

Dax Mangus is a program manager with the Division of Wildlife Resources in northeast Utah. DWR is responsible for all species in the state, but Dax spends most of his time working with large animals.

Our pronghorn are typically at the lowest elevation gradient out there. And our pronghorn numbers are quite low compared to historic numbers. It's hard to say what has caused that, it's probably a combination of factors. You do see pronghorn in the active oilfield areas, that's where the pronghorn historically were, and that's where you still see them. But we see fewer than we used to see. Our oil and gas biologists have worked with the energy companies, water is a limiting factor out there, especially in that pronghorn habitat. Just this year they installed twelve guzzlers, wildlife guzzlers with big catchment aprons and underground tanks.

Pronghorn typically graze in wide open grasslands, so they're more likely to be found in the lower parts of the Uinta Basin. Much of this land has already been developed for conventional oil and natural gas.

You can't deny that we've definitely lost habitat, for every wellpad and every access road, we have physically lost some pronghorn habitat. And then you've got increased traffic and dust. But at the same time, the energy companies have tried to mitigate for some of that impact, you know through these guzzlers, but it's hard to say exactly what might be causing the decline.

Dax draws an important distinction between “winter range” down low in the central Uinta Basin, and higher pastures of “summer range”. Elevation in the southern half of the basin—from the White River south to the Book Cliffs—gradually climbs, from under five to well over eight thousand feet. This high country is critical habitat for the game animals that Dax looks after.

The biggest concern I have in the Book Cliffs, it's summer range limited. The Book Cliffs, we actually have a lot of winter range, it's the summer range, we kind of have a narrow band of summer range, kind of running east to west from Colorado line over 'til you drop into the Desolation Canyon/Green River area. It's not real high elevation. Your best areas for fawning, for calving, we just don't have as much of that good habitat where you have the more protein-rich forbs for your mule deer, but our mule deer population is struggling a little bit.

Elk seem to be doing very well all across the basin. Dax was more concerned about mule deer. He believes that the Book Cliffs area should support 15,000 mule deer, but only half that many are present. He spoke again about available habitat.

Some of the mining going on there right now, the stuff there at PR Springs, that's right as you're getting onto the summer range. So that's some of the concerns with regard to wildlife—we're going to lose some of that summer range to mining operations.

Until recently, the Seep Ridge Road was dirt and loose rock. Ranchers driving in from the Book Cliff Divide used to allow 2 ½ or 3 hours to reach Vernal—if their pickup didn't have a flat tire. Truck speeds are much higher now that the road has been paved. Dax Mangus worries about the impact of these trucks on his mule deer.

You can drive a lot faster than you used to when it was dirt...you're going to see increased traffic and increased speeds into an area that previously didn't have a paved road into it. Just mortality on the road, wildlife-vehicle collisions.

But other factors can also affect mule deer survival.

It's kind of death by a thousand cuts out there. I don't think any one thing is necessarily going to be a primary cause that causes the system to collapse. But what's going to be straw that breaks the camel's back? Is it going to be the 30,000-acre mine, is it going to be the new paved road. It's kind of a combination of a lot of different things. We try to identify issues and mitigate for those issues when you can, but it's hard to mitigate for losing 30,000 acres of summer range.

Dax is an employee of the state of Utah. He's looking for the middle ground that might exist within this uneven terrain. His loyalty lies with the animals he's charged to protect.

No one likes paying four dollars a gallon for gas, no one likes being dependent on foreign governments that are hostile to us for energy. That's a tough balance because there are tradeoffs, you give stuff up. It's tough to see things like that Seep Ridge Road get paved into the Book Cliffs, and it's tough to see that and some of the impacts that'll most definitely will have on wildlife.

Dan Schaad is also a government employee, but he works for the *United States Fish and Wildlife Service*. Dan manages the Ouray National Wildlife Refuge that straddles the Green River, twenty miles south of Vernal.

The refuge itself is about 12,000 acres; 5,000 of that was purchased or transferred. We lease about 2,700 acres from the Ute Tribe; and also roughly between 1,100 and 1,200 acres of state land. So it's a patchwork affair.

The refuge was established in the 1960s to mitigate downstream effects of Flaming Gorge Dam up on the Utah/Wyoming border. The Fish and Wildlife Service initially focused its efforts on migratory birds that flew the important Green River corridor. But other species, both animals and plants, have since grown in importance. One is the Uinta Basin Hookless Cactus.

In the case of the cactus, unique species, it's a—sclerocactus. It grows nowhere else in the world but here in the Uinta Basin. Most of the cactus that we have here are located up on the bluff or bench areas.

When Fish and Wildlife Service scientists realized that dust from passing trucks was harming the cactus, they expanded the protective ring around individual plants from 100 to 300 feet. At the time, the Ouray Wildlife Refuge happened to be renegotiating its 2700-acre lease with the Ute Tribe. The tribe contended that the expanded protection was unnecessary and that it would hinder its operations with oil companies. The Utes played hard ball, refusing to sign their refuge lease until the protective ring was reduced.

Schaad is also concerned that birds from the refuge are attracted to open pits where fracking fluids are stored. Some energy companies do try to string nets over their pits.

One company I can think of is Anadarko. There's a guy that works for 'em that monitors those areas. I think they've taken steps to net off these areas.

Not all companies can afford or choose to be so proactive.

The bad thing about open pits, they attract birds. And in the state of Utah, there are no regulations that say you have to net these areas off. Most places where they do have problems with birds, they really need to net those areas off.

The Ouray National Wildlife Refuge sits squarely in the crosshairs of frenetic drilling for conventional oil and gas, a frenzy that had not yet ignited when the refuge was first assembled.

It's the case with many refuges, when the lands are purchased, they'll buy the surface acres. They'll pick up the water rights associated with those surface acres. Mineral rights? No. Basically I think it was probably cost prohibitive at the time.

Oil and gas wells are now being drilled on refuge lands. Fracking with its pressurized fluids now takes place beneath the refuge.

The activity up on the State land, other than what the State DEQ requires of them, there's probably not a whole lot of monitoring going on. But up there, the groundwater.... From what they're tellin' us when they're doin' this stuff, they're goin' down deep enough, and there's enough of a shale layer or whatever formation in between that generally speaking it should be protected. In that situation up there, we're not heavily monitoring that.

The Fish and Wildlife Service runs a specialized fish hatchery which draws its water from a shallow aquifer beneath the Ouray Refuge.

The recovery program, it's a conglomeration of federal, state, private entities; a big part of what they do is try and recover four species of endangered fish, the razorback sucker, Colorado pike minnow, bony tail, and humpback chub.

Managing for wildlife within an industrialized landscape is not easy. Dax Mangus and Dan Schaad are doing what they can with the tools they are given.