

**From:** [Forbus, Beth](#)  
**To:** [Lueders, Amy L](#)  
**Cc:** [Polk, Jonna E](#); [Willey, Seth](#)  
**Subject:** Fw: SpaceX 31 engine test fire  
**Date:** Friday, February 10, 2023 7:52:50 AM

---

FYI

---

**From:** Ardizzone, Chuck CA <chuck\_ardizzone@fws.gov>  
**Sent:** Friday, February 10, 2023 10:33 AM  
**To:** Forbus, Beth <beth\_forbus@fws.gov>  
**Subject:** Fw: SpaceX 31 engine test fire

Beth,

there has been a lot of interest in this test by Amy and Jonna, so just wanted them to know the it finally happens as it has gotten pushed a number of times in the last few weeks.

**Chuck Ardizzone**  
Project Leader  
Texas Coastal Ecological Services  
U.S. Fish & Wildlife Service  
17629 El Camino Real, Ste 211  
Houston, TX 77058  
W: (281) 286-8282 Ext 26506  
C: (713) 882-1912  
F: (281) 488-5882

---

**From:** Ardizzone, Chuck CA <chuck\_ardizzone@fws.gov>  
**Sent:** Friday, February 10, 2023 07:24  
**To:** Willey, Seth <seth\_willey@fws.gov>; Polk, Jonna E <jonna\_polk@fws.gov>  
**Subject:** Fw: SpaceX 31 engine test fire

videos of yesterday's SpaceX rocket engine test fire. It was supposed to be all 33 engines but ended up only 31 as two engines were shutdown.

**Chuck Ardizzone**  
Project Leader  
Texas Coastal Ecological Services  
U.S. Fish & Wildlife Service  
17629 El Camino Real, Ste 211  
Houston, TX 77058  
W: (281) 286-8282 Ext 26506  
C: (713) 882-1912  
F: (281) 488-5882

---

**From:** Orms, Mary <mary\_orms@fws.gov>

**Sent:** Thursday, February 9, 2023 18:27

**To:** Gardiner, Dawn <dawn\_gardiner@fws.gov>; Reyes, Ernesto <ernesto\_reyes@fws.gov>; Perez, Chris <chris\_perez@fws.gov>; Ardizzone, Chuck CA <chuck\_ardizzone@fws.gov>

**Subject:** Re: SpaceX 31 engine test fire

<https://youtu.be/8A5c202tjvg>

This video has a really good aerial view from a drone.

I didn't mention that on the first video I sent at about 2:20 you can see lots of birds flying.

---

**From:** Orms, Mary <mary\_orms@fws.gov>

**Sent:** Thursday, February 9, 2023 6:20 PM

**To:** Gardiner, Dawn <dawn\_gardiner@fws.gov>; Reyes, Ernesto <ernesto\_reyes@fws.gov>; Perez, Chris <chris\_perez@fws.gov>; Ardizzone, Chuck CA <chuck\_ardizzone@fws.gov>

**Subject:** Re: SpaceX 31 engine test fire

<https://youtu.be/FsqBYJd56Ko>

This is a video of tanks for deluge water. When did we approve deluge water it was not in the consultation. It also has a good look at how much noise occur at night.

---

**From:** Orms, Mary

**Sent:** Thursday, February 9, 2023 6:06 PM

**To:** Gardiner, Dawn <dawn\_gardiner@fws.gov>; Reyes, Ernesto <ernesto\_reyes@fws.gov>; Perez, Chris <chris\_perez@fws.gov>; Ardizzone, Chuck CA <chuck\_ardizzone@fws.gov>

**Subject:** SpaceX 31 engine test fire

<https://youtu.be/QfldwskWABk>