

CENTRAL AND SOUTHERN FLORIDA PROJECT COMPREHENSIVE EVERGLADES RESTORATION PLAN



Environmental and Economic Equity Technical Memorandum

LAKE OKEECHOBEE WATERSHED PROJECT



U.S. Army Corps of Engineers
Jacksonville District



South Florida
Water Management District

Assisted By:



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1.0 Introduction

The Comprehensive Everglades Restoration Plan (CERP) was developed by the U.S. Army Corps of Engineers (USACE) and South Florida Water Management District (SFWMD), in cooperation with other Federal, Tribal, state and local agencies. The overall objective of the Plan is the restoration, preservation, and protection of the south Florida ecosystem while providing for other water related needs of the region.

Lake Okeechobee and its watershed are key components of south Florida's Kissimmee-Okeechobee-Everglades Ecosystem, which extends from the headwaters of the Kissimmee River in the north to Florida Bay in the south. The Lake Okeechobee Watershed Project is one component of CERP (Figure 1). Its objective is to protect and enhance the resources of Lake Okeechobee and its surrounding watershed through planning, regulation and engineering activities. Four separate elements of CERP are located within the Lake Okeechobee Watershed including the North of Lake Okeechobee Storage Reservoir, Taylor Creek/Nubbin Slough Storage and Treatment Area, Lake Okeechobee Watershed Water Quality Treatment Facilities, and Lake Okeechobee Tributary Sediment Dredging. These components were combined into the Lake Okeechobee Watershed Project to facilitate the development of a more efficient design of each component and to address the interdependencies and tradeoffs between the different components.

The components of the Lake Okeechobee Watershed Project, as presented in CERP, are conceptual and additional planning is required prior to design. Currently, plan formulation for these components is underway. Alternatives resulting from this process will be evaluated using both existing baseline conditions and future without project conditions that have been established for the Lake Okeechobee Watershed. One criterion that will be used in both the development and evaluation of alternatives is avoidance and minimization of impacts to minority or low income populations.

2.0 Background and Purpose

In 1994, Executive Order 12898 (59 FR 7629) was signed by President Bill Clinton to achieve environmental justice for minority and low income populations, including Native American tribal organizations, during the evaluation and implementation of federally funded projects. E.O. 12898 requires that "each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low income populations." In 1998, the Florida Legislature enacted section 760.854 F.S., establishing the Center for Environmental Equity and Justice at Florida Agricultural and Mechanical University (FAMU) in Tallahassee, Florida to assist state agencies to address environmental equity and justice issues.

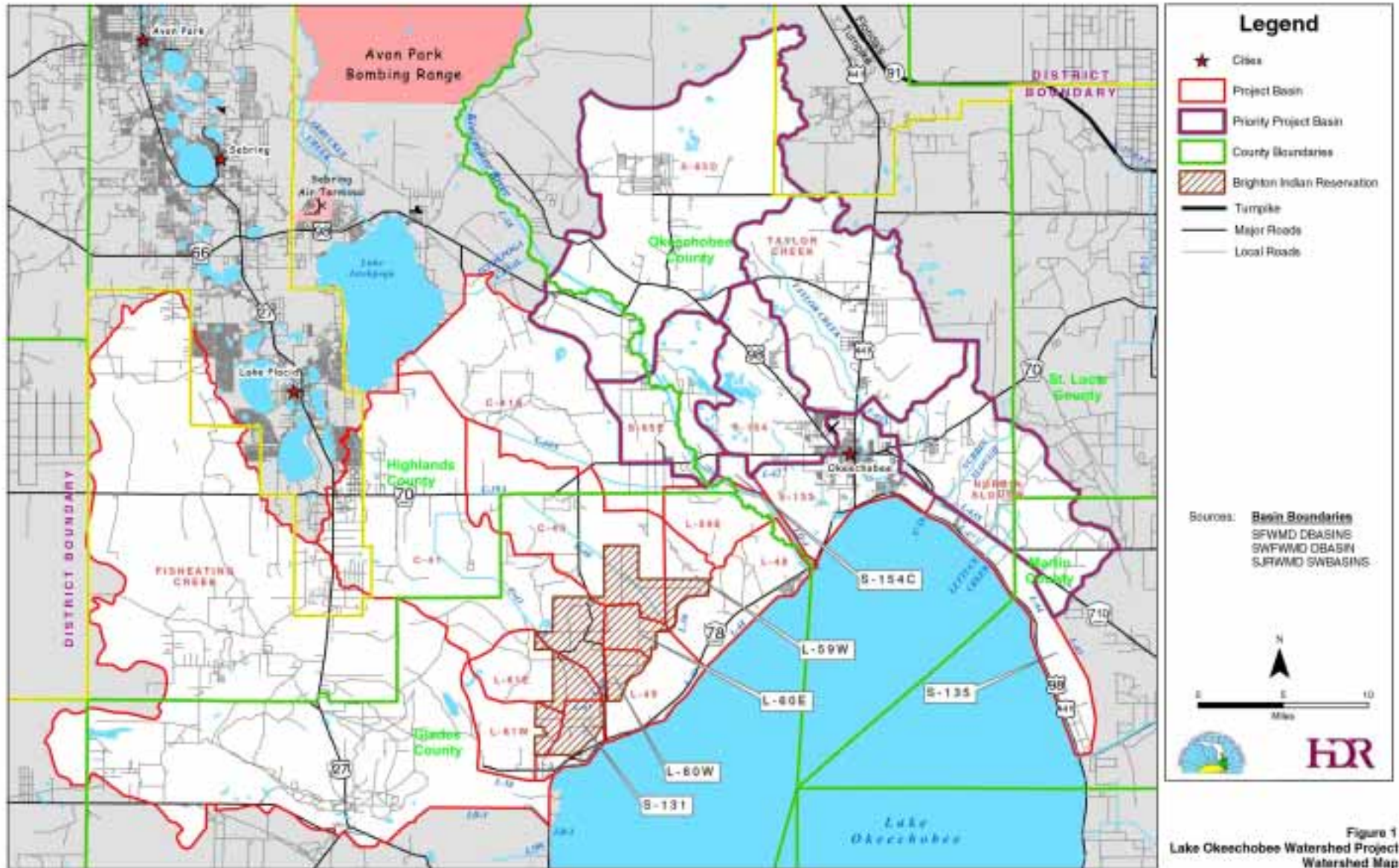


Figure 1
 Lake Okechobee Watershed Project
 Watershed Map

In August 2001, the South Florida Water Management District finalized the Environmental and Economic Equity (EEE) Program Management Plan to maximize the potential benefits to minority and low income populations, both system-wide and project specific, resulting from CERP activities, and to minimize any adverse social or economic impacts that may arise.

The purpose of this document, the Environmental and Economic Equity (EEE) Technical Memorandum, is to incorporate the District's EEE Program Management Plan into the Lake Okeechobee Watershed Project. Toward that end, a preliminary identification of minority or low income populations within the project watershed was conducted. This information will be considered during the plan formulation and evaluation phase of the project. This document also discusses the link between the EEE analysis and the Lake Okeechobee Watershed Project's public outreach program by identifying potential populations that may require additional outreach efforts during plan formulation, evaluation, and implementation. Finally, this document also identifies additional efforts that should be completed during the plan formulation, evaluation and implementation phases of the Lake Okeechobee Watershed Project to ensure the goals of the District's EEE Program Management Plan, including the avoidance and minimization of disproportionate adverse environmental impacts to minority and low income populations, have been met.

3.0 Methodology

As part of the District's EEE Program Management Plan, Geographic Information Systems (GIS) mapping has been completed at a county level using U.S. Census 2000 data to spatially identify population, race, ethnic (Hispanic or non-Hispanic), and income characteristics. The race and ethnicity data was mapped by the District at the census block level using U.S. Census 2000 TIGER and Summary File 1 data. The minority population is defined as the non-white or Hispanic population and was calculated by summing the population total within the census block of the following Census PL94-171 categories: Hispanic – all races (P0020002); Non-Hispanic Black (P0020006); Non-Hispanic American or Alaskan Native (P0020007); Non-Hispanic Asian (P0020008); Non-Hispanic Hawaiian or Pacific Islander (P0020009); Non-Hispanic Some Other Race (P0020010); Non-Hispanic Two or More Races (P0020011). The income data was mapped at the census block group level provided through the U.S. Census' Summary File 3 data. The low income population was defined by the District as the population with an income below poverty level. The low income population was calculated by taking the percent of the population with income below poverty level (P087002) and multiplying it by the total population sampled for that block group (P087001).

Using GIS, the county level mapping generated from the District was reduced to just those areas falling within one or more of the four planning areas of the Lake Okeechobee Watershed Project: Taylor Creek/Nubbin Slough, Fisheating Creek, Lake Istokpoga-Indian Prairie, and Kissimmee River. The Census data was then queried to identify only those blocks and block groups with a minority or low income population that was 32 percent or greater of the total population. This threshold, 32 percent, was

determined by the District to ensure all potential EEE populations would be given consideration.

Because of the rural nature of the majority of the watershed, several of the census blocks and block groups identified incorporate large land areas, including many non-residential areas. Therefore, in order to more accurately identify the residential locations of the potential EEE populations within these large land areas, land use data and local knowledge were incorporated. An ad hoc EEE identification team, including District staff from the Okeechobee Service Center, assisted in reviewing both the census data maps, provided by the District, and aeriels to help identify residential areas within the census blocks or block groups with potential EEE populations. This team review confirmed the difficulty of identifying potential EEE populations in such a rural area. Part of the difficulty is that several of the landowners of the larger dairy, cropland, and cow-calf operations provide on-site housing for their workers. This results in some very large census blocks meeting the threshold for a potential EEE population. Neither land use/land cover mapping nor aerial photo-interpretation consistently identify residential areas within large landholdings, Some of these residential areas may be clustered on the property, such as some of the dairy housing, or there may be trailers or mobile homes sparsely located throughout the property. A second area of difficulty identified was determining whether the census blocks that met the threshold for potential EEE populations in such a rural area actually were EEE populations, as reflected in the intent of the Federal and State legislation. As discussed above, the Federal and State legislation for environmental justice was created to protect minority and low-income populations from disproportionate adverse environmental impacts. The intent of this law was to primarily protect communities in which these populations lived from disruption and displacement due to federally funded public works projects. The challenge in a rural area, like the Lake Okeechobee Watershed Project, is to determine not just the location of individual minority or low income individuals, but to identify potential residential areas or small communities that are predominately minority or low-income. To address these difficulties, additional GIS analysis was conducted to identify which of the census blocks that meet the thresholds of a potential EEE population had the greatest potential of containing clusters of residential areas or small communities that were predominately minority or low-income.

First, the GIS census block data was sorted by the acreage of the census blocks. Census blocks are generally areas bound by some feature like roads or water features. Therefore, census blocks are smaller in more populated residential areas because of the greater presence of improved roads. Within the Lake Okeechobee Watershed Project area, the census blocks ranged in size from less than a quarter acre to over 40,000 acres. A natural break in the data between small to midsize census blocks and large census blocks fell at approximately 5,400 acres. Therefore, the largest census blocks, greater than 5,400 acres, are assumed to have a very low potential for any potential EEE populations. These census blocks primarily have individual residences spread throughout the block. As plan formulation and evaluation proceeds, the owners of the larger dairies and other farms should be contacted to determine if they provide

housing for workers on their property and to identify the extent and location of this housing.

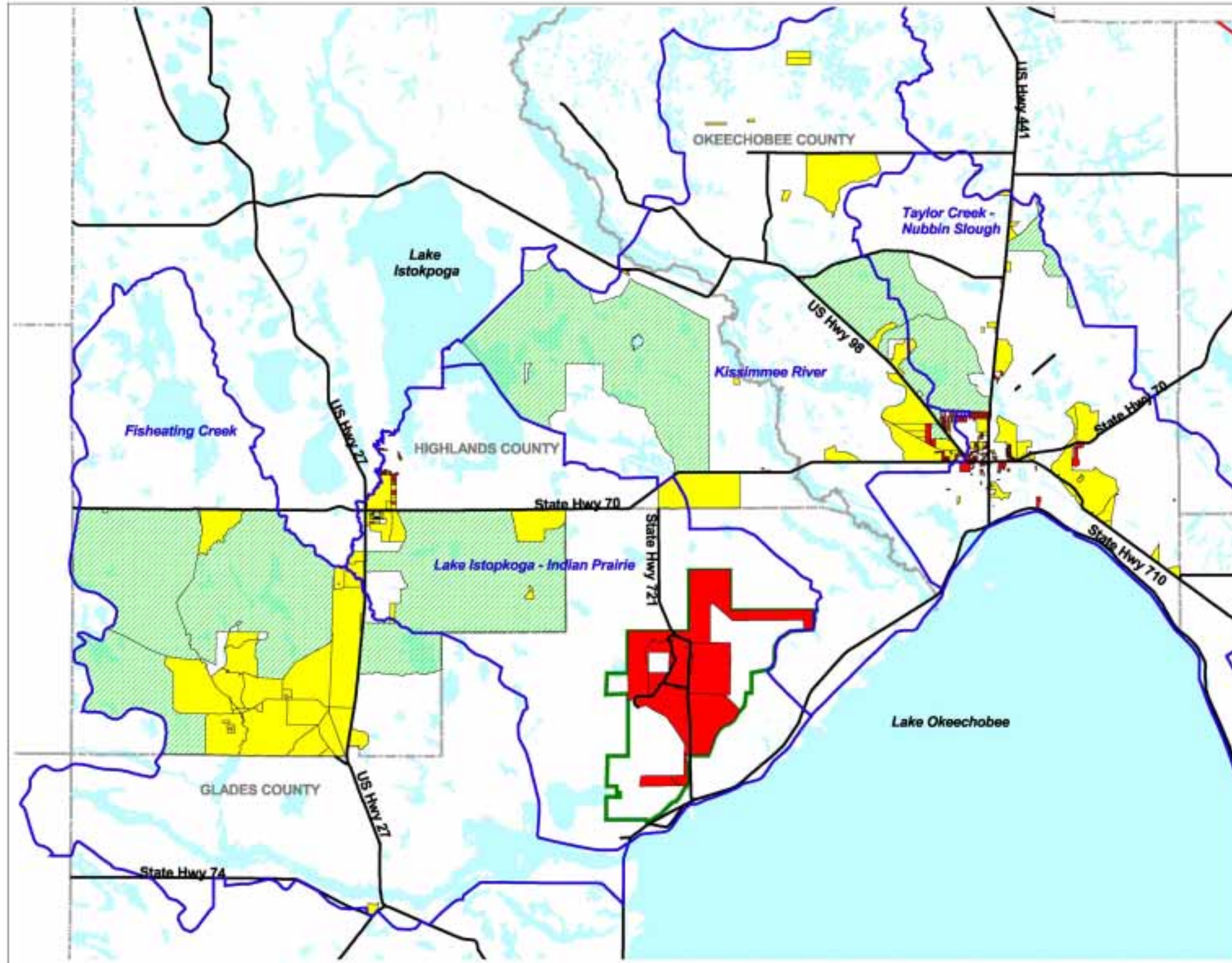
For census blocks smaller than 5,400 acres, a second analysis was conducted, this one focusing on the density of the population within these census blocks. Population density within the census blocks was determined by dividing the population within the census block with the acreage of the census block resulting in the number of people per acre. Once the data was sorted, a natural break was identified at approximately 1 person per acre. The less dense census blocks, those with a density of less than 1 person per acre, were determined to have a moderate potential for EEE populations. The census blocks with densities of one person per acre or greater were determined to have the highest potential for EEE populations. One exception to this method was the Brighton Seminole Indian Reservation located in Glades County. Because the Reservation is recognized as one community, all of the census blocks meeting the threshold criteria for a potential EEE population within the Reservation's boundaries were identified as having a high potential for EEE populations. The results of this analysis for the entire project watershed are shown in Figure 2.

A more detailed discussion of the results of this analysis is provided below at a county level. This information will be used during plan formulation as a means to avoid and minimize impacts to any potential EEE populations. The GIS coverage created as a result of this analysis will be used during the brainstorming, screening, and evaluation of potential alternative plans. Additional analysis, including further field review, and public outreach efforts will be needed throughout the upcoming phases of the Lake Okeechobee Watershed Project to ensure that the goals of both E.O. 12898 and the District's EEE Program Management Plan are met.

4.0 Preliminary Identification of Potential EEE Populations

4.1 Glades County

Within the portion of the watershed falling in Glades County, several potential EEE populations were identified (Figure 3). The largest area identified is associated with the Brighton Seminole Indian Reservation located northwest of Lake Okeechobee on SR 721. All of the census blocks meeting the threshold criteria for a potential EEE population within the Reservation's boundary were identified as having a high potential for EEE populations. Other smaller areas of potential EEE populations within Glades County were identified near the southern boundary of the project watershed near the intersection of SR 29 and US 27 and just north of Lake Okeechobee near the intersection of SR 78 and SR 721. These census blocks have very small total populations, less than 10 people each; and therefore, were determined to have a moderate potential for EEE populations. The demographics of these census blocks are predominately Hispanic or Black.



Legend

Potential for EEE Populations By Census Blocks

- High
- Moderate
- Low

- Brighton Seminole Indian Reservation
- LOWP Planning Areas
- Place Names
- Major Roads
- County Boundaries

Sources: EEE Census Block Data - SFWMD, 2003.
 U.S. Census Bureau, 2000 (Modified)

LOWP Planning Areas - SFWMD, 2003

Place Names - American Map "Florida State Atlas", 2003

N
 3 0 3 6 Miles

Figure 2
 Lake Okeechobee Watershed Project
 Potential Areas of EEE Populations

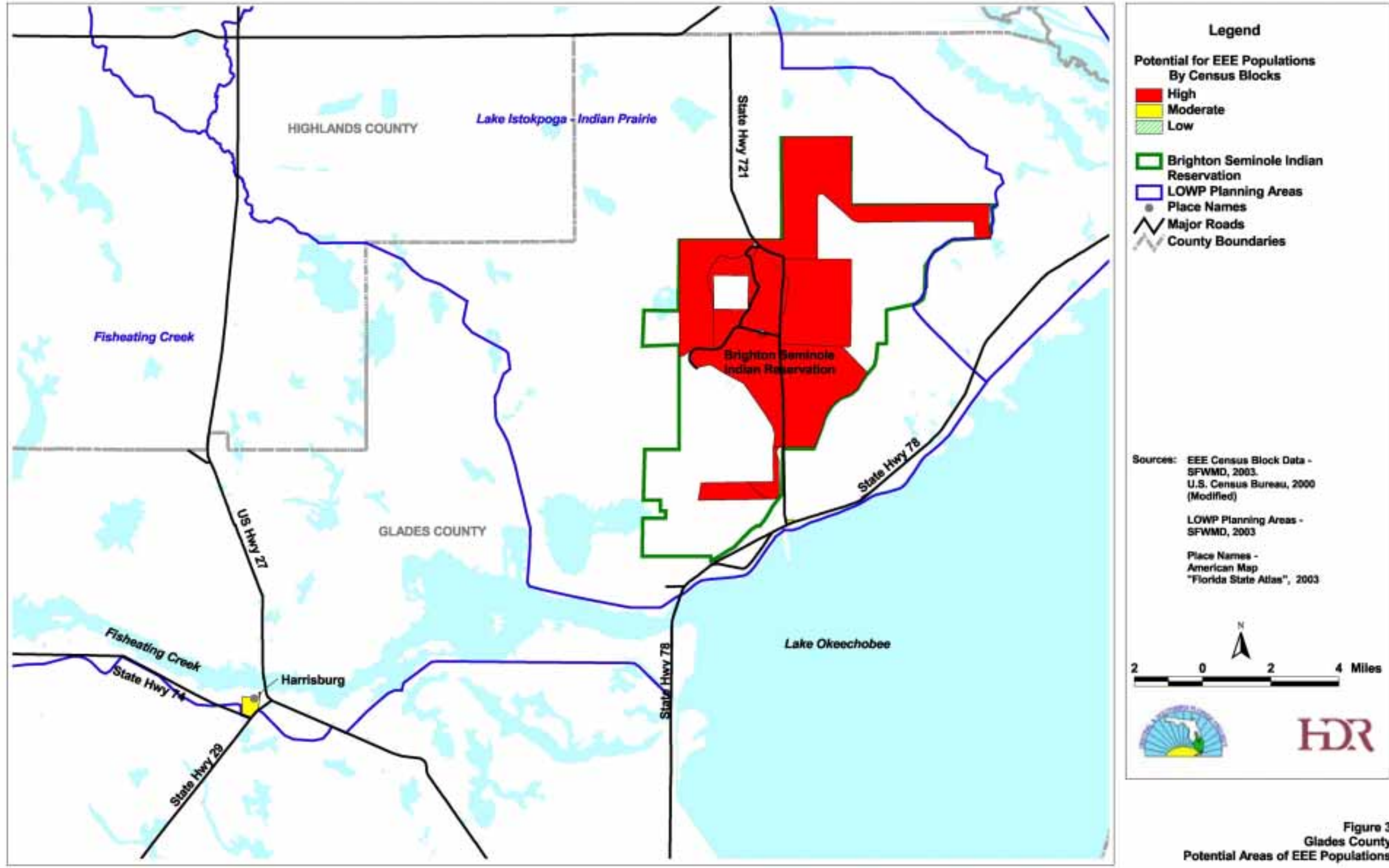


Figure 3
Glades County
Potential Areas of EEE Populations

4.2 Highlands County

Figure 4 identifies the census blocks within the project watershed located in Highlands County that have a low, moderate or high potential for EEE populations. Large landowners, such as the Lykes Corporation, own many of the larger census blocks identified on Figure 4. These census blocks have a very low potential for EEE populations. However, coordination with these large landowners and field reviews should be done during plan formulation and evaluation to determine if any residential areas or worker housing exist on these properties.

Census blocks with a moderate potential for EEE populations are located adjacent to several of the major roads within Highlands County including SR 70 and US 27. SFWMD staff with the Lake Okeechobee Service Center indicated that residential areas located along County Route 17 and Old SR 8, west of US 27 may predominately consist of retired persons that may potentially meet the low-income threshold of a potential EEE population. As plan formulation and evaluation proceed, field reviews of this area may be necessary to confirm and better identify the location of these residential areas.

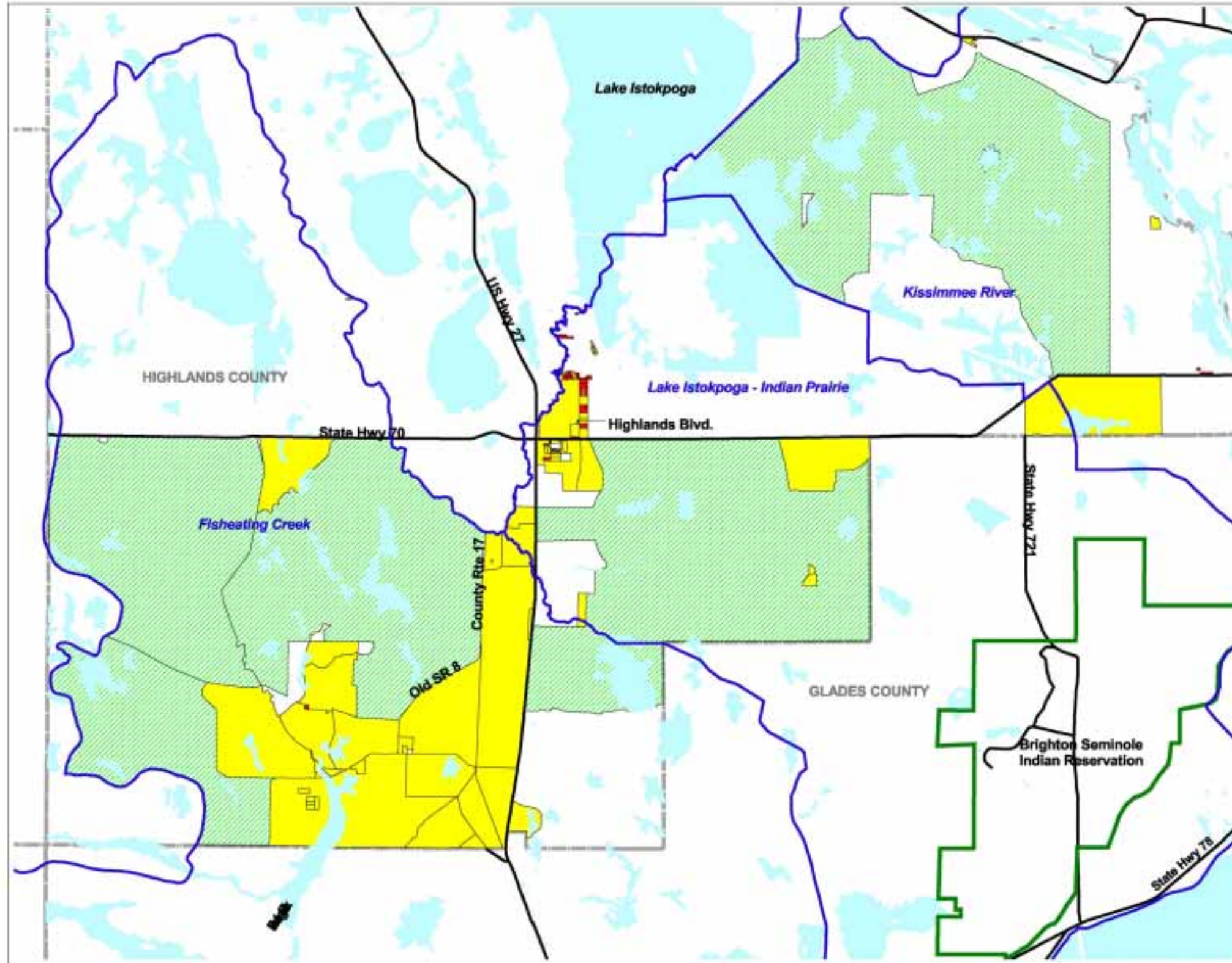
Several census blocks with a high potential for EEE populations are identified in residential areas east of the US 27 and SR 70 intersection. The majority of these census blocks are located northeast of the intersection near Highlands Boulevard, south of Moonglow Avenue. The demographic data for these census blocks indicates that the population within this area meets the EEE criteria threshold of 32 percent or greater minority.

4.3 Okeechobee County

As with Highlands County, there were several very large census blocks that met the threshold for a potential EEE population (Figure 5). However, because of the rural nature of these census blocks and their existing land uses, there is a very low potential that EEE populations are located on them. Landowners of some of these large areas should be contacted to determine if housing exists on their land for workers and where this housing is located. In addition, field reviews should be completed during plan formulation and evaluation if these areas are involved to ensure that no potential EEE populations are present.

The census blocks with a moderate potential for having EEE populations are primarily located just out of the Okeechobee City limits along the major roads of the County including SR 70, SR 710, US 98, and US 441. These census blocks have populations of less than one person per acre and are still very rural. As plan formulation and evaluation proceeds, areas within these census blocks that may be involved with potential projects should be field reviewed to ensure that no potential EEE populations are present.

The majority of the census blocks with a high potential for EEE populations are located within the Okeechobee City limits. Areas within the city limits will most likely not be



Legend

Potential for EEE Populations By Census Blocks

- High
- Moderate
- Low

- Brighton Seminole Indian Reservation
- LOWP Planning Areas
- Place Names
- Major Roads
- County Boundaries

Sources: EEE Census Block Data - SFWMD, 2003.
U.S. Census Bureau, 2000 (Modified)

LOWP Planning Areas - SFWMD, 2003

Place Names - American Map "Florida State Atlas", 2003

N
2 0 2 4 Miles

Figure 4
Highlands County
Potential Areas of EEE Populations

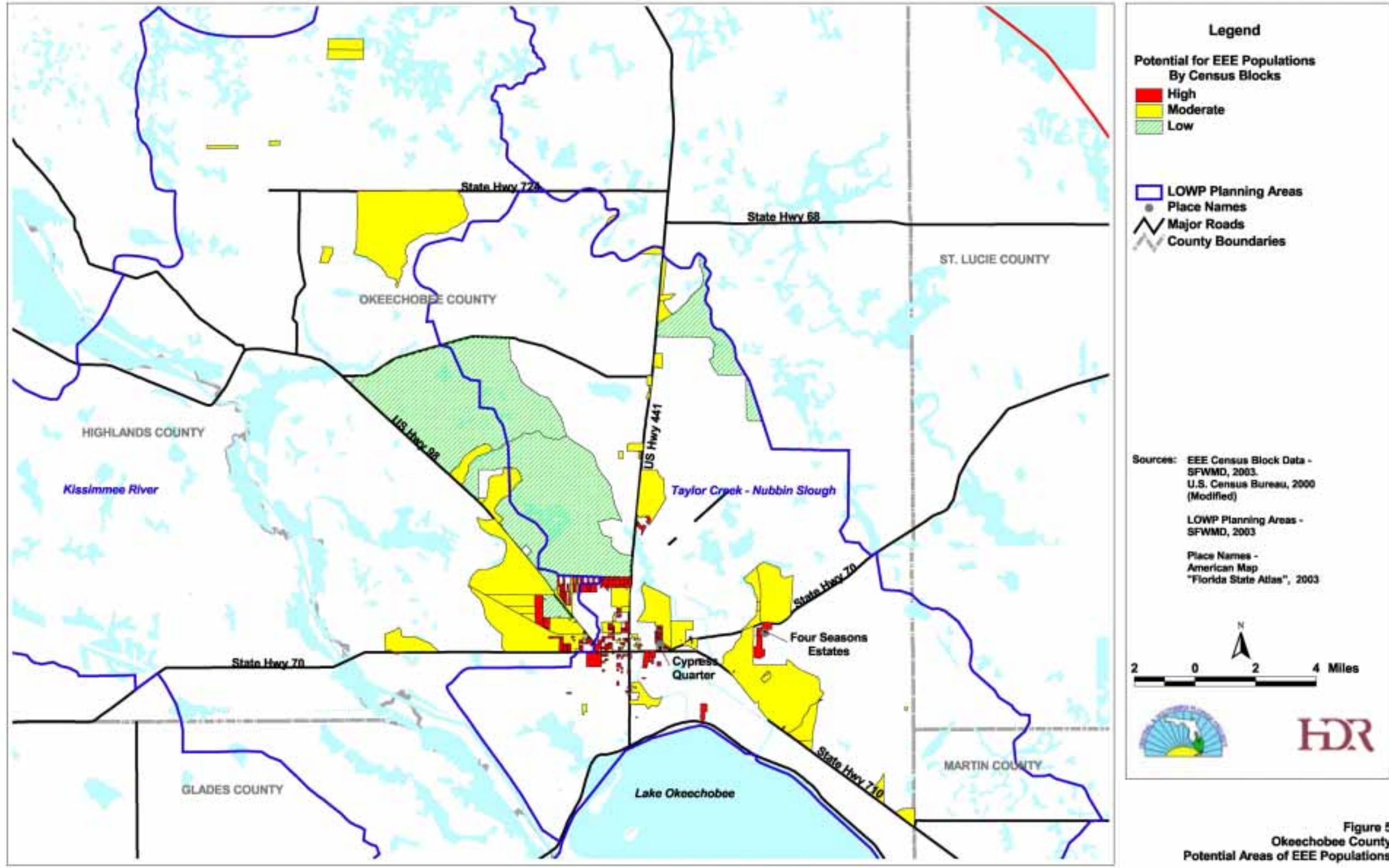


Figure 5
Okeechobee County
Potential Areas of EEE Populations

considered during plan formulation. However, there are two small clusters of census blocks with a high potential for EEE populations located just east of Okeechobee City along SR 70. The Cypress Quarter area consists of census blocks predominately meeting the EEE criteria threshold for minority populations with approximately 50 to 100 percent of the population identified as minority. About half of these census blocks also meet the EEE criteria threshold for low-income. The Four Seasons Estates area includes a cluster of four census blocks with a high potential for EEE populations. These census blocks meet the EEE criteria threshold for a minority population.

5.0 Additional Analysis and Public Outreach Efforts

During the plan formulation and evaluation phase of the Lake Okeechobee Watershed Project, the areas identified above should be taken into consideration. As alternatives are developed additional analysis, including field reviews, should be undertaken to confirm the location of residential areas that may meet the requirements for potential EEE populations. Impacts to these areas should be avoided or minimized to the extent practicable.

As the evaluation phase is completed and elements of the project are implemented, further impact analyses should be completed for those projects that were unable to avoid potential EEE areas, as required by the National Environmental Protection Act (NEPA) of 1969, as amended. Guidelines for assessing environmental justice concerns have been established in a publication by the US Environmental Protection Agency (EPA) titled *Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analysis*. In accordance with these guidelines, the impact analysis should identify the project's environmental impact, determine if the impact is adverse and identify the communities affected. If an adverse impact exists to a community, the analysis continues to determine if the impact is also disproportionate.

Another important aspect of both E. O. 12898 and the District's EEE Program Management Plan is public outreach efforts for affected minority or low income populations. Environmental justice places an additional requirement for public outreach efforts to go above and beyond typical public involvement processes to encourage the involvement of low income and minority communities. During plan formulation, evaluation, and implementation of the Lake Okeechobee Watershed Project, the public outreach efforts should include measures to inform and involve the public within identified EEE areas. The public outreach efforts should include having public meetings when and where people can attend; making official documents and notices easy to obtain; providing Spanish translation of documents, notices, and at public meetings; and discussing and addressing potential negative effects of the project at public meetings.

6.0 Conclusions and Recommendations

The results presented from this analysis will help during the plan formulation and evaluation phases of the project to avoid or minimize impacts to areas identified as having a high potential for EEE populations. In addition, this information will help to

identify areas that may need to be field reviewed for further EEE analysis as the Lake Okeechobee Watershed Project is implemented.

This preliminary analysis indicates that there are very few areas with a high potential for EEE populations. Within Glades County, the Brighton Seminole Indian Reservation was identified as an EEE community. Within Highlands County, the areas of highest potential for EEE populations are clustered up near SR 70 and US 27. However, local knowledge of the area also indicated that an area of moderate potential for EEE populations exists along CR 17 and Old SR 8 in southern Highlands County. Within Okeechobee County, the areas of highest potential for having EEE populations exist primarily within the City limits. Two additional residential areas were identified just outside of the City limits that have a high potential for an EEE population, including Cypress Quarter and Four Season Estates,

The census blocks throughout the project watershed identified as having a moderate potential for EEE populations should be field reviewed further if any of these areas are involved during plan formulation. Field reviews in these areas should focus on identifying residential clusters that may meet the EEE criteria thresholds instead of identifying individual residences interspersed throughout open land.

Finally, the census blocks identified as having a low potential for EEE populations may need additional field reviews as plan formulation proceeds. However, because of the rural nature of these census blocks, residential clusters that may exist are most likely associated with employee housing and can be more easily identified through coordination with large landowners.

To meet the regulations of E.O. 12898 and the District's EEE Program Management Plan, the EEE aspect of the Lake Okeechobee Watershed Project does not stop with simply the identification of potential EEE populations. During plan formulation, evaluation, and implementation of the Lake Okeechobee Watershed Project, the public outreach efforts should include measures to inform and involve the public within potentially affected identified EEE areas.

7.0 References

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