlife in the vicinity of the launch area. We don't really know if there are indirect effects later on that would affect nesting, predator avoidance, etc. Also, what techniques could be employed to get birds to move out of the area prior to a launch? How would this affect nesting birds and in particular, any listed species if tests are conducted during the nesting season? Although they have been issued take, it would be good to have some way of documenting it of course. Thoughts on this?

From: Gardiner, Dawn <dawn_gardiner@fws.gov>
Sent: Thursday, February 16, 2023 10:31 AM
To: Perez, Chris <chris_perez@fws.gov>; Orms, Mary <mary_orms@fws.gov>; Reyes, Ernesto <ernesto_reyes@fws.gov>
Subject: Fw: [EXTERNAL] FYI

Is it time to bring in mig birds for some expertise? Kelly has offered in the past. The RD asked mig birds before if they were involved with SpaceX.

From: Perez, Chris <chris_perez@fws.gov>
Sent: Thursday, February 16, 2023 9:12 AM
To: Orms, Mary <mary_orms@fws.gov>
Cc: Gardiner, Dawn <dawn_gardiner@fws.gov>; Reyes, Ernesto <ernesto_reyes@fws.gov>
Subject: Fw: [EXTERNAL] FYI

FYI...

From: Jim Chapman <jchapmanrgv@gmail.com>
Sent: Tuesday, February 14, 2023 8:06 PM
To: Bill Berg <billberg42@gmail.com>; Maria Galasso <galamm@comcast.net>; Mary Angela Branch <txfinder@att.net>; Molly Smith <molly.smith24@gmail.com>; Kenneth Saxon <kennethsaxon1@gmail.com>; Vicky Guerra <VGuerra276@aol.com>; Patrick Anderson <PatrickTAnderson@yahoo.com>; Beatriz Reynoso <beatrizerica.reynoso@gmail.com>; John & Barbara <forjohnandbarbara@gmail.com>; ESG Hound <esg.hound@gmail.com>; Txsurfdog

<txsurfdog@gmail.com>; David Newstead <dnewstead@cbbep.org>; Perez, Chris
<chris_perez@fws.gov>; Bilodeau, Stephanie A <stephanie_bilodeau@fws.gov>

Subject: [EXTERNAL] FYI

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This is from p.133 of the Final PEA. Ground temperatures reach 212 degrees .3 mile from the launch site. I did the math, that's 180.9 acres. They say no problem, "would dissipate within minutes." They mention the effect on plants("some alteration") but not animals. That tremendous cloud of birds we saw in last week's test? I doubt they would be able to fly away fast enough to avoid that heat.plume. And I think 212 degrees for more than a few seconds would be lethal. Thoughts?

Exhaust/heatplumes:Theheatplumegeneratedfromlauncheswouldtravelawayfrom launchpad,withtemperaturesof2120Fapproximately0.3milefromthelaunchpadand temperaturesreachingambient(900F)0.6milefromthelaunchpad.Theheatplumemaycause somealterationstotheplantcommunityandcouldleadtovegetationchanges,includingloss of

FinalPEAforStarship/SuperHeavyatBocaChica 133 June2022

AffectedEnvironmentand
FAAOfficeofCommercialSpaceTransportation EnvironmentalConsequences

plantcommunitystructure,reductionintotalcover,andreplacementofsamenativespecies withweedspecies.Thesetemperatureswouldbeshortlived(heatplumewoulddissipatewithin minutes)andnotexpectedtopermanentlydamagethevegetation.