RESEARCH HIGHLIGHTS

The Cost of Species Protection: The Land Market Impacts of the Endangered Species Act

by Eyal Frank, Maximilian Auffhammer, David McLaughlin, Elisheba Spiller, and David Sunding

Do habitat protections decrease home value or delay development?

Context

Over the last 50 years, wildlife populations have on average dropped by 68 percent. Climate change is only expected to exacerbate this trend, both increasing extinction risk directly and changing natural habitats in a way that could indirectly hurt wildlife. Historically, habitat protection has been the most important policy tool to prevent species extinctions. As a result, the United Nations aims to double the amount of protected land to 30 percent globally. But private landowners and developers often oppose such habitat protections, concerned it could decrease their property value or delay development.

Research Design

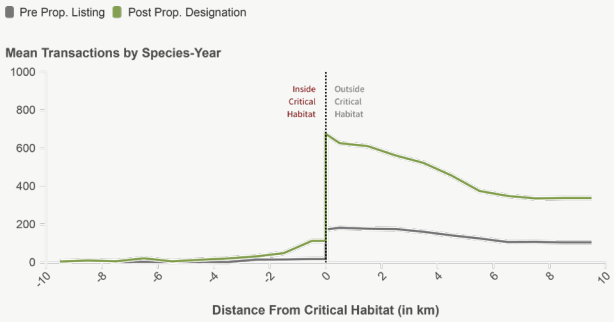
The researchers examined the economic consequences of the 1973 US Endangered Species Act, which served as a blueprint for conservation legislation in Australia, Canada, Europe, Asia, and Latin America. They compiled the most comprehensive dataset on the spatial extent and type of Endangered Species Act land restrictions for more than 900 species in the contiguous United States, going back to the beginning of the act. This included both species habitat designations and the more stringent critical habitat designations. They then matched these data using space and time identifiers to the largest available dataset on housing and land transactions. To go beyond looking at housing prices, they also added species-level lawsuits, building permits from the Army Corps of Engineers, county-level construction permit Census data, and—for the first time in the literature—the nationwide individual building permits. This data allowed the researchers to more fully characterize both the overall impacts of the Act and their heterogeneity by species, region, and outcome.

Findings

Habitat protections do not lead to fewer home sales.

The number of home sales in areas eventually designated as critical habitats, the Act's most stringent restriction, was shown to be six times lower than that of adjacent communities both before and after the critical habitat designation. This shows that the critical habitat designation did not impact the sale of homes. It also suggests that the Fish and Wildlife Service proactively considers local housing trends, which it is permitted to do, when considering the designation lines of a critical habitat. Additionally, less stringent species habitat designations, which are not permitted to take economic factors into account, showed no difference in the home sales of surrounding communities in comparison to adjacent communities. This indicates that even the more relaxed protections have no impact on home sales.

Figure 1 · Number of Residential Property Transactions Around Critical Habitat Borders

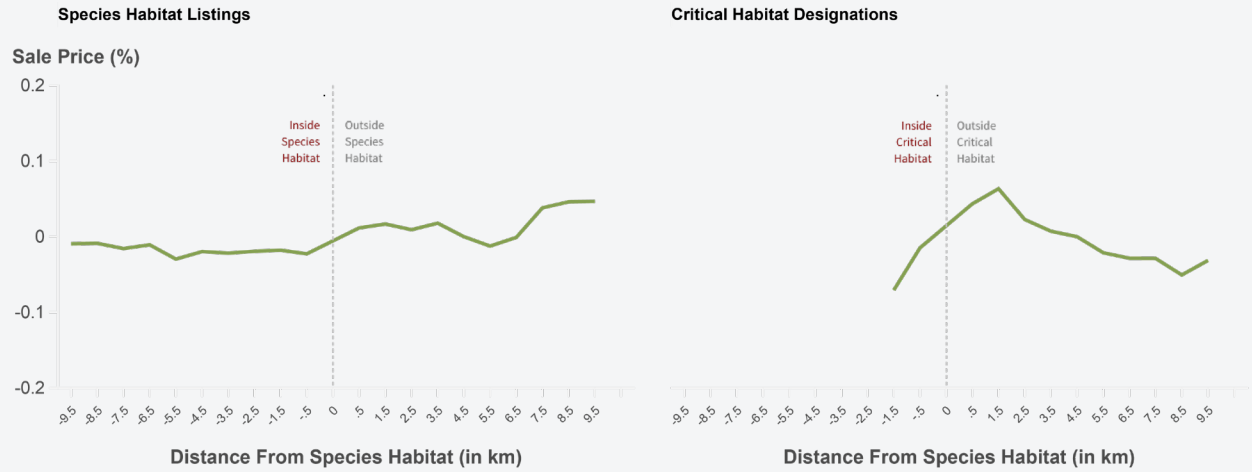


Home prices increased in communities just outside protected habitats.

Home sales just inside the boundaries of protected areas were slightly lower than home sales just outside protected areas—especially the sale of new homes. In addition to the shift in land market transactions happening more outside of the protected areas, the researchers also found that homes inside protected areas hardly depreciated in value, while homes just outside protected areas appreciated in value. The sale price of homes just outside protected areas increased by as much as 10 percent. This could be due to two factors. First, construction of new homes within protected areas was perceived by builders to be to more difficult, and so they constructed new homes just outside the boundaries of protected areas—pushing prices up in possibly more saturated markets. Second, homeowners value "backing up to open space."

Figure 2 · Effect of Species Protections on Home Prices

Percent change in home sale prices five years after protections were proposed compared to five years before, within and outside of the habitat.



While on average, habitat protections had a positive impact on home values, there is massive heterogeneity.

On average, the Endangered Species Act did not lower home prices throughout the country. However, at the local level, various factors can come into play that negatively impact home prices, suggesting local contexts should be independently studied. For example, they see negative impacts in areas with high "Fish and Wildlife Service consultations." This suggests that in areas where species draw more regulatory attention from the Fish and Wildlife Service there is a small but measurable decrease in housing value inside the species border in more contested land markets.

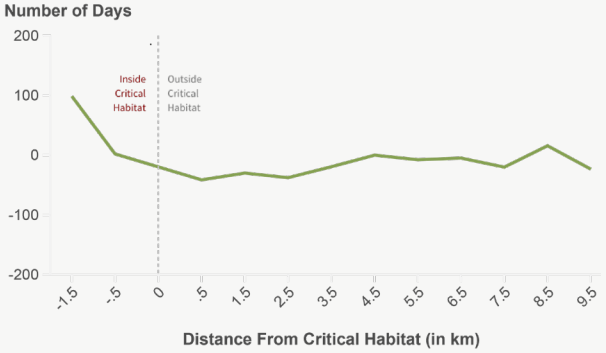
Habitat protections do not inhibit construction but may cause delays.

The researchers recognize that procedural delays and uncertainty in developing land inside protected areas might have effects on the land markets not immediately captured in prices. For this reason, they also study the impacts of habitat designations on permits. Permits are required from several local and federal entities, and each must consult with the Fish and Wildlife Service to verify the approval does not present a risk to the survival of a listed species.

While the researchers do not find a drop in construction in protected areas, construction may be delayed—especially for larger projects. Permits could take as much as 100 more days to get approved within critical habitats. But these reflect just a small fraction of total permits.

Figure 3 · Effect of Designating Critical Habitats on Building Permits

Number of days from application to issuance of construction permit within and outside of a designated critical habitats.



CLOSING TAKE-AWAY

The Endangered Species Act has protected large areas in the United States, and its average impact on home values has been small, and in some cases, even positive. That said, the local context is important to consider. In areas where species protections are negatively perceived, it may have an impact on home values as well. Using previous estimates found in the literature to infer what the average impact of the Endangered Species Act is on land values might lead to overstating those impacts. The results in this paper show that previous case studies focused on the locations where the protections awarded to species had a meaningful impact on land values, but those need to be interpreted relative to a much more muted distribution of effects. It is still true that the Endangered Species Act can have meaningful and negative impacts on local land values. Therefore, for local decisions, understanding species characteristics and local land markets is key. The study highlights the importance of heterogeneity in land market responses, and provides an approach and data that would allow one to conduct such local analysis.