

Social impact assessment:

Understanding how outside development alters the park experience

By RABEL J. BURDGE

Attempts at modernization in both first and third world countries have altered the physical environment and created untold financial problems, disrupting the lives of countless millions of the world's population. When the developments were few and the numbers of people small, concern was less and the impacts on life-sustaining ecosystems fewer. However, accelerated growth has brought the earth's resources and its people closer to sustainable limits. As a result, community leaders, government agencies, legislators, and even the average citizen want to know the consequences and impacts of developmental change prior to project approval and the permit to go ahead.

By *Social Impact Assessment* (SIA), I mean the systematic analysis *in advance* of the likely impacts a development event (or project) will have on the day-to-day life (environment) of persons and communities. We do social impact assessment to help individuals, communities, as well as government agencies and private sector organizations understand and be able to anticipate the possible social consequences on human populations and communities of proposed project development or policy changes. Social impact assessment allows people to understand *in advance* the consequences of a proposed action or policy change. Like a biological, physical, or economic impact, a social impact has to be pointed out and measured. It may impact big numbers of people as would restricting auto traffic in Yosemite or fewer numbers, as for example, the closing of a hospital in a rural community. It may be required by law, as in the case of the National Environmental Policy Act (NEPA), which is triggered when federal funds, land, and legislation are involved. It may simply be seen as prudent, as for example, evaluating the positive and negative benefits of promoting tourism to Chaco Culture National Historical Park in New Mexico.

What started social impact assessment?

President Richard Nixon signed the National Environmental Policy Act on December 31, 1969. Under that law, proponents of development projects and policies are required to file an environmental impact statement (EIS) detailing the impacts of the proposal, as well as project alternatives, on the physical, cultural and human environments. The NEPA legislation also requires mitigation measures for impacts and a monitoring program to ensure that mitigation is actually working (NEPA, 1969). Henry "Scoop" Jackson, the late senator from the state of Washington, was responsible for including the *triggering mechanism* in the NEPA legislation, which required an Environmental Impact Assessment (EIA) if federal land, laws, or monies were involved. The inclusion of the triggering mechanism was a unique legislative requirement and ensured that EIS statements would be written. Subsequently, the courts have ruled that if a biological or physical environmental change leads to an alteration in human communities an SIA must be completed as part of the environmental impact assessment process (IOCGPSIA 1994).

NEPA legislation and the trans-Alaska pipeline permit

In February 1970, the Bureau of Land Management of the U.S. Department of the Interior submitted a six-page EIS to accompany the application for the trans-Alaska pipeline permit. Two days later the Wilderness Society, the Friends of the Earth, and the Environmental Defense Fund filed suit contending that the EIS was inadequate because it did not consider the implications to the permafrost of pumping hot oil through a pipe on the ground. In addition, no provision was made for a disruption of the annual migration of several caribou herds due to the pipeline and the road to be built beside it. Although not specifically mentioned in the litigation, some observers

wondered where all those construction workers and their families would be housed who came north to work on the pipeline (Dixon 1978). Three years later the permit to build the pipeline was issued and most of the potential environmental problems had been addressed to the satisfaction of the courts, the plaintiffs, and the Alyeska Pipeline Company (a collection of U.S. and Canadian oil companies that owned leases on Prudhoe Bay). Anticipatory planning had worked and all sides agreed that the NEPA process had allowed project proponents to deal with issues that might otherwise have been overlooked.

After the permit to build the Trans-Alaska pipeline was approved, one of the Inuit Chiefs commented "...now that we have dealt with the problem of the permafrost and the caribou and what to do with hot oil, what about changes in the customs and ways of my people?... (Dixon 1978)." Would the traditional cultures and way of life be changed by such a massive construction project? What about the influx of construction workers who spoke different dialectics (of English) and brought with them a distinctive lifestyle? Obviously, with a total population of 350,000 (in 1973) the Alaska could provide only a fraction of the estimated 42,000 persons that would work on the pipeline during peak construction. Because of these and other related events the impacts of development on the human populations began to be included with biophysical and economic assessments (Dixon 1978). Social impact assessment differs from other types of social science analysis in that it is *anticipatory*. The goal is to measure the consequences of the project or policy change before the event actually takes place.

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A case study in scoping for SIA: What would be the social impacts on Biscayne and Everglades National Parks if Homestead Air Base were converted to a commercial airport?

In 1996, the Metropolitan Dade County Commission (Florida) approved a plan to lease a large portion of the Homestead Air Force Base for 70 years for development by the Homestead Air Force Base Developers, Inc., to build and operate a commercial airport (figure 1). However, the project has been delayed pending additional federal and state assessments of the impact of the proposed aviation facility on nearby, environmentally sensitive Biscayne Bay and the Everglades. A Supplemental Environmental Impact Assessment (SEIS) for the Reuse of the Homestead Air Force Base (HAFB) in south Florida was to be prepared by the U.S. Air Force and the Federal Aviation Administration (FAA). As a cooperating agency in preparing the scoping document for the SEIS, the National Park Service was

asked to identify and recommend the scope of work related to social impacts of concern to the National Park Service.

As part of the EIA-SIA scoping process, Gary E. Machlis, Visiting NPS Chief Social Scientist, Paul George of Miami-Dade Community College, and I were asked to do the SIA scoping as part of the agency response to a need for an SEIS (Machlis et al. 1998). We were asked to consider three alternatives, but our efforts focused on what was called "full capacity" or "maximum possible usage" condition for the former Air Force Base. This alternative is based on the Dade County Airport Master Plan, the FAA Airport Layout Plan, and estimates by consultants and interested parties. It assumes the potential (not existence) of an additional runway, and further alters the mix of flight operations. Estimates of flight operations are based on maximum capacity for one-runway peak flight operations in 2014, approximately 240,000 per year. Another runway could expand that number up to 380,000 per year.

The SIA guidelines (IOCGPSIA 1994)

call for analysis of "primary, secondary, and cumulative social impacts."

Primary impacts are directly caused by the proposed action. *Secondary impacts* are those that indirectly result from the proposed action. *Cumulative impacts* are those that are a consequence of the proposed action in combination with other local and regional changes that might be ongoing as a result of the conversion to a full-scale commercial airport.

We examined social impact variables under the general categories of (1) population characteristics, (2) community and institutional change, (3) political and social resources, (4) individual and family changes, and (5) community infrastructure resources (Burdge 1999). These variables provided

work along with variables of concern that reflect the special purposes and uses of Biscayne National Park, Big Cypress National Preserve, and Everglades National Park as part of the national park system (NPS 1979 and 1983), and their role in the South Florida Ecosystem Restoration Project (Harwell 1997).

Potential *primary social impacts* include but were not limited to:

1. significant increase in passenger landings (e.g., number of passengers, particularly non-local tourists) as part of commercial aviation flight operations,
2. significant increase and change in noise levels, timing, distribution, and quality (particularly in Biscayne and Everglades), as part of the increased and altered mix of flight operations leading to changes in the visual environment related to haze, and night-sky light,
3. significant increase in both density and spread of urbanized development, as part of the build-out of the commercial facilities and residential areas, and accompanying commercial expansion beyond the current urban development boundary (UDB) near Biscayne, and
4. significant changes in community identity and industrial focus as a result of the shift from a military/retirement- to commercial-based air transport economy within the primary zone of influence.

Possible *secondary social impacts* include:

1. an increase in visitor numbers (as well as a change in visitor types) to Biscayne and Everglades, resulting from increased passenger landings and urbanized growth and development,
2. a significant change in the visitor experience and park preservation values as a result of the deterioration of natural quiet or natural sounds due to increased noise levels, haze, and night-sky lighting,
3. a significant change in infrastructure needs (roads, sewers, schools, etc.) in the primary region of influence (ROI), beyond the UDB, and particularly near Biscayne,

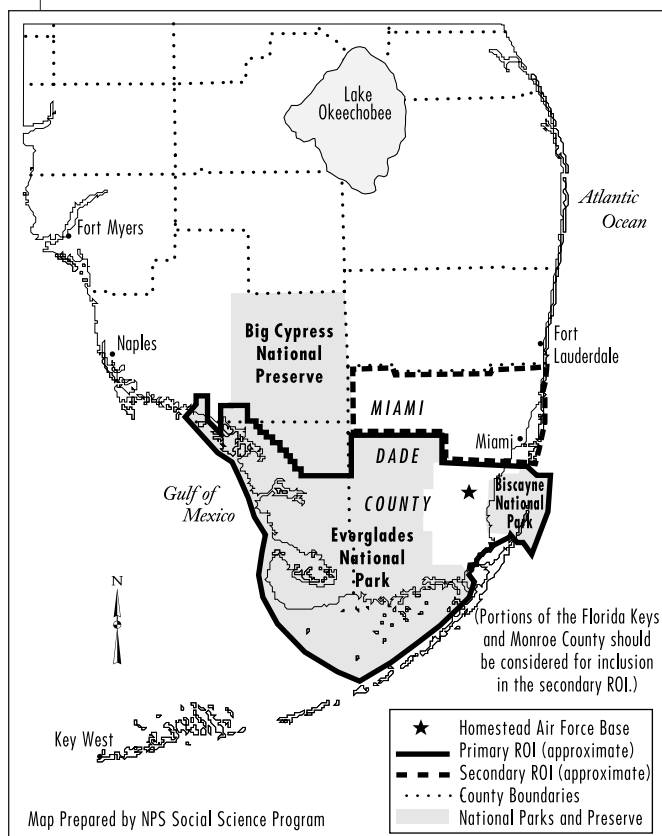


Figure 1. Location of Homestead Air Force Base, Biscayne and Everglades National Parks, and Big Cypress National Preserve, Florida.

4. an increase in visitors to Biscayne and Everglades due to an increase in population in the primary ROI, particularly near Biscayne, and
5. a change in community cohesion and local culture, due to changes in community identity, industrial and commercial focus, and park preservation values.

Examples of *cumulative social impacts* include:

1. a significant increase in park management activities (particularly at Biscayne), including resource protection, environmental monitoring, visitor protection, and maintenance, due to changed visitation and urbanized development,
2. an increase in park infrastructure needs (particularly at Biscayne), due to increased and changed visitation patterns,
3. a significant change in recreational uses, visitor types, and visitor distribution (particularly at Biscayne), due to increased noise levels,
4. an increase in complexity and intensity of required park-regional-local governmental cooperation, due to population influx leading to urban development, and
5. a reduction in park preservation values gained by visitors and the general public, due to deterioration of natural quiet or natural sounds, visual impacts, and urbanized development.

In March 1998, we forwarded to the Director of the National Park Service suggested social impact variables to be addressed in an SEIS. We also pointed out that many of the social impacts of concern to the Park Service are also potentially related to the South Florida Ecosystem Restoration Project (Harwell 1997). The director combined our analysis with that from the ecosystem team and forwarded the recommendations to the U.S. Air Force and the Federal Aviation Administration for inclusion in the scoping document for the supplemental environmental and social impact assessment.

Assessing social impacts of development outside park boundaries

Social impact assessment is a tool to help park managers understand how development outside park boundaries changes management procedures inside. Remember, SIAs are completed *before* the development event. If a supplemental SIA were to be done, the two superintendents could develop management plans based on good population projections in both the primary and secondary ROI and knowledge about the type of urbanized development (particularly near Biscayne and affecting Biscayne Bay). The SIA would address how increased noise and air emissions due to expanded flight operations and urbanized development affect both the park experience and preservation values and detail the requirements for a buffer zone between the current urban development boundary and Biscayne.

The two superintendents would also know about the occupational mix of a commercial sector based on air transport and the infrastructure needs (water, roads, sewer, schools, etc.) that would be required for urbanized development and population growth. The assessment would address how a reduction in park preservation values might alter the local and regional tourism industry. These and other changes would be known in advance of the permit to expand the air base.

Epilogue

On December 18, 1998, the Third District Court of Appeals in Florida ruled that the construction of a commercial airport on the old Homestead Air Force base could not proceed until a full environmental and social impact assessment study of the impact of completion and operation of a commercial airport on nearby Everglades and Biscayne National Parks. The Appeals Court said Miami-Dade County had rushed through development plans at the expense of its obligation under state law to prepare management plans to protect natural resources. In their ruling, the court cited the problems of noise, lack of quiet, urban congestion, alteration of the visual environment, and increased visitor use as suggested by the three NPS social scientists in their portion of scoping for a supplemental EIA-

SIA. A draft EIA-SIA should be available for comment by Park Service personnel by early 2000. **P_S**

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