Ecological Restoration Brief

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Restoration in the Energy Industry: Texas Restoration Ecologists' New Frontier

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Hailing from a state with an "all of the above" energy policy, most all of us are surrounded by energy exploration and development. As a result of oil and gas development, solar and wind farms, and mining, almost every corner of Texas is seeing increases in energy development. Even the areas in-between without actual energy exploration or production are more frequently being impacted by energy transmission lines or pipelines and the associated right-of-ways.

Restoration is an increasingly relevant part of the energy business, largely because more and more private landowners in the state are requiring it. Energy companies are also more cognizant of the benefits of good business practices from an ecological standpoint and most attempt some form of surface reclamation in their operations. Federal, and in limited cases, state regulations may also dictate and encourage restoration activities by energy developers. Texas as a whole however, lacks substantial policy when it comes to surface damages and restoration as we have no surface damage act underlying our energy statutes.

Eagle Ford Shale Pipeline – restored by private landowner and energy company. Photo credit: Forrest S. Smith

This highlights the importance of private landowner and energy operator education in effective restoration in the energy sector.

As restoration ecologists, we need to be able, willing, and equipped to lead landowners and energy producers in restoration activities. As a professional society and discipline, we work wonders with landowners, and that clientele increasingly speaks our language. This is a huge plus and one that we should be extremely proud of. But, when it comes to working directly with energy companies and operators, I submit that we could do better, and so could they. I see some commonalities for successful restoration work with the energy industry.

KISS (Keep It Simple SCIENTIST)

Assumptions, complex recommendations, or over-the-top restoration strategies often lead to costly failures, mixed-bag results, or all out restoration calamities. An effective restoration ecologist distills down their recommendations to the critical points, and concisely communicates those recommendations to energy operators in a useable fashion. A case in point, reseeding recommendations are often cumbersome in and of themselves and can be a point of contention for energy operators. Often, vague contractual provisions in surface use agreements legally leave operators' leeway to "reseed to previous condition." Many contractors and operators lack awareness of previous conditions as well as the ability to choose seeds with which to reseed in order to meet such provisions. It is up to all of us, as professionals, to inform and guide them on such matters. With reasonable recommendations and concise guidance, there is usually a willingness to follow; conversely, offer a complex and difficult to execute reseeding plan and it will go by the wayside.

Eagle Ford Shale Pad Site - restored by private landowner and energy company. Photo credit: Forrest S. Smith

Recommendations including who, what, when, where, and how, are those most likely to be followed. Simplify and be specific and concise whenever possible. Planting rate calculations, for example, can be a mess if left open-ended by the restoration ecologist. Instead of just giving someone a list of species to plant, provide an exact specification based on the available planting equipment, available seed varieties, and desired planting rates. Give the operator the phone number of a vendor you have contacted in advance (to insure availability), and engage the seed company to make sure the right amount of the right seed get in the ground. Attention to small details can make a huge difference toward enabling successful projects.

Realize our limitations

Things always go wrong in restoration projects. We could all write volumes on the problems we have encountered. Rarely does the ideal outcome materialize exactly as planned, and that is ok. Successful restoration in some energy contexts may not epitomize the habitat as

it existed prior to work being done. A healthy dose of reality, to know when to accept trade-offs, and not, is important to further advance the energy industries engagement in our field. For example, even though a native seed mix that costs $2,000 an acre may be best, a less diverse one available for $100 an acre might work pretty well for restoring ecological function, and most importantly, do no harm. Sadly, what I have seen many times is the insistence by restoration ecologists for expensive, complicated, or impractical restoration actions, which in turn can alienate operators. The end result is the operators take the familiar and easy route and plant bermudagrass or buffelgrass, claiming that the restoration professional is nuts. Often a decision to use an exotic grass for revegetation is made because a local feed store offered a much simpler, and more economical recommendation, and the seed was available right then. At the end of the day, cost and convenience are two of the major concerns of energy operators when it comes to restoration. While we all wish that was not the case, it is. We all have a professional obligation to make economically prudent recommendations, and ecologically sound ones as well. Sometimes, a comprise in restoration methods or results is needed to insure that the company remains engaged.

Time is not on the habitat's side

In close to 20 years restoring habitats, many in the context of energy production, I have developed the saying "restoration is a process, not an event." When it comes to energy related restoration projects, that process starts, and starts quickly when the survey flag for a right-of-way is first put up. From that point on, things move very fast, and too often, we as restorationists do not move at the energy industry's breakneck pace. We have to realize that while restoration is the most important thing to us, it is not number one or even number ten on an energy producer's to-do list. It usually ranks about last. The biggest mistake is that it is not addressed or dealt with until much later in the project implementation cycle. Cost again plays largely into the equation. When dealing with energy producers, a wise restoration ecologist is involved early and often and presents their arguments in terms of saving money, time, and or avoiding later regulatory or legal hassles. Restoration outcomes are greater when there is an appreciation of the schedules and demands energy producers must deal with, and a willingness to help meet them.

Natural gas pipeline right-of-way in South Texas Sandsheet - restored using native grasses.
Photo credit: Forrest S. Smith

We are all in this together

The energy industry professionals that we work with are increasingly not of the stereotypical variety associated with past times. Instead, most are well-educated, environmentally aware people who genuinely care about the legacy their industry leaves behind on the land. An antagonistic mindset toward energy operators about environmental projects or restoration based on historic mistakes is the surest way to fail every time. Instead, find common ground with energy companies, engage individuals at a personal level, and realize they are not the bad guys some paint them to be. Most energy company personnel and contractors

love to hunt, fish, and enjoy the outdoors just as we do. While the obvious linkages between soil, seed, deer and quail habitat, and hunting experiences are inherent to us, they might not be as easy to grasp for others. Taking time to explain those connections, describing the practical significance of restoration actions, just might win hearts and minds in the next energy company you work with. Without hesitation, I can say that an engaged and informed energy producer who truly believes in the restoration they are doing is a formidable asset to our cause. We are all in this together - we breath the same air, drink the same water, and raise our kids in the same places as those in the energy industry. That simple truth, in and of itself, is common ground. Always try to frame your work around points of common ground.

If we don't get better at restoring more, we may not have much left!

The most worrisome aspect of the Texas that my children will inherit is that a great deal of it will not look like the one I knew unless more restoration is successful. As a restoration professional, I sincerely hope I am putting my time and effort where my worry is. Energy production and transfer is having a major impact on Texas' land use and natural habitat. Despite the larger issues of our lax regulatory environment, concerns over fossil fuels vs. renewables, climate change, and politics, energy production as it stands now, is going nowhere but up on the Texas landscape for the foreseeable future. In reality, even some of the more environmentally friendly forms of energy production have larger landscape footprints than traditional energy sources, a conundrum of sorts, no doubt. While more progressive regulations, and the ongoing societal push for sustainable energy development may eventually have major impacts, for now a cooperative approach, acting as educators and partners, instead of as adversaries is the best chance we have to deliver restoration that matters when it comes to the energy sector.

On the bright side, I recently reviewed seeding specs for an 8,000 acre pipeline right-of-way bisecting Texas. About 85% of the landowners involved had requested that native seeds be planted. Just ten years ago, this would not have been the case. Upon closer examination however, I noticed that 99% of the native seed mixes recommended were not succinctly specified, and the correct native seeds needed for about half the area involved were not available. The pipeline operator and their contractor were a bit stymied. They wanted to do the right thing, but had not been equipped to do so. Fortunately in this case, several restoration professionals and seed companies had a chance to provide advice, and luckily, the operators were comfortable asking for it. Building energy industry relationships like those, and working toward practical, economical, and successful energy industry restoration projects is truly the next frontier when it comes to restoration in Texas. TXSER and its members should embrace our role as the people who are equipped to lead that journey, and blaze a trail of success in the years ahead.