

Are We Smart Enough to "Improve" on Mother Nature?

A lot of folks seem to think that the natural landscape or habitat isn't beautiful enough or interesting enough or different enough so they "improve it" by introducing exotic or non-native species. Some of these introductions are indeed harmless and create no significant problem in the native habitat other than taking up space that native species might otherwise occupy. And here I am talking about both plant and animal species.

But the problem is that we usually don't know enough to predict the effect a given exotic species will have on the native environment. Here is an interesting story to illustrate the point.

You probably know that several years ago wolves were re-introduced into Yellowstone National Park. Until wolves were exterminated in the earlier part of the 20th century, they had been part of the Yellowstone natural habitat for hundreds, probably thousands of years.

And there cannot be many places on the planet where the habitat has been more studied by more experts than Yellowstone. So the re-introduction of a native species into a well-studied habitat was not expected to create any surprises.

It was certainly expected that the wolves would help to control the overpopulation of elk. This was one of the many reasons for re-introducing the wolves in the first place. But I can find no prediction by the experts that the re-introduction of wolves would lead to a larger duck population in the park.

So how did that happen? Well, the wolves did reduce the elk population, as expected. But they also changed the elk's behavior. Because the elk began to fear the wolves, they tended to stay out in the open more where they could see the wolves from a distance and outrun them. That meant that the elk spent less time along the creek bottoms eating willows and other woody plants that grow in the riparian areas

This led to an increase of willows along the creeks—a favorite food of beavers. This allowed the beaver population to increase and spread out along the various creeks, constructing dams where none had existed before. The increased number of ponds behind the beaver dams made for increased habitat for ducks, leading to more ducks in Yellowstone.

The story is, as everything in Nature, much more complicated than I just described, and research is still ongoing and changes are still occurring, but the fact is that unexpected things are happening in Yellowstone.

Now no one is concerned that any of these events are a bad thing--far from it. All of these changes are considered good things by the naturalists and scientists

that managed the re-introduction of the wolves. But if good unexpected things can happen, so can bad unexpected things.

In other words we are not always smart enough to make changes to our native habitat, because there may be unexpected, undesirable consequences from our actions.

I don't think anyone would now argue that the purposeful introduction of kudzu in the Southeast was a good thing. Or the introduction of Burmese pythons into the Everglades. Or having axis deer escape captivity and become feral. And I believe most range scientists would agree that the introduction of KR bluestem into Texas was unfortunate.

I am certainly not suggesting that all such introductions of exotic species have been detrimental. Most all of our livestock, food crops and row crops are foreign in origin, but few escape their range or cultivation and become pests. Even a few ornamental plant species, such as crepe myrtle, appear to pose little concern in our habitat.

Most of the well-known exotic plants and animals we currently have in the Hill Country were introduced before we had anything to do with it. The best we can do now about those already introduced is to try to control their spread and eliminate them where possible.

But we should always be mindful of the law of unintended consequences and realize we are really not smart enough to know in advance what exotic plant or animal will cause serious problems for our native habitat. I would hope that no-one wants to be the person that introduces the next Chinaberry or Chinese tallow or Ligustrum or fire ant or giant reed or bamboo or feral hog or feral axis or Formosan termite or tiger mosquito or giant salvinia, or tamarisk (salt cedar), or zebra mussel, or starling or Johnsongrass to the Hill Country.

Until next time...

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