Economic Benefits of Protecting Natural Resources in the Sonoran Desert

Summary of Findings

Introduction

Residents of Pima County are making important decisions about how best to manage their natural resources in order to enhance the long-run prosperity of the regions current and future residents. Under this process, occurring through the development of the Sonoran Desert Conservation Plan (SDCP), a variety of alternatives regarding the final design and level of overall protection afforded to the region’s ecosystem are being discussed. Included are some that embody a more business-as-usual approach to developing and exploiting the regions natural resources. In weighing the relative economic merits of these alternatives, it is essential for elected officials, stakeholder interest groups, and the general public to recognize that investing in a well-designed, ecologically based resource conservation plan that adequately protects the ecosystem will generate substantial economic benefits.

The commonly held “environment vs. economy” viewpoint has become out of date. Oftentimes, commercial use is portrayed as the sole way for local residents to derive jobs, incomes, and profits from natural resources. It is common to hear the belief that, if land development or other local industries are allowed, then the local economy will gain jobs, incomes, and profits, but if natural resources of the land are protected, then the land will not contribute to these benefits.

In truth, our local economy is experiencing a shift, whereby increasing economic benefits are being provided through a variety of natural resource uses—some of which require that those resources be conserved. The relationship between the economy and the environment has changed significantly over
time, as population increases have caused a scarcity of high-value resources and produced greater competition for them. This increase in competition means that choosing to use the resource in a consumptive manner, such as through development, ranching, or mining, has a higher cost today than it did previously. In order to get an accurate picture of the economic impacts of conservation measures such as the Sonoran Desert Conservation Plan (SDCP), we need to take these new factors into account.

To predict how a given local economy will adjust to a resource conservation initiative, we need to know what the economy currently does—how capital and people are currently employed—and also what it might do—how quickly and by what methods capital and people respond to the changes. Traditional economic models fall short of this by estimating impacts based on snapshots of the past. These models explicitly ignore the response by investors, managers of firms, workers, and consumers who will make changes to adapt to the new conditions. These models also fail to take into account the fact that demand for unspoiled natural resources is growing relative to the demand for goods provided by traditionally dominant extractive industries. As such, traditional economic models tend to greatly underestimate the benefits of conservation initiatives—especially in the long run.

Having accurate information regarding the impacts of a conservation plan will positively influence both the initial decision and the response of the community toward it. With information about the full range of potential impacts, both positive and negative, members of the community can better gauge how the plan will affect them. This information can also better equip the community as a whole to look for, recognize, and act on opportunities that will help them fully take advantage of the economic opportunities that arise from the new plan.

**Economic Trends and the “Third Wave”**

The economy in Pima County, with regard to natural resource use, has changed considerably over time, and it is important to consider these changes when exploring the impacts of a conservation initiative such as the SDCP.

Jobs, wealth, and prosperity traditionally came from extracting natural resources as commodities, such as in mining, or by displacing them with human-made assets, like buildings and roads, via development. Resources were abundant, relative to the demands placed on them, and there was, in effect, no economic competition for the resources available from Western wildlands. Under those conditions, resource conservation proposals could be seen as involving an inherent tradeoff between the economy and environment, where one could have a healthy environment or a healthy economy, but not both.

Today, the relationship between the environment and the economy has changed. Just as there was a shift after World War II from an agriculturally-based economy to an urban economy, we are now seeing another shift—a Third Wave—characterized by an increased demand for unspoiled natural resources and the benefits they can provide. There is growing competition for natural resources in the West, which cannot satisfy all the human demands placed on them. This means that allowing industries to “use up” natural resources at the expense of other potential uses has much higher economic costs than in the past. The health of Arizona’s economy increasingly depends on having a healthy environment.
Benefits of Natural Resource Conservation

Many natural resource economists and biologists understand the ecological and economic value of scientifically sound resource conservation programs. Unfortunately, the public is generally told only of the economic benefits that result from the dominant extractive industries’ use of natural resources, with little or no mention of the tradeoff of these uses or the costs associated with them.

However, taking the full picture into account is becoming increasingly important, as the benefits of conserving natural resources are rapidly growing. Local communities gain tangible economic benefits from resource conservation, which contributes to a vibrant, healthy economy. The following figure illustrates many of the potential benefits that natural resource conservation can yield. It is important to note that, in contrast to the benefits associated with extractive uses, these uses allow for many more benefits to accrue at the same time.

Conservation of Natural Resources in the Sonoran Desert Can Yield Many Economic Benefits

Sonoran Desert Conservation

- **Increased Supply of Valuable Natural Resources**
  - Conservation can protect and enhance the intrinsic values of native species and landscapes, relative to what would exist absent conservation
  - Conservation of native species and landscapes can provide recreational and aesthetic benefits

- **Savings for Taxpayers, Utility Ratepayers, and Property Owners**
  - Protecting at-risk species and landscapes can be cheaper than restoring them after they’ve become degraded
  - Conservation can retard urban sprawl and reduce the associated costs
  - Conservation can enhance values of nearby property by protecting natural open space, reducing flood-related risks, preventing subsidence from depletion of groundwater, etc.

- **Stronger Local Economy: More Jobs & Higher Incomes**
  - High-quality natural resource amenities can lead to a more diverse economy, more jobs, and higher incomes
  - Reining in activities that are wasteful of native species and landscapes and/or impose spillover costs on other industries and households can make the economy more efficient and productive

- **Reinforcement of Efforts to Accomplish Other Goals**
  - Conservation can contribute to improvements in public health by encouraging healthier lifestyles and discouraging harmful pollution
  - Conservation can reinforce efforts to promote social cohesion among different groups, neighborhoods, and communities
Growing evidence indicates that, in general, the services that might be derived from unspoiled natural resources, and especially wildlands, are increasing in value relative to the goods provided by consumption or extraction of them. This shift in values would lead one to believe that, to promote greater prosperity, society ought to shift its resource management to increase the supply of services, such as recreational opportunities, scenic vistas, and natural streamflows. Resource conservation initiatives such as the SDCP can help direct this shift by protecting lands of high resource value that are most likely to generate these types of benefits.

Need for New Economic Model

Traditional economic cost models are seriously flawed. They often give wrong results—predicting the economic collapse of a local or regional economy if a conservation initiative reduces a basic industry. These results, which numerous studies have proven to be false, are obtained in part because the model fails to take into account the dynamic nature of the economy. People will naturally take steps to mitigate the impacts it considers negative and to accentuate those it considers positive.

These models also give flawed results because they ignore the economic trends mentioned in the previous section, where the demand for the services that unspoiled natural resources can provide is increasing with respect to the demand for the goods provided by consuming these resources. Under the traditional economic models, it is easy to underestimate both the potential benefits of the conservation initiative and the potential costs associated with the tradeoff of continuing to support traditionally dominant extractive industries. However, when emerging economic trends are taken into account, it is clear that conservation initiatives are forward-looking investments in the community’s economy—just like investments in recruiting cutting-edge industries like biotechnology or optics—that will increase in value over time as the population grows and scarcity causes increasing competition for them.

This is not to say that everyone responds quickly, or that the costs of adjusting to resource conservation initiatives are trivial. Instead, we are only pointing out that adjusting to change and responsiveness to consumer preference are widely trumpeted virtues of market economies. To understand the economic consequences triggered by conservation initiatives, one must take this dynamism into account. Ignoring it invariably leads to exaggerated estimates of job losses and unrealistic predictions of economic catastrophe.

Need for Complete Information

Although there is much supportive research that this Third Wave is occurring, many people still don’t realize the rapidly growing economic competition for natural resources. The public is still generally presented with the idea that economic benefits only come from consumptive uses of natural resources, such as development, ranching, and mining. The previous section highlighting the benefits that can result from a variety of natural resource uses, including those requiring that the resource be conserved, clearly shows that this is no longer accurate. Updated information about the growing diversity of our local economy and increase in demand for unspoiled natural resources is greatly needed.
Another common criticism is that conservation initiatives interfere with markets. However, evidence throughout the West shows that the benefits of conservation often are increasing relative to the costs, insofar as the costs involve reductions in the supply of plentiful commodities, and the benefits come from increases in the supply of otherwise scarce goods and services, such as clean water, clean air and roadless-area recreational opportunities. Thus, in the Third Wave, conservation initiatives actually support market forces by transferring resources from a low-value to a high-value use. In other words, they allow the natural resources to be used for things that people value most about them—like unspoiled scenic views instead of shopping malls—now and in the foreseeable future.

One of the most important steps communities can take to manage the transition is to give the public accurate information about what the transition will, and will not, entail. The traditional cost-benefit analyses that have been conducted regarding the SDCP ignore the dynamic and adaptable qualities of economies and present to the public a distorted view about the potential benefits and costs this community will incur. To the extent that the positive potential of the SDCP is not included in the discussion and decision-making process, the community will fail to look for, recognize, and seize opportunities to capitalize on its positive impacts. Opportunities for sustaining a healthy economy will be lost.

In addition, making this information available to the community empowers them to further influence the direction that the economic transition associated with conservation takes. The community may take steps to develop in advance the physical and social infrastructure that can make negative impacts smaller and the positive impacts larger than they otherwise would be.

Conclusion

Determining the economic impacts of a conservation plan is a complex process. Traditional economic models have generally been incorrect in estimating the impacts of conservation plans because they fail to take into account the growing demand for goods and services that unspoiled natural resources can provide—such as recreational opportunities, wildlife preservation and attracting new businesses to the area—and have failed to consider the natural response of people to adapt to change. These omissions have resulted in both underestimations of the benefits and overestimations of the costs of conservation.

Local communities gain tangible economic benefits from investing in the protection of their environment. These benefits help to create a diverse, healthy economy that will be sustainable in the long run. With complete information about the potential costs and benefits of the plan, the community will have a more accurate perspective about how the plan will affect them and can take thoughtful, deliberate action to minimize the costs and to make the most of the opportunities that the conservation plan provides.

This document is a summary of the ideas contained in “Economic Benefits of Protecting Natural Resources in the Sonoran Desert,” a report prepared for the Coalition for Sonoran Desert Protection by EcoNorthwest.