

Since the Texas Comptroller's [letter](#) singled out sand producers for environmental risk last week, West Texas miners have been inundated with questions. Investors and customers alike are becoming more concerned than ever about the trend's exposure to Dune Sagebrush Lizard (DSL) habitat.

The sheer volume of inquiries has fast become a distraction for management teams. In that way, DSL is already slowing down industry progress. To be sure, the inbound calls have merit – this is a serious issue as we've warned repeatedly in recent updates ([example](#)).

On Monday, Hi-Crush took their case to the court of public opinion. The company issued a new DSL [white paper](#), which is essentially a self-assessment of DSL exposure. Infill Thinking has some additional context to add to the Hi-Crush white paper in this update because:

- Last Friday, Infill Thinking toured the Hi-Crush West Texas plant and viewed the acreage surrounding it.
- On Monday morning, Infill Thinking was briefed on DSL considerations by Hi-Crush's General Counsel, CFO, Communications Director, and geologist.
- On Monday evening, Infill Thinking received an additional background briefing from an environmental law specialist who has been retained by Hi-Crush as outside counsel.

**Bottom Line:** We aren't attorneys nor lizard experts, but our layman's judgement is that market perception of risk has overshot the potential for imminent DSL-related work stoppages in Hi-Crush's case. At a minimum, Hi-Crush has put forth a strong defense that we believe deserves airtime and careful consideration. Widely circulated probability maps have created preconceived notions in the marketplace, which Hi-Crush is now challenging. This DSL issue is highly subjective, and strong arguments can be made on both sides. We cannot say definitively whether Hi-Crush will be forced to ward off more than just negative market perception in the future, but our view of their DSL risk profile has improved after evaluating new information. Our perception shift is based on several factors including:

1. The Hi-Crush site has unique characteristics that we saw firsthand but are overlooked by stale blanket habitat probability assessments that serve as the foundation for recent mud slinging.
2. Legal and regulatory time-tables lessen the risk of imminent production stoppages.
3. If things escalate, Hi-Crush will mount a defense grounded in hard evidence with a sturdy narrative that we believe will play well in court.

## Hi-Crush Made Their Case On Monday: Key Takeaways With Context Added From Our Briefings & Site Visit

In the following bullets, you'll find the key highlights from Hi-Crush's white paper supplemented with context from our site visit and background briefings with the company's DSL A-Team. *Takeaways from the white paper are quoted, followed by Infill Thinking context points.*

- **“The DSL is not an endangered species nor a threatened species.”**

Obviously, this is critically important because it limits the enforcement authority that federal regulators have to halt sand miners right now. It also means no firm conservation compliance requirements exist for new sites. But beyond the obvious, this fact is also critically important because listing is the first domino that must fall if the DSL issue escalates. This process is not well understood. We learned more about it Monday evening from Hi-Crush’s outside counsel. In short, this is where any potential production interruption must start – for DSL listing is a precondition for injunctions. Listing could be both difficult and time consuming. If a listing petition is filed by environmentalists (likely in our view), then the US Fish and Wildlife Service (Service) will follow a regulatory process to make a determination. This doesn’t happen overnight and outside interests cannot file emergency petitions. Service can make an emergency listing and while unusual, this is possible in our view given the speed of the sand mining rush. We believe Service would have to discover a material new fact set to list the DSL as they determined abundant conservation and withdrew a proposed listing in the past (a determination that withstood challenge on appeal). Could the sand rush count as a material new fact set in their view? We aren’t sure, but let’s assume for a moment that DSL does get listed... what does this actually mean? If Service determines to list DSL, then sand producers would be given notice 30-60 days in advance of an effective date. From that effective date forward, they would be prohibited from taking the endangered species (that means harming or disturbing creature or habitat). So listing is a precondition to enforcement not a blanket stop order, particularly for producers that can show they do not have habitat in their mining zones.

After the effective date, Service could bring enforcement action on their own or opposition groups could propose action via citizen suits. Mine opposition would have a burden of proof to show taking of a listed species. This could also be difficult. These suits could take a year or more to play out in court. Preliminary injunctions could be requested before judgments, but opposition would have to show that irreparable harm was being caused to win immediate stoppages. And the courts would likely require plaintiffs to post a bonds to protect the defendants from inappropriate injunctions (access to capital could limit the opposition). *The above process description is based on our interview with Hi-Crush outside counsel – we are not attorneys nor experts in regulatory protocols.*

- **“The designation of a given site as “very high” likelihood of DSL occurrence on the Hibbits map does not establish the actual existence of habitat or DSL on that site. The site we are mining is a former dune buggy park located on an active dune complex, virtually denuded of vegetation, and unique in that the shinnery oak complexes viewed as ideal DSL habitat are non-existent on the Hi-Crush development.”** Although everyone will take issue with maps that place them in danger zones, Hi-Crush has a point. We saw evidence of this point in person last week. The widely circulated lizard map is five years old and not site specific – firsthand site viewings could challenge its apparent allegations. As we entered the Hi-Crush property for our site visit last week, legacy facilities from the old dune buggy park greeted us. This new mine was not built on undisturbed land.

From bath houses near the front of the property to a race announcer’s booth about a half a mile in to an ATV race track which is now occupied by a dry plant and the dance hall that is now an admin office – this site was not raw nor vegetated land before Hi-Crush came along. In fact, anyone can see these legacy facilities and the old race track where Hi-Crush’s plant now resides by viewing the site on [Google maps](#). Offroad vehicles scoured the property for years, degrading and fragmenting any vegetation trying to gain purchase here. You can see in Google satellite images the vast non-vegetated area to the west of the plant’s location. Hi-Crush plant manager Greg Edwards told us that the staff is constantly finding beer bottles in the dunes around the site. As far as we know, most other sites are being developed on land rawer than this well-trafficked camp site. The site’s history is a DSL risk mitigating factor specific to Hi-Crush that the map’s probability polygons fail to account for. We took an ATV trip around the property beyond the plant itself, and we saw firsthand that the site’s acreage lies mostly on sand that is devoid of vegetation. There is vegetation to the east and north of the facility, much of which is not in the mine’s path and none of which contains shinnery oak according to Hi-Crush’s self-assessment. The site’s 23-acre footprint mostly rests on barren sand.



*During an ATV tour led by Hi-Crush Plant Manager Greg Edwards, Infill Thinking was able to visually confirm that vegetation on the West side of the plant is mostly limited to sparse dune grass not conducive to DSL habitat according to studies we’ve seen on the species*

- **“Prior to the acquisition of the Kermit site in March 2017, we conducted comprehensive diligence on environmental matters, including endangered species assessments... concluding that no DSL habitat exists in the areas we plan to excavate sand and [finding] no evidence of DSL activity.”** In our background briefing, Tyler Deines (a Hi-Crush geologist) described the company’s pre-deal due diligence on the location. Hi-Crush’s original assessment for the presence of DSL habitat involved three state-certified biologists that walked the entire two-mile square site. This team spent a week conducting an in-person evaluation of the location. Then Hi-Crush commissioned an additional survey, during which two to three state-certified biologists spent five days on site digging pits, setting traps, looking for tracks, and looking for scat. They used multiple evaluation protocols to conclude that no DSL habitat existed in the mine path. The team found no evidence of DSL activity. We believe this is important because if these teams with their unlimited access found nothing, we wonder how outside environmentalist groups will be able to meet the burden of proof needed to file injunction (assuming listing occurs) without trespassing?
- **“Hi-Crush mining operations involve the excavation of limited panels of mineable reserves (less than 30 acres per year) followed by infill and reclamation/restoration of the site. To date, Hi-Crush mining has occurred on less than 5 acres, none of which is actual DSL habitat according to our state certified wildlife biologist.”** The current footprint of this plant is about 23 acres. CFO Laura Fulton told us that no more than 5-10 acres will be exposed and open at any given time. Geologist Tyler Deines explained a bit of the reclamation process.

When you first begin to mine, waste product is piled up. This waste pile is just comprised of non-commercial grades of sand, no hazardous waste. As you move further into the reserve, you start to reclaim the waste pile into the pit that you've mined. As the mine progresses, you reclaim behind yourself. Hi-Crush's current plan is to smooth out the reclaimed land, but the company is also engaging with the state and other regulators to determine reclamation protocols.

- **“Hi-Crush representatives and consultants have met with Dr. Robert Gulley from the Texas Comptroller’s Office which administers a voluntary conservation plan, and remain in active dialog with representatives from business and regulatory agencies.”** Some interpretations of the Comptroller’s recent letter suggested that Hi-Crush has not been actively engaged in dialog with regulators. Hi-Crush states the communication channels are open. In Infill Thinking’s background briefing, General Counsel Mark Skolos told us that he and Tyler Deines first met with Dr. Gulley on June 22 in Austin. Management also expressed to us a willingness and interest in engaging in dialog with peers about a sand producer conservation plan even though they believe their site is free and clear of DSL.

In closing, a final anecdote from our site visit on Friday. We were prepared to ease into our lizard line of questioning gently as we weren’t quite sure what kind of reaction we’d get. The sensitive issue had been building to a crescendo during the week as the Comptroller’s letter circulated.

To our surprise, we didn't even have to bring it up. The Hi-Crush reps we met with wanted to talk about it before we had a chance to ask. Hi-Crush is extremely confident in their position on this issue, and they are eager to address market concerns head on. After reviewing the case they've outlined above, we hope Infill Thinking readers (be they customers, vendors, investors, or competitors) will walk away with a better understanding of Hi-Crush's side of the story as they draw their own DSL risk conclusions.

The final outcome in this DSL saga (for Hi-Crush and everyone else) is impossible to predict at this point in the journey. Other sites may have more or less risk of interruption. Assessments involve subjective conclusions that will no doubt be debated. We continue to believe this is a very serious issue that will be a wildcard in this in-basin sand trend for a long time. Based on the case that Hi-Crush has assembled, it appears that the company's new plant is standing on more solid sand than some folks are giving them credit for at the moment.