Appendix G
Socioeconomic Report

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APPENDIX G
ECONOMIC AND SOCIAL CONSIDERATIONS

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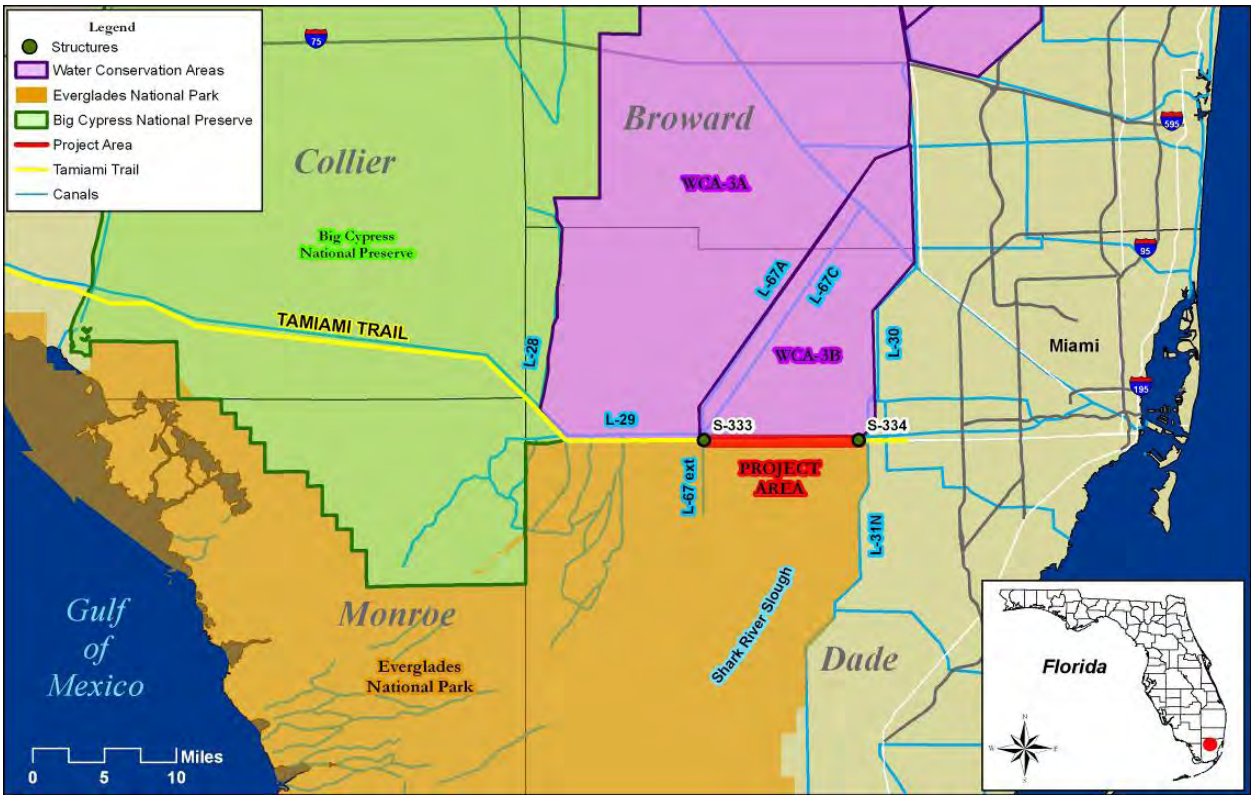
1 INTRODUCTION

Tamiami Trail is the southernmost 275 miles of U.S. 41, extending from SR 60 in Tampa to US 1 in Miami, Florida. The idea of a road connecting Florida's Gulf and Atlantic coast was proposed by Miami Capt. James Jauldon, and supported by E.P. Dickey of Tampa. Construction of the road began in 1915 and took 13 years to complete at a cost of $8 million. The Tamiami Trail officially opened on April 25, 1928.

The road provided significant contributions to south Florida's population growth and socio-economic development, but as an unintended consequence the Tamiami Trail and the Tamiami Canal constrain natural water flows from the Water Conservation Areas to Everglades National Park and Florida Bay. Consequently, the Everglades experienced substantial ecological impacts caused by the reductions in water flow. Several canals were filled and additional culverts were constructed under US 41 to help regulate water flow as a remedial measure in the 1990s.

The Tamiami Trail Modifications component of the Modified Water Delivery (MWD) project was approved in 2008. The plan recommended in the June 2008 Limited Reevaluation Report consists of two actions: a one mile bridge in the project area's eastern segment and; reinforce the remaining nine miles of the roadway so that the headwater constraint in the L-29 Canal can be raised from 7.5 ft to 8.5 ft.

The current project location is a 10.7-mile section of Tamiami Trail (U.S. Highway 41) from Structure 333 (S-333) on the west to Structure 334 (S-334) on the east. It is bordered to the north by Water Conservation Area (WCA)-3B and includes a discontinuous stretch of relatively deep marsh and slough called Northeast Shark River Slough (NESRS) in ENP (Figure 1).



2 ELEMENTS OF THE SOCIO-ECONOMIC INVESTIGATION

The intention of this report is to provide a framework which will be used to determine the socio-economic effects of the alternative ecosystem restoration plans. The following five elements will be considered: the socio-economic profile of the study area, the anticipated effects of the alternative bridge configurations on the national economic development account, an evaluation of the project costs vs. the project benefits, an evaluation of the regional economic development effects, and other social effects that may be realized by the implementation of the alternatives. This appendix is responsible for considering a variety of social conditions relevant to the project. These conditions are interconnected with the economics of the project; and are inclusive of elements such as demographics, water demand, and a variety of other considerations.

SOCIO-ECONOMIC PROFILE OF THE STUDY AREA

This profile includes population and economic forecasts for the region, using a GIS delineated zone of concern surrounding the project footprint.

ANTICIPATED EFFECTS OF ALTERNATIVE PROJECTS ON THE NATIONAL ECONOMIC DEVELOPMENT ACCOUNT:

Alternative plans could result in positive or negative impacts to net national economic efficiency due to project induced impacts to the following in South Florida:

- Agricultural Water Supply
- Municipal and industrial water supply
- Flood protection
- Recreation
- Commercial and recreational fishing
- Transportation

EVALUATION OF PROJECT COSTS VERSUS BENEFITS:

A cost/benefit analysis is conducted utilizing a production efficiency approach. Project costs include all expenditures required to implement each alternative plan. Project costs include those costs for initial construction; purchase of lands; relocations; rights of way; rehabilitation, replacement, and repair; and future operations and maintenance.

REGIONAL ECONOMIC DEVELOPMENT (RED) EFFECTS:

The Regional Economic Development (RED) effects of the Selected Alternative Plan (SAP) include changes in income, employment, or economic output of the region.

OTHER SOCIAL EFFECTS (OSE):

The potential social effects of the SAP include effects on minority, elderly, and disadvantaged groups, population displacements, and effects on community cohesion.

3 SOCIO-ECONOMIC PROFILE

This section includes a description of the local economy and demographics of the study area. This descriptive information provides insight into the study area's socio-economic characteristics, and provides part of the basis for different facets of the economic impact evaluation work in the remainder of the appendix.

The people who live in the study area, and the economic activity, in which they are engaged, comprise important components of the area's total environment. In addition to the direct use of

this data for the water use projections and other social effects mentioned above, residents of the study area represent the socio-economic environment for the other impact topics of flooding, water use shortages, fishing, recreation, and navigation.

Adverse changes in the health and condition of the natural system can cause severe negative impacts on the economic system, particularly in the study area for this feasibility study. Conversely, in this study area, beneficial changes to the natural system are expected to have a strong positive effect on the economic system. It is significant, therefore, to describe and understand the general economic and social environment within which such changes could take place. Although the main focus of economic impact evaluation efforts undertaken for this study has been to describe the economic impacts and benefits of alternatives being considered for implementation, describing the broader context for these evaluation efforts is also necessary and important.

For the purposes of this report the study area is divided into a three proximity zones based on incremental distance relative to the project area. The zones are defined as follows:

- Zone 1: Area within 3 miles of the project area.
- Zone 2: Area within 5 miles of the project area.
- Zone 3: Area within 7 miles of the project area.

These zones are further broken down into census tracts. As of this writing, the 2000 census data is most current available at the census tract level with the exception of 2007 population figures.

Much of the socioeconomic data for the study area is derived from census tract, parcel, and land use geographic information system (GIS) data. The proximity zones are a method for aggregating this data based on distance relative to the study area. A zone may incorporate a particular tract and all the data associated with it even though there is area outside the proximity of the zone in question due to overlapping.

Miami-Dade County is located in Southeastern Florida bordered by Broward County to the north, the Atlantic Ocean to the east and south, and Monroe County to the west, and Collier County to the northwest. The county encompasses 1,946 square miles of land, and 485 square miles of water. The county's interior makeup is characterized by: substantial urban development to the east along the coastline; Water Conservation Areas in the northwest corner; agricultural land concentrated in the center of the county; and Everglades National Park comprising vast portions of Miami-Dade, from the center of the county to its western and southern extents.

3.1 DEMOGRAPHICS

3.1.1 Population

Miami-Dade County has a population of 2,462,292 persons, and a population density of 1,265 persons per square mile (Florida Statistical Abstract 2008). It is the most populous county in Florida, and the eighth most populous county in United States, comprising half of the total South Florida metropolitan area population(Miami-Dade, Fort Lauderdale, and Palm Beach counties).

All counties within District 11 have slower growth rates than the state as a whole. Current trends indicate Monroe County is expected to lose population between 2007 and 2035, while Broward County is projected to grow faster than Miami-Dade. Though Miami-Dade remains Florida's most populous county, current statistics indicate the percentage of Floridians residing in Miami-Dade have declined 3.5 percent between 1980 and 2000. Furthermore, projections out to 2035 suggest that this trend will continue. See tables 1 for greater detail.

Table 1 – Projected Population Totals 2007-2035

Population Projections 2007-2035 (1,000)								
	Year							Percent Change 2007-2035
	2007	2010	2015	2020	2025	2030	2035	
Florida	18,680.4	19,308.1	20,955.9	22,477.9	23,955.1	25,340.7	26,616.6	42%
Broward	1,765.7	1,806.3	1,915.8	2,016.4	2,113.4	2,203.9	2,286.7	30%
Miami-Dade	2,462.3	2,512.3	2,645.5	2,768.3	2,886.8	2,997.2	3,098.3	26%
Monroe	79.0	78.7	77.8	77.0	76.3	75.5	74.9	-5%
% of Floridians Residing in Miami-Dade	13.18%	13.01%	12.62%	12.32%	12.05%	11.83%	11.64%	-1.54%

Source: BEBR 2008 Statistical Abstract

Although Florida's population growth rates are declining, Miami-Dade's historic and projected growth rate is significantly lower than that of the state. Population in Florida and Miami-Dade is expected to grow by almost 8 million and 636,000 respectively from 2007 to 2035. Miami-Dade is expected to remain the States most populous county even with declining population growth rates. Table 2 is illustrative of the trend of declining rates of population growth for Miami Dade County.

Table 2 – Projected Population Growth Rates 2007-2035

Average Annual Projected Population Growth Rates 2007-2035							
	Year						Avg. Annual Growth Rate 2007-2035
	2007-2010	2010-2015	2015-2020	2020-2025	2025-2030	2030-2035	
Florida	1.1%	1.7%	1.5%	1.3%	1.2%	1.0%	1.3%
Broward	0.8%	1.2%	1.1%	1.0%	0.9%	0.8%	0.9%
Miami-Dade	0.7%	1.1%	0.9%	0.9%	0.8%	0.7%	0.8%
Monroe	-0.1%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%
% of Floridians Residing in Miami-Dade	-0.4%	-0.6%	-0.5%	-0.4%	-0.4%	-0.3%	-0.4%

Source: BEBR 2008 Statistical Abstract

Southeastern Florida's densely populated urban areas and growing population have fueled the westward development of agricultural and unimproved lands to the, closer to ENP and Tamiami Trail. According to 2007 Census tract data, there are approximately 179,715 persons within 7 miles of the Tamiami Trail project area, 16 percent more than 2000 Census estimates.

Zone 1 encompasses 94 square miles and incorporates one census tract with an estimated 2007 population of 30,504 persons, up 107 percent from 2000. Tract 101.46, and is located on the eastern tip of the project area.

Zone 2 overlaps three census tracts including 101.46, accounted for in zone 1. It comprises 188 square miles and has a combined 2007 population of 61,049 persons, up 79 percent from 2000. All three tracts are located in the eastern section of the zone.

Zone 3 has an area of 307 square miles and defines the extent of the study area. It groups 22 census tracts including the aforementioned, and has a combined 2007 population of 179,715 persons, up 16 percent from 2000 figures. The combined area of the tracts exceeds the area of the proximity zone in this case, due to the inclusion of tract 115. Census tract 115 is the largest and least populous tract in the study area with a population density of 7 persons per square mile. With an estimated population of 6,446, its numbers have grown by over 24 percent between 2000 and 2007. While this tract overlaps all three proximity zones, its data is only associated with zone 3 due to the location of its geometric centroid. This tract comprises large sections of ENP and the Water Conservation Areas in the northwest section of Miami-Dade County. See table 3 for a breakdown of proximity zone population data.

Table 3 – 2007 Population data for each proximity zone

	ZONE-1	ZONE-2	ZONE-3
Zone Area (sqmi)	94	188	307
Census Tract Area (sqmi)	11	19	1,056
Population 2000	14,710	34,148	179,715
Population 2007	30,504	61,049	215,214
% Change 2000-2007	107.4%	79%	16%
Population Density 2007 (p/sqmi)	2,733	541	168

Source: U.S. Census Bureau, 2000 Decennial Census

3.1.2 Households

Miami-Dade County's household numbers are the largest in the planning district with the highest rate of growth between 2000 and 2007. However, household growth is less than that of the state as a whole during the same period. See table 4 for more detail.

Table 4 – Households 2007

	Total	Percent Change from 2000-2007	Avg. Household Size
Florida	7,443,963	17%	2.45
Broward	702,139	7%	2.48
Miami-Dade	862,750	11%	2.8
Monroe	35,610	2%	2.18

Source: BEBR 2008 Statistical Abstract

RACE & ETHNICITY: Florida's racial and ethnic make-up is essentially 80 percent white and 17 percent black as of 2007. Individuals of Hispanic origin have seen large numerical increases in recent years, and constitute a majority of the population in Miami-Dade County. See table 5 for greater detail.

As of 2000, the individuals in this area were overwhelmingly of Hispanic origin. The percentages of blacks in the study area are significantly lower than for Miami-Dade County as a whole.

Table 5 – Racial and Ethnic Make-up

Race and Ethnicity				
	Florida	**Broward**	**Miami-Dade**	**Monroe**
Population, 2007	18,680,367	1,765,707	2,462,292	78,987
Population Change, 2000-2007	16.9%	8.8%	9.3%	-0.8%
White, 2007	80.6%	65.8%	71.9%	89.4%
Black, 2007	16.6%	24.2%	19.7%	5.5%
Other, 2007	2.8%	10.0%	8.4%	5.1%
Hispanic Origin	20.8%	22.7%	61.9%	19.3%

Source: U.S. Census Bureau: 2005-2007 American Community Survey – BEBR 2008 Statistical Abstract

AGE: Current statistics illustrate an aging trend for Miami-Dade County and the state of Florida as a whole. The median age for the state of Florida and Miami-Dade County increased by 2 percent and 7 percent respectively from 2000 to 2007. Miami-Dade's median ages is the lowest in the planning district, and lower than the state as a whole. However the percentage change in its median age from 2000 to 2007 is greater than that of the state. Monroe County has the highest median age and the greatest acceleration in percentage terms during the same time period. See table 6 for greater detail.

The median age averaged for each proximity zone is between 35 and 36, similar to that of Miami-Dade County. The median age range for the 22 census tracts that constitute zone 3 are between 30 and 40.

Table 6 – Median Age

Median Age	**2000**	**2007**	**% Change**
Florida	38.7	39.9	3.10%
Broward	37.8	38.4	1.59%
Miami-Dade	35.6	37	3.93%
Monroe	42.6	45.3	6.34%

Source: U.S. Census Bureau, 2005-2007 ACS

Table 7 compares the aging trend of the three state planning districts with that of Florida as a whole. While Miami-Dade shows percentage increases in each category, the two eldest categories are significantly higher than the state as a whole and Broward County. Of individuals 65 years or older, Miami-Dade had the highest percentage increase in the planning district, and greater than the state as a whole. Only Monroe County's surpassed Miami-Dade in percentage increase in individuals of 62 years or older.

Table 7 – Aging Trends

	Florida	Broward	Miami-Dade	Monroe
	2000-2007	2000-2007	2000-2007	2000-2007
18 years and over	0.65%	-0.26%	2.13%	0.97%
21 years and over	0.68%	-0.55%	1.97%	1.74%
62 years and over	-1.97%	-7.14%	8.18%	10.67%
65 years and over	-3.98%	-11.80%	8.27%	4.11%

Source: U.S. Census Bureau, 2005-2007 ACS

Table 8 – Proximity zone demographics

	ZONE-1	ZONE-2	ZONE-3
Households	3,558	9,115	52,924
White	12,486	29,577	153,660
Black	1,246	1,726	7,463
Hispanic Origin	11,536	27,027	140,965
Median Age	36	35	35

Source: U.S. Census Bureau, 2000 Decennial Census

3.2 ECONOMY

Generally, a strong wholesale and retail trade, government and service sector characterize Florida's economy. Florida's warm weather and extensive coastline attract vacationers and other visitors, making the state a significant retirement destination for people all over the country. Agriculture is an important sector of the state's economy, and is significant to portions of the study area. Manufacturing has played less of a role in Florida in comparison to the national economy, but a high technology manufacturing has begun to emerge as a significant sector in the state over the last 15 years.

Table 11 illustrates some basic economic indicators for the state of Florida as a whole, and the counties that make up Planning District 11 based on the 2005 – 2007 American Community Survey. Table 12 illustrates similar data for at the state, county, and study area level based on the 2000 decennial census. While Monroe County has a smaller and older population, it also consistently has the lowest unemployment, and highest personal per capita and median household income of the three counties.

The 2000 decennial census data collected for the study area show significant differentiation from Miami-Dade County as a whole. The area within seven miles of the Tamiami Trail project tended to have lower unemployment, lower percentages of blacks, higher percentages of whites, and higher median household income than Miami-Dade County as a whole. Persons of Hispanic origin, tended to be substantially larger than the county average. Individuals living in this area are much less likely to be below the poverty level in comparison to the rest of Miami-Dade. While average median household income for the study area was larger, per capita income for the study area was less than that of than that of the State of Florida and Miami-Dade County. See table 12 for greater detail.

INDUSTRY EMPLOYMENT: According to the 2005-20007 American Community Survey estimates, the three most significant industrial employment sectors in the Miami-Dade economy

are: educational services and health care and social assistance (~19 %); retail trade (~ 12%); and professional, scientific, and management and administrative and waste management services (~12%). In terms of industrial employment percentages, Miami-Dade's economy is quite similar to the state of Florida as a whole. Table 9 illustrates Miami-Dade County's industrial employment numbers in comparison with the state of Florida and the other counties in Planning District 11.

Table 9 – Industrial Employment ACS 2005 - 2007

	Florida	Broward	Monroe	Miami-Dade
Civilian employed population 16 years and over	**8,204,726**	**863,562**	**39,318**	**1,083,842**
Educational services, and health care and social assistance	18.5%	17.80%	10.20%	18.90%
Retail trade	12.8%	13.10%	13.30%	11.40%
Professional, scientific, and management, and administrative and waste management services	11.5%	12.50%	10.00%	11.80%
Arts, entertainment, and recreation, and accommodation, and food services	10.4%	9.50%	21.40%	9.10%
Construction	10.3%	8.40%	9.40%	9.20%
Finance and insurance, and real estate and rental and leasing	8.5%	9.40%	8.80%	8.50%
Manufacturing	5.9%	5.50%	2.00%	5.70%
Transportation and warehousing, and utilities	5.1%	5.70%	7.60%	7.60%
Other services, except public administration	5.1%	5.60%	3.70%	6.00%
Public administration	4.8%	4.50%	9.00%	3.80%
Wholesale trade	3.6%	4.80%	2.20%	5.20%
Information	2.4%	3.10%	1.00%	2.30%
Agriculture, forestry, fishing and hunting, and mining	1.0%	0.20%	1.60%	0.50%

Source: U.S. Census Bureau: 2005-2007 American Community Survey

Statistics on industry employment at the census tract level is available only on a decennial basis. In order to compare the study area industrial employment with state and regional, it was necessary to use the 2000 figures. The study area is fairly representative of Miami-Dade and the state as a whole in terms percentages of industrial employment.

According to 2000 census tract data there is little variation between the industrial employment make-up of the study area and Miami-Dade County. The only relatively significant difference in industrial employment between Miami-Dade and the study area is in the arts, entertainment, recreation and food services sector. Miami-Dade as a whole surpasses the study area by almost 3 percentage points in this area of industrial employment. Table 10 provides greater detail on the comparison between study area, county, and state industrial sector employment.

Table 10 – Industrial sector employment by state, county, and study area

	Florida	Broward	Monroe	Miami-Dade	ZONE-1	ZONE-2	ZONE-3
Employed civilian population 16 years and over; Number	6,995,047	758,939	41,181	921,208	6,005	14,824	78,147
% Educational, health and social services	18.1%	17.8%	11.9%	18.0%	14.9%	17.4%	17.1%
% Retail trade	13.5%	14.1%	12.9%	12.3%	14.5%	12.8%	14.0%
% Professional, scientific, management, administrative, and waste management services	10.6%	11.7%	8.3%	11.6%	10.7%	11.9%	11.3%
% Arts, entertainment, recreation, accommodation and food services	10.5%	9.2%	22.3%	9.1%	4.0%	5.6%	6.7%
% Finance, insurance, real estate, and rental and leasing	8.1%	9.1%	6.8%	8.0%	15.2%	12.8%	9.9%
% Transportation and warehousing, and utilities	5.3%	5.7%	5.9%	7.5%	10.6%	9.5%	8.7%
% Manufacturing	7.3%	6.7%	2.0%	7.1%	5.9%	5.0%	5.9%
% Construction	8.0%	7.4%	9.3%	6.9%	7.3%	5.9%	6.6%
% Wholesale trade	4.0%	4.6%	2.3%	6.0%	6.3%	7.3%	6.7%
% Other services (except public administration)	5.1%	5.4%	5.0%	5.6%	3.0%	4.4%	5.1%
% Public administration	5.2%	4.5%	7.9%	4.1%	4.7%	3.7%	3.9%
% Information	3.1%	3.7%	2.1%	3.1%	2.8%	3.5%	3.4%
% Agriculture, forestry, fishing and hunting, and mining	1.3%	0.3%	3.5%	0.7%	0.1%	0.1%	0.8%

Source: U.S. Census Bureau: 2005-2007 American Community Survey

UNEMPLOYMENT: The unemployment rate for Florida and Miami-Dade was 6 percent, and 6.3 percent respectively according to American Community Survey 2005 to 2007 three year estimates. Monroe County had the lowest unemployment for Planning District 11 at 2.8 percent. See table 11 for greater detail.

Unemployment rates for the proximity zones tended to be lower than Miami-Dade County and the State of Florida for 2000 ranging between 2 and 4 percent for the year 2000.

PER CAPITA INCOME: Personal per capita income in Florida is $26,125 but somewhat lower for Miami-Dade County at $22,479. Monroe and Broward County had higher personal per capita income than the state of Florida and Miami-Dade at $39,254, and 27,950 respectively. Table 10 displays some key economic indicators for District 11.

According to 2000 census figures, personal per capita incomes averaged for the census tracts that constitute zones 1, 2, and 3 was 17,580, 18299, and 17,025 respectively. Per capita income for the study area was less than Miami-Dade, and the state of Florida as a whole.

MEDIAN HOUSEHOLD INCOME AND POVERTY: Of the three counties, Monroe County had the highest median household income at $55,550 with Broward coming in next at $51,221. Miami-Dade was alone in having lower median household income than the state average of $46,602 as a whole, at $41,943. Monroe's percentage of residents living below the poverty level was 6 percent, the lowest in the region. Miami-Dade had the largest percentage of residents living below the poverty level in the region at 13.2 percent.

Table 11 – Regional economic indicators 2005 - 2007

	Florida	Broward	Miami-Dade	Monroe
Population-2007 (1,000)	18,680.4	1,765.7	2,462.3	79.0
Unemployment (ACS 2005-2007)	6.0%	6.0%	6.3%	2.8%
Per Capita Income (ACS 2005-2007)	26,125	27,950	22,479	39,254
Median Household Income (ACS 2005-2007)	46,602	51,221	41,943	55,550
% Below Poverty Level (ACS 2005-2007)	12.6%	11.3%	13.2%	6.1%
White	80.6%	65.8%	71.9%	89.4%
Black	16.6%	24.2%	19.7%	5.5%
Hispanic Origin	20.1%	22.7%	61.9%	18.0%

Source: U.S. Census Bureau: 2005-2007 American Community Survey – BEBR 2008 Statistical Abstract

The average median household income for the census tracts constituting the study area was larger than that of Miami-Dade County by almost $13,000 according to 2000 census tract data. While the percentage of people below the poverty level was 18 percent for Miami-Dade, it was 8.3 percent for the census tracts constituting the study area. See table 12 for greater detail.

Table 12 – Population and economic indicators 1999-2000

	Florida	Broward	Monroe	Miami-Dade	ZONE-1	ZONE-2	ZONE-3
2000 Population	15,982,378	1,623,018	79,589	2,253,362	14,710	34,148	179,715
% Unemployment	3.2%	3.3%	2.0%	5.0%	2.5%	3.3%	4.1%
PerCapita Income	21,557	23,170	26,102	18,497	17,580	18,299	17,025
Median Household Income	38,819	41,691	42,283	35,966	60,679	58,602	48,788
% Below Poverty	12.5%	11.5%	10.2%	18.0%	3.4%	4.8%	8.3%
Total Housing Units	7,302,947	741,043	51,617	852,278	3,665	9,374	54,759
Households	6,337,929	654,445	35,086	776,774	3,558	9,115	52,924
White	78.0%	70.6%	90.7%	69.7%	84.9%	86.6%	85.5%
Black	14.6%	20.5%	4.8%	20.3%	8.5%	5.1%	4.2%
Hispanic Origin	16.8%	16.7%	15.8%	57.3%	78.4%	79.1%	78.4%

3.3 LAND USE

The existing land use within the study boundaries varies from preserve lands to agricultural and industrial urban uses. Vast portions of South Florida remain natural, although much of it is disturbed land. The dominant natural features are the Everglades National Park and Biscayne National Park, along with Biscayne and Florida Bay and remnant and remnant freshwater and coastal wetland and upland systems within and adjacent to the developed areas along the coast. For the most part, urban development is concentrated along the lower east coast of Miami-Dade County.

Although there is substantial agricultural acreage in southwestern Miami-Dade County, rapid population growth and land development practices have resulted in westward and southward urban sprawl. The once significant rural population in western areas of Miami-Dade County is evolving into an urbanized makeup, as evidenced by the population changes in the census tracts that comprise the study area between 2000 and 2007.

Land use in Miami-Dade was compiled based on 2004 – 2005 GIS data attributed according to the Florida Land Use, Cover, and Forms Classification System (FLUCCS). The most significant land use and cover categories in Miami-Dade County are wetlands, urbanized development, water resources, and agriculture. Almost 60 percent of the land cover in Miami-Dade County is classified as wetland. These areas make up the ENP and Water Conservation Areas in the western part of the county. Urban development constitutes 16 percent of Miami-Dade's land use, and while starting to move westward, is still concentrated on the coast.

Table 13 – Land use in Miami-Dade County and the study area

Land Use	Miami-Dade		ZONE-1		ZONE-2		ZONE-3	
	Total Acres	1,461,378	Total Acres	60,106	Total Acres	120,266	Total Acres	196,499
	Acres	%	Acres	%	Acres	%	Acres	%
Urban Development	238,047	16.3%	731	1.2%	5,862	4.9%	18,072	9.2%
Agriculture	77,349	5.3%	-	0.0%	1,035	0.9%	3,766	1.9%
Rangeland, Shrub and Brushland, Abandoned Groves	19,268	1.3%	102	0.2%	168	0.1%	240	0.1%
Upland Hardwood Forests, Melaleuca, Australian Pine, etc.	15,640	1.1%	-	0.0%	154	0.1%	264	0.1%
Reservoirs, Lakes, Canals	221,789	15.2%	662	1.1%	1,616	1.3%	2,352	1.2%
Wetlands, Wetland Hardwood Forest, Marshes, etc.	856,904	58.6%	58,216	96.9%	110,995	92.3%	170,475	86.8%
Barren Land, Levees	2,582	0.2%	350	0.6%	479	0.4%	661	0.3%
Roads,Communications,Power Lines	29,799	2.0%	45	0.1%	111	0.1%	933	0.5%

Source: SFWMD GIS Data 2004-2005

MIAMI-DADE COUNTY LAKE BELT: The Lake Belt area is located on the western boundary of the Miami-Dade County urbanized area. Its wetland and lake areas offer the possible protection to the Everglades from negative externalities resulting from urban development. Approximately half of the limestone used in Florida is mined from this area. The Northwest Wellfield, located on the eastern section of the Lake Belt area, is the largest drinking water wellfield in the state and

supplies 40 percent of Miami-Dade County's potable water. Half the land in the Lake Belt Area is owned by the mining industry, a quarter of the land is owned by government agencies, and the rest is owned by private landowners.

HOMESTEAD AIR RESERVE BASE: Homestead Air Reserve Base is a major economic presence in southeast Miami-Dade Region. Since 1994, the Department of Defense has expended approximately $100 million in new construction infrastructure improvements on the base. The military provides an economic boost of $120 million a year for homestead and Florida City. In 2003, there were 1,776 total personnel at the base with an annual payroll of $84,000,000. The base is a 2,200-acre stand alone Air Force Reserve Command owned and operated installation.

3.4 WATER DEMAND

In the study area, surficial aquifers supply the majority of water for urban use. Rainfall is the primary supporter of the agriculture water demand is South Florida and surficial waters meet the majority of the irrigation demands in the watershed. Salinity intrusion is becoming a predominant problem for water supply. In the lower east coat area, salinity intrusion has resulted from two major causes. One major cause is the lowering of the ground water table in the area due to drainage and reduced recharge as well as the increased withdrawal of water by pumping. The second reason is the construction of numerous drainage and navigation canals from inland areas to the coastal waters. Water shortages and restrictions are implemented during low rainfall periods or droughts. Sea level rise is likely a third cause. For the purpose of this report, municipal and industrial (M&I) and agricultural water demand will be assessed.

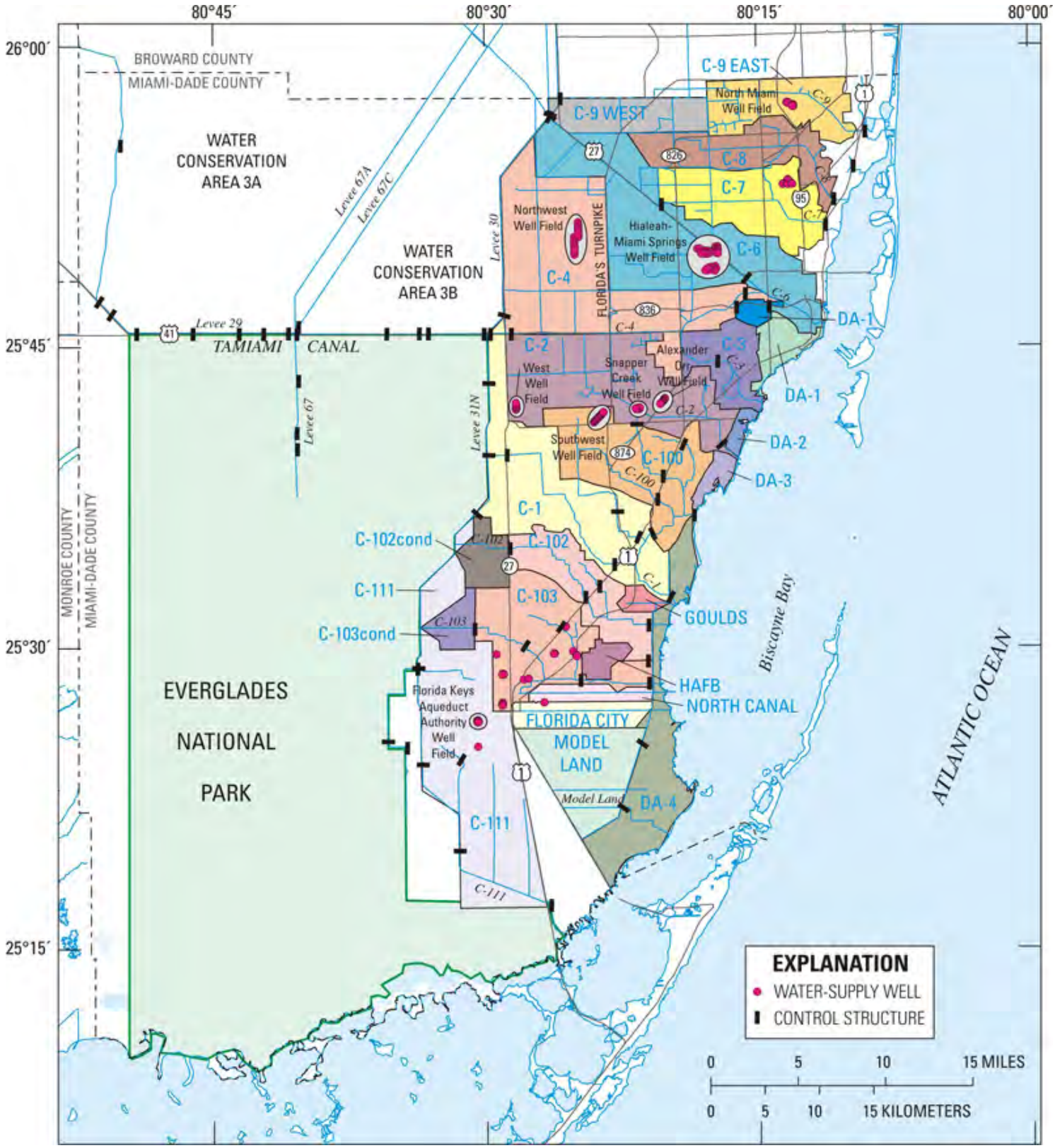
3.4.1 Municipal and Industrial Water Demand:

The U.S. Geological Survey (USGS) estimates annual water withdrawals at the county level for Florida every five years. Water use estimates for 2005 for Florida and the three counties that constitute District 11 were obtained from the USGS. These uses are distributed as public and self supply domestic, commercial, industrial, mining, government, and recreational estimates along with water loss estimates. Table 14 presents the USGS estimated 2005 water use for the Southeast Florida region. Total public supply, and total M&I water use for the region is estimated at 664 million gallons per day (mgd) and 2,376 mgd respectively. Miami-Dade's M&I water demand is the largest in the region in public supply, at 400 mgd, and self supplied domestic (3 mgd), commercial, industrial, and mining (40 mgd). Broward County leads the region in self supplied power generation (1,529 mgd), and recreation water demand (37 mgd).

Table 14 – Water demand in Planning District 11

	Municipal and Industrial						Agriculture	Grand Total
	Public Supply	Self-Supply				Sub Total		
		Domestic	Commercial, Industrial, Mining	Power Generation	Recreation			
Florida Total	**2,540.52**	**185.45**	**489.52**	**12,042.44**	**329.64**	**15,587.57**	**2,766.18**	**18,353.75**
Broward	263.57	0.43	0.25	1,529.21	36.99	1,830.45	7.66	1,838.11
Miami-Dade	400.01	2.78	40.08	88.06	13.40	544.33	58.06	602.39
Monroe	-	-	0.04	-	1.63	1.67	0.05	1.72

Source: USGS published data, 2005


80°45´
80°30´
80°15´
80°00´
26°00´
25°45´
25°30´
25°15´
BROWARD COUNTY
MIAMI-DADE COUNTY
WATER CONSERVATION AREA 3A
WATER CONSERVATION AREA 3B
Levee 67A
Levee 67C
Levee 30
Levee 29
TAMIAMI CANAL
Levee 67
Levee 31N
FLORIDA'S TURNPIKE
C-9 EAST
C-9 WEST
C-8
C-7
C-6
C-4
C-2
C-3
C-1
C-100
C-102
C-102cond
C-111
C-103
C-103cond
DA-1
DA-2
DA-3
DA-4
North Miami Well Field
Northwest Well Field
Hialeah-Miami Springs Well Field
West Well Field
Snapper Creek Well Field
Alexander Orr Well Field
Southwest Well Field
Florida Keys Aqueduct Authority Well Field
GOULDS
HAFB
NORTH CANAL
FLORIDA CITY
MODEL LAND
Biscayne Bay
ATLANTIC OCEAN
EVERGLADES NATIONAL PARK
MONROE COUNTY
MIAMI-DADE COUNTY
EXPLANATION
WATER-SUPPLY WELL
CONTROL STRUCTURE
0 5 10 15 MILES
0 5 10 15 KILOMETERS

3.4.2 Agriculture Water Demand

Rainfall is the primary supporter of the agricultural water demand in South Florida, providing approximately 59 inches per year along the Lower East Coast. Surficial waters provide the majority of the irrigation demands in the water shed. However, surficial supplies are inadequate at some time nearly every year. During droughts, agriculture water users have higher irrigation demands, yet water supplies are usually at their lowest levels. As a result, water shortage management policies are implemented, restricting the use of water by agriculture water users. This can lead to reduced crop yields and economic damages.

The Lower East Coast receives significant groundwater recharge via easterly seepage from the Water Conservation Areas under the north-south levee system. When prolonged droughts occur, significant volumes of water form Lake Okeechobee can be required by the Lower East Coast to supplement local water supplies and prevent saltwater intrusion into well fields.

3.5 RECREATION

The South Florida region (Broward, Miami-Dade, and Monroe counties) includes the approximately 7,500 square miles at the southernmost tip of the state. This region includes the Everglades and the Florida Keys, areas with significant natural beauty and recreational value. The region also encompasses Biscayne Bay, and nearly 70 miles of Atlantic Ocean Beach.

The region provides substantial opportunities for outdoor resource based recreation. Among the numerous activities available are diving, snorkeling, camping, hiking bicycling, boating and hunting. The Atlantic Ocean and numerous bays afford are significant opportunities for saltwater beach recreating.

Region 11 boasts over 3 million acres of land and water resources for outdoor recreation use. The federal government supplies nearly 70 percent of the available total. A vast portion of this acreage constitutes Everglades National Park. State government agencies supply nearly one million acres of outdoor land and water recreation resources, sustaining activities such as hunting, hiking, nature trails, and freshwater boat ramps.

The State Comprehensive Outdoor Recreation Plan (SCORP) is the best source of information on recreation demand and supply at the state and regional level. It disaggregates the state into 11 regions composed of clusters of counties. Region 11 is composed of Broward, Miami-Dade, and Monroe counties. Table 11 presents descriptive information on the recreation facilities in SCORP Region 11.

Table 15 – Regional Outdoor Recreation Facilities - Region 11, 2007

Resource/Facility	Units	Region 11	% of State Total	State Total
Outdoor Recreation Areas	Areas	2,054	16%	13,235
Land	Acres	1,796,151	19%	9,624,923
Water	Acres	1,350,609	37%	3,667,645
Outdoor Recreation Acres	Acres	3,146,974	24%	13,313,762
Cabins	Cabins	382	9%	4,171
Tent Camp Sites	Sites	1,290	6%	20,044
Rv Campsites	Sites	12,207	8%	162,041
Historic Sites	Sites	108	8%	1,328
Commem Structures	Structures	40	13%	318

Resource/Facility	Units	Region 11	% of State Total	State Total
Museums	Museums	71	14%	516
Picnic Tables	Tables	14,258	12%	116,086
Hunting Areas	Acres	698,451	13%	5,287,600
Bike Trail Paved	Miles	404	28%	1,425
Bike Trail Unpaved	Miles	74	3%	2,383
Canoe Trail	Miles	292	13%	2,295
Hiking Trail	Miles	420	8%	5,424
Equestrian Trail	Miles	139	6%	2,361
Jogging Trail	Miles	191	14%	1,326
Ohv Trail	Miles	0	0%	833
Nature Trail	Miles	254	10%	2,475
Freshwater Beach	Miles	3	4%	60
Freshwater Boat Ramps	Ramps	110	6%	1,739
Freshwater Boat Ramps	Lanes	144	7%	2,049
Freshwater Catwalks	Catwalks	45	1%	7,947
Freshwater Marinas	Marinas	7	2%	457
Freshwater Marinas	Slips	325	3%	11,762
Freshwater Piers	Piers	39	7%	569
Saltwater Beach	Miles	68	14%	501
Saltwater Boat Ramps	Ramps	202	22%	939
Saltwater Boat Ramps	Lanes	283	22%	1,268
Saltwater Catwalks	Catwalks	65	10%	631
Saltwater Marinas	Marinas	334	36%	937
Saltwater Marina Slips	Slips	13,965	31%	45,716
Saltwater Piers	Piers	72	17%	412

Source: Florida Department of Environmental Protection 2007 SCORP

Table 16 – Demand and facility needs (2007-2020) – Selected Recreation Activities (SCORP Region 11)

Activity	Units	Percent Participation		Demand (User Occassions)		Resources / Facility Needs	
		Residents	Tourist	2007	2020	2007	2020
Hunting	Acres	5.4%	0.0%	233,383	263,442	0	89956
RV/Trailer Camping	Camp Sites	6.9%	1.5%	526,687	622,265	0	2215
Tent Camping	Camp Sites	17.7%	1.2%	947,524	1,091,754	0	196

Activity	Units	Percent Participation		Demand (User Occassions)		Resources / Facility Needs	
		Residents	Tourist	2007	2020	2007	2020
Hiking	Miles	18.7%	4.9%	1,541,126	1,828,394	0	78
Horseback Riding	Miles	6.4%	0.0%	275,817	311,340	0	18
Nature Study	Miles	44.8%	21.9%	5,375,525	6,484,015	0	52
Canoeing	N/A	15.3%	1.8%	933,302	1,086,798	N/A	N/A

Source: Florida Department of Environmental Protection 2007 SCORP

4 ECONOMIC EFFICIENCY ANALYSIS

The potential economic benefits of the alternative plans are secondary consequences of the environmental improvements and hydrologic changes that are expected to result from the structural and operational modifications to the Tamiami Trail project study area. The projected impacts are contingent upon the successful implementation and operation of restoration plans and subsequent outputs and are subject to the uncertainties inherent in those ecosystem restoration activities. Calculating the resulting monetary benefits is a challenge due to the innate difficulties of quantifying ecosystem restoration benefits. Nonetheless, there are methods for evaluating the economic production efficiencies of alternative plans, when considering non-monetary returns on investment.

Cost effectiveness and incremental cost analyses (CE/ICA) reveal information about good financial investments given the dollar costs and non-dollar outputs ("benefits") of alternative investment choices for an ecosystem restoration project. This analysis is useful in lending support to identifying the plan that is the most efficient at production a given output. The analyses are conducted in a series of steps that progressively identify alternatives that meet specified criteria and screen-out those that do not.

A cost effectiveness analysis is conducted to ensure that least cost alternatives are identified for various levels of environmental output. Cost effectiveness analysis begins with a comparison of the annual costs and annual outputs of alternatives to identify the least cost plan for every level of output considered. Alternative plans are compared to identify those that would produce greater levels of output at equal or lower costs than other alternatives. Next, through incremental cost analysis (ICA), the cost effective alternative plans are compared to successively identify the alternative plans with the least additional cost per additional output that is, the plans that are the most efficient in production of output. The results of these calculations and comparisons of costs and outputs between alternative plans provide a basis for addressing the decision question "Is it worth it?" i.e., are the additional outputs worth the costs incurred to achieve them?

For this analysis, the alternative restoration plans are compared using information in both monetary and non-monetary units. The economic analysis of the alternative restoration plans include: the construction costs (in monetary terms), and the anticipated environmental benefits resulting from restoration measures (in non-monetary terms). The economic basis for making policy decisions about the magnitude of investing public funds in ecosystem restoration for this project is comparing monetary costs and non-monetary benefits in order to determine whether the expenditure is justified and to select the plan which minimizes the cost of obtaining ecosystem benefits.

4.1.1 Evaluation of Project Costs

Project costs include all **e**xpenditures necessary for the implementation of the alternative plans. These include both real estate and construction expenditures.

4.1.2 Evaluation of Project Benefits

The principal challenge of ecosystem restoration economics is estimating the value of restoration benefits. The primary purpose of each alternative plan is ecosystem restoration. For decision-making purposes, it would be desirable to express ecosystem restoration benefits in monetary terms, in order to compare them with project costs. Expressing the costs and benefits of alternatives in a common, monetary metric would facilitate selection of the best restoration plan for a given site. However, calculating the monetary value of environmental amenities is both difficult and controversial. Nevertheless, the tremendous interest in and support for ecosystem restoration, not just in south Florida but throughout the country (and the world), is an indication that a broad segment of society values the ecosystem, even though most have never experienced the area first hand.

The project output that is used for the economic efficiency determination for this analysis is derived from a system called Choosing-By-Advantages (CBA). CBA quantifies the relative importance of non-monetary advantages or benefits for a set of alternatives and allows subsequent benefit and cost consideration during decision-making. CBA is the preferred evaluation method of the National Park Service where critical non-monetary benefits need to be evaluated (see Appendix B - Choosing By Advantages and Value Analysis Report, of the Final Environmental Impact Statement).

4.1.3 Economic Production Efficiency Analysis

Cost Effectiveness Analysis

Cost effectiveness analysis begins with a comparison of the construction and projected outputs of alternatives to identify the least cost plan for every level of output considered. Alternative plans are compared to identify those that would produce greater levels of output at equal or lower costs than other alternative plans. The three criteria for cost effectiveness screening:

1. The same output level could be produced by another plan at less cost;
2. A larger output level could be produced at the same cost; or
3. A larger output level could be produced at less cost.

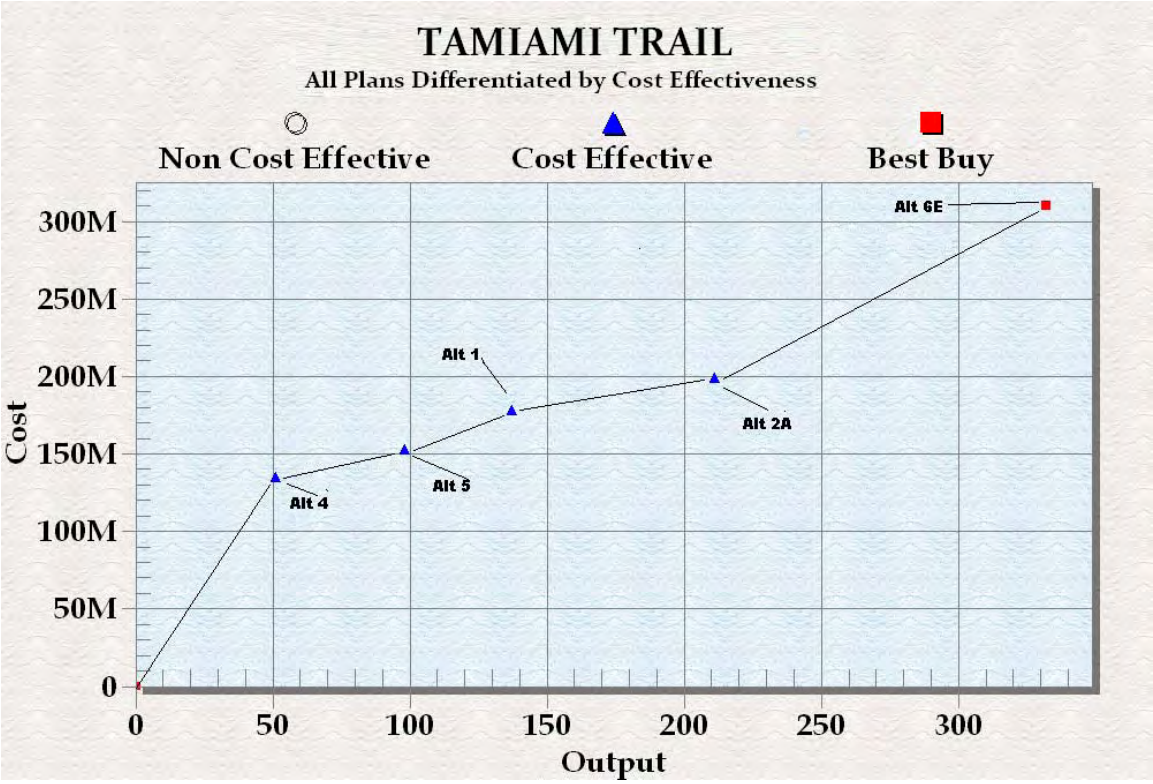
The CE process involves arraying alternatives by increasing costs with their corresponding output. Table 17 displays the final array of alternative utilized in the TT Next Steps analysis

Table 17 – Final Array of Alternative Utilized in the Cost Effectiveness Analysis

ID	Total Cost	Importance Score	Lift over no-action	Cost per lift	Cost Effective
No Action	0	70			
Alt 4: 1.0 mi	135,400,000	121	51	$2,655,000	Yes
Alt 5: 1.5 mi	152,800,000	168	98	$1,559,000	Yes
Alt 1: 2.2 mi	178,600,000	207	137	$1,304,000	Yes
Alt 2A: 3.3 mi	199,000,000	281	211	$943,000	Yes
Alt 6E: 5.5 mi	309,900,000	402	332	$933,000	**Most Efficient**

The lowest cost plan (construction related cost) with positive output was identified as the first cost effective plan, in this case Alternative 4. The next costly plan (Alternative 5) was then compared against this plan. Since Alternative 5 contains greater output than Alternative 4, this plan was also identified as cost effective. The remaining plans were then be evaluated against this plan and so on. As can be seen from this analysis all plans were identified as cost effective.

The following graph contains a visual depiction of the cost effectiveness analysis. The graph plots the output of each plan against the cost of each plan.



Incremental Cost Analysis

From the remaining cost effective alternatives, the plan with the lowest incremental costs per unit of output (cost per lift) of all plans is determined to be the most efficient at production (Alternative 6E). This is the only identified best buy plan, since it is also the plan that contains the least cost per unit of output with no larger incremental plan. This plan is identified as the plan that is the most efficient as relating to its' importance factor.

4.2 RECREATION

Outdoor recreation in Florida includes many different activities. A common way of differentiating outdoor recreation activities is to classify them "user oriented" or "resource oriented". User oriented recreational activities such as individual and team sports are not natural resource dependent, and can be located on almost any open site, space permitting. Resource based activities such as hunting, and fishing depend on the existence, and quality of supporting natural resources. The economic value of resource based recreation is determined by the user's willingness to pay for a recreation occasion. The willingness of current and potential users to pay for resource based recreation of specific quantity and quality constitutes the demand for that type of recreation. The interaction of demand with the quantity and quality of recreation resources available determines the recreation use, or "participation" levels for that resource based activity. When the quantity and quality of recreation resources is modified by a project,

the change in the value of resource based recreation is based on the willingness of users to pay under the with- and without-project conditions.

The 10.7 mile Tamiami Trail study area contains three major airboat concessions that operate to provide guided education eco-tours of the Everglades. The concessions from east to west are Coopertown, Gator Park and Everglades Safari Park. Visitors to the concessions range from drive-up visitors to tour groups from major American and European tour operators and cruise lines. The airboat concessions are a significant means by which the public experiences the Everglades. After preliminary discussions with the tour boat operators, it was identified that there are as many as 500,000 visitors utilizing the concessions annually, with a large proportion of the visits coming from international visitors. All of the Alternatives will maintain access to the concessions.

4.3 WATER SUPPLY

A key design criterion and goal throughout the development of the bridging components has been that Municipal & Industrial water supply will remain the same or be increased with the plan implemented as compared to without the plan in place. No reduction in the amount of water available to municipal and industrial properties will be caused by implementation of the alternative plans. It possible that the groundwater level may rise as a result of the selected alternatives, in turning yielding more water for the ecosystem and potentially more water available for Municipal and Industrial usage. The level of water that would be made available to M&I usage is unknown at this time, but believed to be minimal, causing little if any benefits.

4.4 FLOOD PROTECTION IMPACTS

A key design criterion and goal throughout the development of the project components has been that flooding of developed areas will remain the same or improve with the plan implemented as compared to without the plan. No flooding of residential or commercial properties is anticipated to be caused by implementation of any of the alternatives. With the exception of Tigertail Camp, Osceola Camp and the airboat concessions, there are no private residences west, north, or south, of the project footprint

4.5 TRANSPORTATION

The Tamiami Trail serves as a major part of South Florida's transportation infrastructure. In addition to providing a major transportation link between South Florida's east and west coast population centers, it serves as a scenic byway providing travelers with 50 miles of picturesque landscape and wildlife viewing opportunities.

Using State Road 60 near Tampa as an initial reference point, Tamiami Trail is the final 275 miles of US Highway 41. Starting from Tampa, it passes through Gibsonton, Ruskin, Bradenton, Sarasota, Naples, and terminates in Miami. The highway provides passage through Big Cypress National Preserve, and a Miccosukee Indian Tribe reservation. As the trail bisects Miami-Dade County, it forms the northern boundary of Everglades National Park, and the southern boundary of Water Conservation Area 3.

The segment of highway in Miami Dade County is located approximately 26 miles south of Interstate 75, another major east-west route across the South Florida. To the south is US Highway 1, which intersects the Tamiami Trail in eastern Miami-Dade County and provides thoroughfare to the Florida Keys.

While Tamiami Trail handles considerably less east west traffic than I 75 and US 1, it is a major highway in South Florida. Immediately north of the study area, I 75 averages annual daily traffic volumes of 21,709 vehicles, and annual daily truck traffic of 2,230 vehicles. South of the study area, US 1 averages annual daily traffic volumes of 18,200 vehicles per day, and annual daily

truck traffic of 1,682 vehicles. The eastern section of the highway between SR 997 and US 1 handles traffic volumes as high as 70,000 vehicles and nearly 4,300 trucks per day. As the trail extends westward from Miami-Dade's urban areas, traffic volumes become significantly less. Within the project area, the trail handles average annual daily traffic of 5,200 vehicles and over 600 trucks per day. Westward of the project area, traffic volumes dwindle to 2,200 vehicles and 327 trucks per day, but increase as the highway approaches Naples and the other populated areas along the Gulf.

The Tamiami Trail project alternatives are not expected to have any significant transportation impacts. Elevating the highway embankment to a crown elevation of 12.3 feet, and maintaining FDOT standards for roadway geometry will require expanding the roadway south between 0 to 48 feet based on preliminary estimates. Bridges would be offset approximately 50 feet to the south from the existing highway centerline to maintain vehicle passage during construction. Ramps to the bridge or elevated roadway will be provided for existing facilities. Any future configuration of roadway is anticipated to maintain the existing speed limit through the study area.

5 REGIONAL ECONOMIC IMPACTS

5.1.1 Overview

This chapter examines the potential effects of the alternative plans on the RED account. The RED account registers indirect and secondary effects to the region that are expected to result from the direct expenditures of the alternative plans. Direct economic effects represent the impacts of economic stimuli in terms of changes in regional industrial output, earnings, or employment. Indirect economic impacts represent the resultant economic changes in the industries that support and rely upon the industries directly affected by the stimuli. In addition, induced economic impacts are those impacts experienced by all local industries as direct and indirect effects alter household income and ultimately change local household spending patterns.

5.1.2 Methodology

A regional input-output model, *IMPLAN*, was used to estimate the RED effects of the alternative plans. Regional input-output (I-O) analysis provides the classic tool for tracing economic impacts throughout the regional economy. Based on the region's industrial structure, I-O analysis tracks the expected inter-industry flow of goods and services. For the RED analysis, the regional economy was defined as encompassing Miami-Dade County using *IMPLAN*. Using county-level economic data, which was procured from the software vendor, the model was used to estimate the economic effects of the SAP on wages, employment, and production output (sales). Specifically, *IMPLAN* was employed in a four-part methodology to: (1) describe the study area economy, (2) create economic scenarios, (3) introduce economic changes, and (4) estimate resulting direct, indirect, and induced economic effects.

5.1.2.1 Real Estate and Effects of Other Land Acquisitions

Real estate sales may result in various impacts to the local economy. The sale of land may be regarded as a simple change in which the owner held the value in real estate and now holds an equal value in cash. If the cash is spent locally or reinvested in regional enterprise, then new economic activity might be stimulated in the region and even more funds might be leveraged by the enterprise.

Alternatively, a real estate transaction resulting in a transfer of funds into a regional bank may experience a general economic expansion in the region as supported through the banking multiplier if the funds are invested locally. If, however, there is foreign or corporate land ownership, then the expansionary effects of large transfers of funds may not occur in the study area. A similar result would occur if funds were held in a foreign bank. Additionally, if the land is owned by a governmental agency, then it may just be a land transfer resulting in very little regional economic effect.

Due to the ambiguity of the ultimate use of real estate funds, the expenditures on land were not input into the IMPLAN model. Therefore, the regional impacts of real estate purchases were assumed to be minimal and not calculated. If it were possible to know more about the future use of these funds, expenditures for land, commissions, leases, appraisal fees, title fees, and other administrative activities involved with real estate, those values could be used in the *IMPLAN* analysis or another model. However, even with a higher degree of certainty regarding the future of this knowledge, it is anticipated that the financial inputs would be marginal, and any regional impact model would have significant reliability concerns.

The total construction expenditures are listed in ***5.1.3.*** The anticipated Regional Economic Effects would be a one time injection into the local economy, lasting the duration of the construction, and would cease upon the completion of construction

5.1.3 IMPLAN Regional Economic Effects Results

RED effects have only been calculated for construction expenditures and not for changes resulting from impacts to navigation, water usage, flood control or real estate expenditures. Economic impacts to total industry output and employee compensation are expected to persist through each year of construction. Wages include salaries, non-wage compensation, and benefits. Employment is measured as the number of jobs, not necessarily full-time equivalents.

Table 18and ***Table 19*** present the *IMPLAN* output for direct, indirect, and induced impacts of the alternatives on employee compensation and regional output (sales), and ***Table 2*** provides an indicator of the employment effects of the construction expenditures. These impacts account for less than one percent of total economic activity in each of the different output categories.

Table 18 – Direct, Indirect and Induced Impacts on Employee Compensation as a Result of IMPLAN Model Runs (2007 Dollars)

Alternative	Direct	Indirect	Induced	Total
1	$35,357,666	$15,871,179	$13,481,327	$64,710,171
2	$40,839,474	$18,331,826	$15,571,455	$74,742,755
4	$23,297,687	$10,457,753	$8,883,045	$42,638,485
5	$28,231,314	$12,672,336	$10,764,160	$51,667,811
6	$71,263,512	$31,988,422	$27,171,666	$130,423,600

Table 19 – Direct, Indirect and Induced Impacts on Regional Output as a Result of IMPLAN Model Runs (2007 Dollars)

Alternative	Direct	Indirect	Induced	Total
1	$129,000,000	$45,099,876	$44,154,139	$218,254,015
2	$149,000,000	$52,092,105	$50,999,742	$252,091,847
4	$85,000,000	$29,716,973	$29,093,813	$143,810,785
5	$103,000,000	$36,009,979	$35,254,855	$174,264,834
6	$260,000,000	$90,898,975	$88,992,839	$439,891,814

Table 20 – Direct, Indirect and Induced Impacts on Employment as a Result of IMPLAN Model Runs (2007 Dollars)

Alternative	Direct	Indirect	Induced	Total
1	1,105	365	371	1,841
2	1,276	422	428	2,126
4	728	241	244	1,213
5	882	292	296	1,470
6	2,227	736	747	3,710

6 OTHER SOCIAL EFFECTS

The other social effects account considers the effects of alternative plans in areas that are not already contained in the NED and regional economic development accounts. The alternative plans could result in either beneficial or adverse other social effects within the study area. The categories of effects contained within the other social effects account include:

- Urban and community impacts including effects on income, employment and population distribution
- Life, health, and safety factors
- Displacement, Long-term productivity
- Energy requirements and energy conservation

Project alternatives have the potential to raise property values in the surrounding area, increase attractiveness to the community, increase recreational opportunities, and improve environmental health such as water and air quality among other impacts. All of these factors could influence the demographics of the surrounding community which may or may not have implications for environmental justice issues.

The alternatives of this project all require an increased roadway footprint. Despite the area needed, there is currently very little development and population in the immediate project area; this will help to avoid any adverse social effects. All alternatives are being formulated to minimize impact on the Tigertail and Osceola Camps and the Airboat Association, and limit any adverse impacts to the Florida Gladesmen.

6.1 Overall Regional Economic Impact Conclusions

All of the selected alternative plans would have some positive effect on employment, gross output and the gross regional product of Miami-Dade County; and to a lesser extent, the State of Florida, and any social impacts would be minimal.

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