



**TOWN OF DUNDEE
AGENDA ITEM: TEN-YEAR WATER SUPPLY FACILITIES WORK PLAN,
RELATED COMPREHENSIVE PLAN AMENDMENTS
AND 5-YEAR CAPITAL IMPROVEMENTS PLAN
STAFF REPORT**

TO: Planning and Zoning Board

PREPARED BY: Marisa M. Barmby, AICP
Planning Manager, Central Florida Regional Planning Council

AGENDA DATE: December 21, 2023

REQUESTED ACTION: Consider Town-Initiated Text Amendment to the Town of Dundee Comprehensive Plan Related to the Updated Water Supply Plan

BACKGROUND:

In 2005, the Florida Legislature made significant changes to Chapters 163 and 373, F.S., to strengthen the link between land use and water supply planning. Water supply requirements have been adopted that affect local comprehensive planning programs:

- Ensuring intergovernmental coordination with regional water supply authorities;
- Ensuring that the local government's future land use plan and development approvals are based upon the availability of adequate water supplies;
- Identifying and including selected “alternative” water supply projects in the comprehensive plan, consistent with Southwest Florida Water Management District’s Regional Water Supply Plan adopted December 2006 and updated in November 2020.

SUMMARY:

A Ten-Year Water Supply Facilities Work Plan has been prepared identifying existing water service providers and water supply facilities within the Wauchula Utility Service Area, identifying conservation practices, and future water needs based on projected population estimates.

Based on the Ten-Year Water Supply Facilities Work Plan, amendments to various elements of the City’s Comprehensive Plan have been drafted and are included in the attachment.

MOTION OPTIONS:

1. I move **recommendation of approval to the Town Commission** for a Town-initiated request to amend the Comprehensive Plan consistent with the Water Supply Plan.
2. I move **recommendation of approval with changes to the Town Commission** for a Town-initiated request to amend the Comprehensive Plan consistent with the Water Supply Plan.
3. I move **continuation to a date and time certain.**

Attachments:

- Proposed Comprehensive Plan Amendments relating to the Ten-Year Water Supply Facilities Work Plan
- Ten-Year Water Supply Facilities Work Plan

PROPOSED AMENDMENTS

**TOWN OF DUNDEE COMPREHENSIVE PLAN
GOALS, OBJECTIVES, AND POLICIES**

TO PROVIDE POLICIES SPECIFIC TO WATER SUPPLY PLANNING

- The following amendments to the Dundee Comprehensive Plan are proposed consistent with the update to the Town of Dundee Ten-Year Water Supply Facilities Work Plan.
 - Text shown in gray shading as underlined is text to be added and text shown as ~~strikeout~~ is text to be removed. Amended text is based on the update to the Town’s Ten-Year Water Supply Facilities Work Plan.
-

I. INFRASTRUCTURE ELEMENT AMENDMENTS:

The following amendments are proposed to the Infrastructure Element of the Town of Dundee Comprehensive Plan based on the Ten-Year Water Supply Facilities Work Plan.

GOAL 2: POTABLE WATER

PROVIDE FOR THE RELIABLE DELIVERY OF POTABLE WATER TO MEET THE NEEDS OF ALL RESIDENTS AND BUSINESSES.

OBJECTIVE 2.2: EXPANSION OF SYSTEM TO MEET FUTURE NEEDS

EXPAND THE MUNICIPAL WATER SERVICE SYSTEM AS NEEDED TO MEET THE NEEDS OF FUTURE RESIDENTS AND BUSINESSES IN SUCH A MANNER AS TO MAXIMIZE THE USE OF EXISTING FACILITIES, DISCOURAGE URBAN SPRAWL, AND MEET THE WATER CONSERVATION OBJECTIVES ESTABLISHED IN THE CONSERVATION ELEMENT.

Policy 2.2.8: The Town hereby ~~incorporates~~ acknowledges its Ten-Year Water Supply Facilities Work Plan as a technical support document ~~into~~ this Element, as required following adoption of the Southwest Florida Water Management District (SWFWMD) Regional Water Supply Plan, adopted November 2015 2020. ~~The adopted Ten-Year Water Supply Facilities Work Plan and all future amendments thereto, represent an update to the Dundee Comprehensive Plan.~~ In implementing this Policy, the Town shall annually assess the performance and effectiveness of its Ten-Year Water Supply Plan and update the status of project development and potential funding sources, consistent with the corresponding SWFWMD Regional Water Supply Plan and the policies of this Comprehensive Plan in order to maximize the use of existing facilities and provide for future needs.

II. WATER SUPPLY SUB-ELEMENT AMENDMENTS:

The following amendments are proposed to the Water Supply Sub-Element of the Town of Dundee Comprehensive Plan based on the Ten-Year Water Supply Facilities Work Plan.

GOAL 1: ENSURE THE PROVISION OF ADEQUATE WATER RESOURCES TO MEET THE NEEDS OF ALL RESIDENTS, VISITORS, AND BUSINESSES IN THE TOWN OF DUNDEE.

OBJECTIVE 1.4: THE TOWN SHALL WORK WITH SURROUNDING GOVERNMENTS AND SWFWMD TO EXPLORE THE DEVELOPMENT OF REGIONAL WATER SUPPLY SYSTEMS IN ORDER TO MEET FUTURE POTABLE WATER NEEDS.

Policy 1.4.1: The Town hereby ~~incorporates~~ acknowledges its Ten-Year Water Supply Facilities Work Plan as a technical support document ~~into~~ this Element, as required following adoption of the Southwest Florida Water Management District (SWFWMD) Regional Water Supply Plan, adopted November 2015 2020. ~~The adopted Ten-Year Water Supply Facilities Work Plan and all future amendments thereto, represent an update to the Dundee Comprehensive Plan.~~ In implementing this Policy, the Town shall annually assess the performance and effectiveness of its Ten-Year Water Supply Plan and update the status of project development and potential funding sources, consistent with the corresponding SWFWMD Regional Water Supply Plan and the policies of this Comprehensive Plan in order to maximize the use of existing facilities and provide for future needs.

III. CONSERVATION ELEMENT AMENDMENTS:

The following amendments are proposed to the Conservation Element of the Town of Dundee Comprehensive Plan based on the Ten-Year Water Supply Facilities Work Plan.

GOAL: IT SHALL BE THE GOAL OF THE TOWN OF DUNDEE TO CONSERVE, PROTECT, ENHANCE, AND MANAGE ITS NATURAL RESOURCES AND TO ATTAIN THE HIGHEST POSSIBLE ENVIRONMENTAL QUALITY. ~~[9J-5.013(2)(A)]~~

OBJECTIVE 10: ESTABLISH SPECIFIC PROCEDURES AND REGULATIONS DESIGNED TO CONSERVE THE POTABLE WATER SUPPLY WITHIN THE TOWN OF DUNDEE.

Policy 10.4: The Town hereby ~~incorporates~~ acknowledges its Ten-Year Water Supply Facilities Work Plan as a technical support document ~~into~~ this Element, as required following adoption of the Southwest Florida Water Management District (SWFWMD) Regional Water Supply Plan, adopted November 2015 2020. ~~The adopted Ten-Year Water Supply Facilities Work Plan and~~

~~all future amendments thereto, represent an update to the Dundee Comprehensive Plan.~~ In implementing this Policy, the Town shall annually assess the performance and effectiveness of its Ten-Year Water Supply Plan and update the status of project development and potential funding sources, consistent with the corresponding SWFWMD Regional Water Supply Plan and the policies of this Comprehensive Plan in order to maximize the use of existing facilities and provide for future needs.

IV. INTERGOVERNMENTAL COORDINATION ELEMENT AMENDMENTS:

The following amendments are proposed to the Intergovernmental Coordination Element of the Town of Dundee Comprehensive Plan based on the Ten-Year Water Supply Facilities Work Plan.

GOAL: **TO ESTABLISH AN EFFICIENT COORDINATION MECHANISM AMONG THE RELEVANT PUBLIC AND PRIVATE ENTITIES THAT PROVIDES THE MOST EFFICIENT UTILIZATION OF AVAILABLE RESOURCES.**

OBJECTIVE 9: **THE TOWN OF DUNDEE SHALL WORK WITH SURROUNDING GOVERNMENTS AND OTHER AGENCIES TO ENSURE THAT MEETING FUTURE POTABLE WATER NEEDS ARE COORDINATED ON A REGIONAL BASIS.**

Policy 9.1: The Town hereby ~~incorporates~~ **acknowledges** its Ten-Year Water Supply Facilities Work Plan as a technical support document ~~into~~ this Element, as required following adoption of the Southwest Florida Water Management District (SWFWMD) Regional Water Supply Plan, adopted November 2015 2020. ~~The adopted Ten-Year Water Supply Facilities Work Plan and all future amendments thereto, represent an update to the Dundee Comprehensive Plan.~~ In implementing this Policy, the Town shall annually assess the performance and effectiveness of its Ten-Year Water Supply Plan and update the status of project development and potential funding sources, consistent with the corresponding SWFWMD Regional Water Supply Plan and the policies of this Comprehensive Plan in order to maximize the use of existing facilities and provide for future needs.

V. CAPITAL IMPROVEMENTS ELEMENT AMENDMENTS:

The following amendments are proposed to the Capital Improvements Element of the Town of Dundee Comprehensive Plan based on the Ten-Year Water Supply Facilities Work Plan.

GOAL: **IT SHALL BE THE GOAL OF THE TOWN OF DUNDEE TO PROVIDE NECESSARY PUBLIC FACILITIES AND SERVICES FOR ALL EXISTING AND FUTURE DEVELOPMENT, AT ADOPTED LEVEL OF SERVICE STANDARDS, THROUGH A**

PROCESS THAT PERMITS DEVELOPMENT CONCURRENT WITH THE ABILITY OF THE TOWN TO PROVIDE SUCH FACILITIES AND SERVICES.

OBJECTIVE 2: CONCURRENCY AND CAPITAL IMPROVEMENTS

BASE LAND USE DECISIONS, INCLUDING DECISIONS REGARDING THE ISSUANCE OF DEVELOPMENT ORDERS AND PERMITS, ON THE DEVELOPMENT REQUIREMENTS INCLUDED IN THIS COMPREHENSIVE PLAN, THE LAND DEVELOPMENT REGULATIONS OF THE TOWN OF DUNDEE, AND THE AVAILABILITY OF PUBLIC FACILITIES AND SERVICES NECESSARY TO SUPPORT SUCH DEVELOPMENT AT THE ADOPTED LEVEL OF SERVICE STANDARDS.

Policy 2.6:

The Town hereby ~~incorporates~~ acknowledges its Ten-Year Water Supply Facilities Work Plan as a technical support document ~~in~~to this Element, as required following adoption of the Southwest Florida Water Management District (SWFWMD) Regional Water Supply Plan, adopted November 2015 2020. ~~The adopted Ten-Year Water Supply Facilities Work Plan and all future amendments thereto, represent an update to the Dundee Comprehensive Plan.~~ In implementing this Policy, the Town shall annually assess the performance and effectiveness of its Ten-Year Water Supply Plan and update the status of project development and potential funding sources, consistent with the corresponding SWFWMD Regional Water Supply Plan and the policies of this Comprehensive Plan in order to maximize the use of existing facilities and provide for future needs.



Town of Dundee Ten-Year Water Supply Facilities Work Plan

Prepared For:
Town of Dundee, FL
Prepared By:
Central Florida Regional
Planning Council

September 2023

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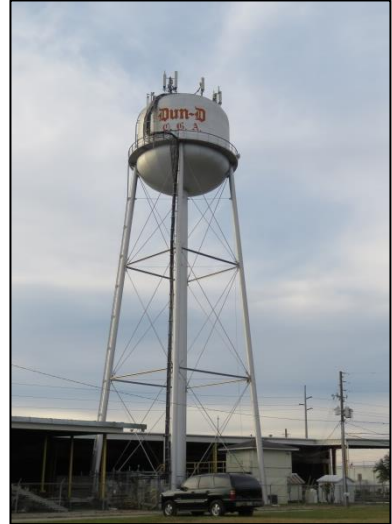
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SECTION 1: INTRODUCTION

1.1 Purpose of 2023 Dundee Water Supply Plan

The Town of Dundee (Town) 2023 Water Supply Plan (WSP) has been developed in accordance with the requirements and guidelines contained in the Regional Water Supply Plan (RWSP) approved by the Southwest Florida Water Management District (SWFWMD) Governing Board in November 2020. The Town has developed this WSP not only to meet regulatory requirements (cited in Chapter 163, Part II, Florida Statutes, whereby local governments are required to adopt Work Plans into their comprehensive plans after their Water Management District approves a regional water supply plan or its update); but also, to serve as a water resource planning document for the Town's residents, businesses, interest groups, and public officials. This plan provides information on the Town's current and future water demands and supplies, discusses the water resources challenges that the Town faces, and summarizes the major water resources initiatives that the Town has taken to ensure a safe reliable water supply for its water customers.



The Dundee WSP uses projected population estimates to determine potential impacts on future potable water demand. The projections explore growth over a twenty-year period through the year 2040, with an emphasis placed on the immediate ten-year planning period. Specifically, the WSP details the Town's water system, water demands, sources of water supplies, water quality, capital improvement projects, and potential multi-jurisdictional planning initiatives.

1.2 Statutory Requirements (Revised by SWFWMD on 2021)

The Town of Dundee has considered the following statutory provisions as put of the WSP update:

1. Coordinate appropriate aspects of the Comprehensive Plan with the applicable RWSP [Section 163.3177(4)(a), F.S.].
2. Ensure the Future Land Use Plan is based on availability of adequate water supplies and public facilities and services [Section 163.3177(6)(a), F.S.]. Data and analyses demonstrating that adequate water supplies and associated public facilities will be available to meet projected

growth demands must accompany all proposed Future Land Use Plan and Plan amendments submitted for review.

3. In consultation with the water supplier, ensure adequate water supplies and potable water facilities are available to serve new development no later than the issuance by the local government of a certificate of occupancy or its functional equivalent [Section 163.3180(2), F.S.].

4. For local governments subject to an RWSP, revise the General Sanitary Sewer, Solid Waste, Drainage, Potable Water, and Natural Groundwater Aquifer Recharge element (the “Infrastructure element”) through a Comprehensive Plan amendment to:

a. Identify and incorporate the alternative water supply project(s) selected by the local government from projects identified in the applicable RWSP, or alternative project(s) proposed by the local government under Section 373.709(8)(b), F.S. [Section 163.3177(6)(c), F.S.].

b. Identify the traditional and alternative water supply projects and the conservation and reuse programs necessary to meet water needs identified in the applicable RWSP [Section 163.3177(6)(c)3., F.S.]; and

c. Update the Work Plan for at least a 10-year planning period for constructing the public, private, and regional water supply facilities identified in the element as necessary to serve existing and new development [Sections 163.3177(6)(c)3. and (5), F.S.].

Revise the Five-Year Schedule of Capital Improvements to include water supply, reuse, and conservation projects and programs to be implemented during the 5-year period [Section 163.3177(3)(a)4., F.S.].

6. To the extent necessary to maintain internal consistency after making changes described in Paragraph 1 through 5 above, revise the Conservation element to assess projected water needs and sources for at least a 10-year planning period, considering the applicable RWSP and water use permit(s) [Section 163.3177(6)(d), F.S.]. The comprehensive plan must address the water supply sources necessary to meet the existing and projected water use demand for the established planning period, considering the applicable RWSP [Section 163.3167(9), F.S.].

7. To the extent necessary to maintain internal consistency after making changes described in Paragraphs 1 through 5 above, revise the Intergovernmental Coordination element to ensure consistency between the Comprehensive Plan and the applicable RWSP [Section 163.3177(6)(h)1., F.S.].

8. Local governments are required to comprehensively evaluate and update the Comprehensive Plan to reflect changes in local conditions every seven years. The evaluation could address the local government’s need to update their Work Plan, including the development of alternative

water supplies, and determine whether the identified alternative water supply projects, traditional water supply projects, and conservation and reuse programs are meeting local water use demands [Section 163.3191(3), F.S.].

9. Local governments may be exempt from updating their Work Plan if they meet certain criteria. A local government that does not own, operate, or maintain its own water supply facilities and is served by a public water supply entity with a permitted allocation of 300 million gallons per day or greater is not required to amend its Comprehensive Plan when an RWSP is updated if the local government uses less than 1 percent of the public water supply entity's total permitted allocation. However, the local government must cooperate with the public water supply entity that provides service within its jurisdiction and must keep the Sanitary Sewer, Solid Waste, Drainage, Potable Water, and Natural Groundwater Aquifer Recharge element up to date, pursuant to Section 163.3191, F.S. A local government should contact the Florida Department of Economic Opportunity (DEO) to verify its qualifications for the exemption [Section 163.3177(6)(c)4., F.S.].

10. Local governments with a Sector Plan adopted in accordance with Section 163.3245, F.S., should incorporate information from the adopted Sector Plan, Master Plan, and Detailed Specific Area Plan into the Work Plan. The focus should be on water needs, water supply and resource development, conservation measures, and intergovernmental coordination activities with the SWFWMD and water supply development projects needed to address projected development in the Sector Plan area [Section 163.3245, F.S.].

1.3 Background Information Overview

Geography

The Town of Dundee, Florida is a municipal corporation of the State, located in eastern Polk County. US Highway 27 runs north and south through the west side of the Town while State Road 17 (Scenic Highway) runs north and south through the heart of the Town. Dundee's service area lies within the Southern Water Use Caution Area (SWUCA). The utility service area of Dundee



borders the utility service areas of the City of Haines City to the north, the City of Winter Haven to the west, Polk County Utility to the east, and the City of Lake Wales to the south.

Numerous lakes surround the Town limits. Lake Menzie, one of the most important lakes in the Town, is in the middle of the Town and serves several recreational opportunities for both residents of the community and visitors.

Utility Service Area and District Governance

Inclusive of and extending beyond the corporate limits is the Town's utility service area boundary. This boundary represents areas currently served by the Town's utility system and areas that may be served in the future. This service area boundary encompasses approximately 17.01 Square miles. The Town's utility service area borders the utility service areas of the Town of Lake Hamilton and the City of Haines City to the north, the City of Winter Haven to the west, the City of Lake Wales to the south, and Polk County Utilities to the east.

The Town's utility service area is governed and permitted by the Southwest Florida Water Management District (SWFWMD). See Map 1 which reflects the Town's corporate limits and the utility service area boundary.

Regional Demand Projections

According to the 2021 Florida Department of Environmental Protection Regional Water Supply Planning Report, total water demand during 2020 within the SWFWMD was about 1,119 mgd (Figure 1).

By 2040, the SWFWMD expects total water demands to increase to approximately 1,265 mgd, which is nearly 13 percent more than the reported 2020 water demand. The SWFWMD estimates that public supply and agricultural irrigation will remain the two largest consumers of water resources, even though agricultural irrigation is projected to decrease by approximately 1.76 percent. The consumer category representing the largest expected change in demand is domestic self-supply, with an estimated 43% increase between 2020 and 2040. See Figure 1 below illustrating the projected consumer demands for water resources within SWFWMD between 2020 and 2040.

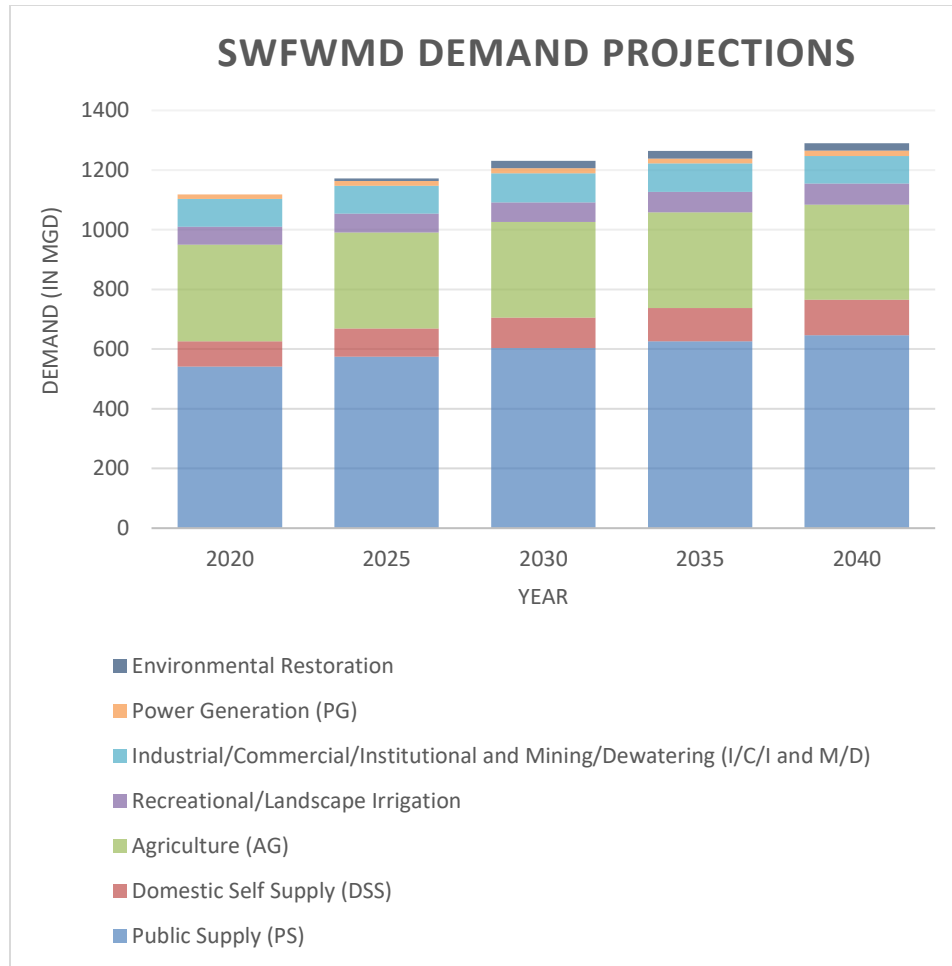


Figure 1: SWFWMD Districtwide Demand Projections 2020-2040

In response to projected demands, the SWFWMD has made concerted efforts to champion options to further protect and enhance water resources. Since 2005, 138.1 mgd of water has been made available through alternative water supply projects throughout the district. An additional 166.9 mgd is expected to be provided through implementation of future alternative water supply projects and efforts, for an estimated total of 305 mgd. Projects and efforts used to explore and implement alternative water sources include aquifer storage, water conservation, reclaimed water, brackish groundwater, surface water and surface water storage.

1.4 Southwest Florida Water Management District and Southern Water Use Caution Area

The Town is in an area that the SWFWMD identifies as the Southern Water Use Caution Area (SWUCA) (See Map 2). A water caution area is an area where existing and reasonably anticipated sources of water may not be adequate to supply water for all existing uses and anticipated future needs while sustaining water resources and related natural systems through the year 2025. In 2006, SWFWMD developed the SWUCA Recovery Strategy to respond to these concerns complying with Section 373.036 Florida Statutes. The SWFWMD proposed a program of natural system restoration, groundwater withdrawal reductions, and alternative source development projects to stabilize ground and surface water resources in the region. To ensure the health and availability of water resources within the SWUCA, Rule 40 D-2 F.A.C. states that the level of service (LOS) for water shall be equal to or less than 150 gallons per capita per day (gpcd).

1.5 Central Florida Water Initiative (CFWI)

The Central Florida Water Initiative (CFWI) is a collaborative water supply planning effort among the state's three largest water management districts, the Florida Department of Environmental Protection (DEP), the Florida Department of Agriculture and Consumer Services (DACS), water utilities, environmental groups, business organizations, agricultural communities, and other stakeholders.

The CFWI Planning Area covers five counties, including Orange, Osceola, Polk, Seminole and southern Lake (See Map 3). The boundaries of the three water management districts – St. Johns River Water Management District, South Florida Water Management District and Southwest Florida Water Management District – meet in an area known as the Central Florida Coordination Area (CFCA), which includes Polk County and within it, the Town of Dundee.

The purpose of the CFWI is to implement effective and consistent water resource planning through the Central Florida region. As part of the initiative, in 2020, the CFWI adopted an updated multi-district Regional Water Supply Plan to ensure the protection of water resources and related natural systems and identify sustainable water supplies for all water uses in the coordination area through 2040. The CFWI Regional Water Supply Plan (RWSP) adopted the Guiding Principles by:

- Identifying the sustainable quantities of fresh groundwater sources available for water supplies that can be used without causing harm to the water resources and associated natural systems

- Identifying water conservation savings which may be achievable by water users during the planning horizon
- Identifying water supply and water resource development options to meet reasonable and beneficial water demands that are in excess of the sustainable yield of fresh groundwater sources
- Protecting and enhancing the environment, including the natural resource areas and systems
- Providing information to support local government comprehensive plans
- Achieving compatibility and integration with other state and federal regional resource initiatives

Adoption of the Town's WSP must be consistent with the CFWI RWSP, be financially feasible and it must include the necessary provisions to ensure that potable water LOS standards are maintained for expected population growth.

1.5 Polk County Regional Water Cooperative (PRWC)

The Town of Dundee is part of the Polk Regional Water Cooperative (PRWC). This county-wide effort was established to bring the local governments within Polk County together to work in tandem to qualify for state and water management district funding to help pay for water resource projects to ensure adequate water supplies are available in the future. As a planning effort with a broad-based approach, the PRWC focuses on analyzing where alternative supplies are available and where demand is present. Priority projects identified by the PRWC correspond to those prioritized projects identified through the efforts of the CFWI.

Currently, the Polk Regional Water Cooperative is moving forward with two significant projects to enhance the availability of water in the region. The Southeast Wellfield and Water Supply Facility will utilize the Lower Florida Aquifer which is brackish and will require treatment via reverse osmosis. This project will deliver an extra 12.5 (MGD) to the region. The West Polk Wellfield and Water Supply Facility is a similar project, which will tap into the Lower Floridan Aquifer and is slated to provide up to 10 (MGD) per day.

1.7 Description of the Town's Water Supply System

Water Sources

The primary source of water extraction for the Town is fresh groundwater from the Upper Floridan Aquifer (UFA). As with many communities, the Town's dependency on groundwater use has increased over the past several decades. Although water utilities in the region are increasingly implementing conservation measures and exploring alternative sources for public supply, Dundee's water source is still obtained exclusively from the UFA. SWFWMD's 2020 Regional Water Supply Plan indicates that approximately 42 percent of water available in the Heartland region will be from fresh groundwater sources by the year 2040. Limited options for alternative water supply exist within the Central Florida Heartland region. As a non-coastal area, desalination of water is still not a viable or feasible option.

Potable Water System

The Town's public water supply system is regulated through the Florida Department of Environmental Protection (FDEP) while water use (water consumption) is permitted through the SWFWMD. Table 1 below provides the Town's permitting information. Additional information on the Town's permit conditions is provided in *Section 2.1, Water Service Area*.

Table 1: Public Water System and Water Use Permits

FDEP Public Water System (PWS)	WUP Permit No.	Permittee	Provider Type
6530485	5893.013	Town of Dundee	Potable Water

The Town's potable water distribution system is operated by the Town's Utilities Department, which operates and maintains the Town's water and sewer systems in compliance with all state and federal requirements. Annually, the Town presents a water quality report to inform all residents and businesses about the quality of water and services that are delivered daily.

As will be presented in more detail in Section 2, the Town is projected to see a significant population increase over the next ten- and twenty-year planning periods.

System Facilities

The Town operates two (2) essential utilities which include a potable water and wastewater system. The systems are maintained and operated by the Town of Dundee's Public Work and

Utilities Departments in compliance with all state and federal requirements. Facilities include two (2) water treatment plants and one (1) wastewater treatment plant.

The potable water system includes components to pump and treat raw water extracted from the UFA. The treated, “finished” water is stored and re-pumped into the distribution system for potable consumption by the Town’s end users. The system also provides fire protection services which serve the Town and the greater utility service area.

The Town’s potable water system includes a total of six (6) operating public supply wells and two (2) ground water storage tanks (GST). The system is operated by six (6) high service pumps. Tables 1 and 2 provide detailed information about the Town’s facilities. See Map 4 for facilities locations.

Table 2: Inventory of Wells

Service Area	Well # (Name)	Well Diameter (inches)	Well Pump Capacity (GPM)	Well Depth (feet)	Pump Motor Horsepower
Town of Dundee	*Well #1	12	553,000	755	100
	Well #3	10	553,000	690	40
	Well #4	12	553,000	760	40
	Well #6	16	818,000	850	125
	Well #7	16	818,000	850	125
	Well #8	16	818,000	710	75

*Well #1 Not in operation

Table 2: Inventory of Water Treatment /Storage Facilities

Storage	Location	Type	Total Design Capacity (MGD)
*Lake Ruth WTP	603 Lake Marie Blvd, Dundee, FL 33838		
Hickory Walk WTP	1501 Steward Rd. Dundee, FL 33838	GST	0.75
Riner WTP	625 Dundee Rd. Dundee, FL 33838	GST	0.25

*Lake Ruth WTP is no longer in service

Water Treatment Practices

The Town treats raw ground water for Hydrogen Sulfide and organics by way of aerators and Cl₂ 12% bleach. The Town monitors its water treatment plants through a Supervisory Control & Automated Data Acquisition (SCADA) system and an OMNI process 24 hours a day, 7 days of the week.

Wastewater and Reuse

The Town's wastewater system is also regulated through FDEP under permit number FLA180416 (Expiration Date: April 5, 2025). It consists of a collection system, lift stations and transmission mains, as well as one wastewater treatment facility (WWTF), which has the capability to provide treated wastewater effluent for reuse. The Town's wastewater treatment effluent disposal capacities include a 0.316 Rapid Infiltration Basin. The Dundee Regional WWTF disposes of 0.13 MGD of reclaimed water to three rapid infiltration ponds.

Water Use

The Town's public water supply service area (10,925.9 acres) supports customers both inside and outside of the Town's corporate limits (See Map 1 for Service Area Boundary). As with many communities, the Town's dependency on groundwater use has increased over the past several decades. The Town is currently using approximately 797,208GPD. As part of its commitment to providing quality water to its customers, the Town also provides a water quality report to inform all residents and businesses about the quality of water and services that are delivered every day. As will be outlined in more detail in Section 2, the Town is projected to see considerable population growth over the next ten- and twenty-year planning periods.

SECTION 2: DATA AND ANALYSIS

2.1 Water Service Area

Potable water is administered through a metered system serving both residential and non-residential users under an adopted LOS standard of 115 gallons per person per day (gpcd). The system is regulated and permitted by the FDEP and the SWFWMD. The Town's permitted maximum flow (design capacity) for water extraction (as regulated through FDEP) is 2,690,000 gallons per day (gpd). The Town's current permitted capacity for water use by the SWFWMD is 917,500 gpd. In 2022, the Town renewed its water use permit, which was issued with an expiration date of September 6, 2032.

Table 3 outlines the Town's permitted capacity and current metered connections under the active WUP.

Table 3: Town of Dundee’s Existing Potable Water Customers

FDEP Public Water System (PWS)	WUP Permit No.	Permittee	Provider Type	WUP Permitted Capacity	Number of Residential Meters*	Number of Commercial/ Industrial/ Recreational Meters*
6530485	5893.013	Town of Dundee	Potable Water	917,500 GPD	2,039	241

**Data Source: Town of Dundee 2015 Public Supply Annual Report*

2.2 Population Information and Water Demand Projection

Historic Water Use by Sector

Planning for future water supply requires an understanding of past water use and the factors that influence future use over time. This section presents historical water use based on the 2011 and 2015 Town of Dundee’s Public Supply Annual Reports (PSARs).

As expected, single family residential water use represents the greatest per capita/per day consumption rate, with mobile home uses (which are generally similar to single family residential uses) and residential irrigation being the next highest users. The amount of documented water loss in the Town’s system according to the 2015 PSAR, is 27,630 gpd, which is less than 5 percent of the Town’s total reported water use.

Growth Patterns and Potable Water

In 2020, the University of Florida’s Bureau of Economic and Business Research (BEBR) estimated a Town population of 5,235 persons, which is an increase of 1,518 persons compared to the 2010 Census (3,717 persons). Based on the size of the Town’s public water supply service area there is an even larger population demand. In 2020, the SWFWMD estimated a population of 5,583 persons. Population projections from 2020 to 2040 are outlined in Section 2. of this document.

Figures 2 and 3 reflect the Town’s general percentage use of potable water for residential and non-residential users, for 2011 and 2015.

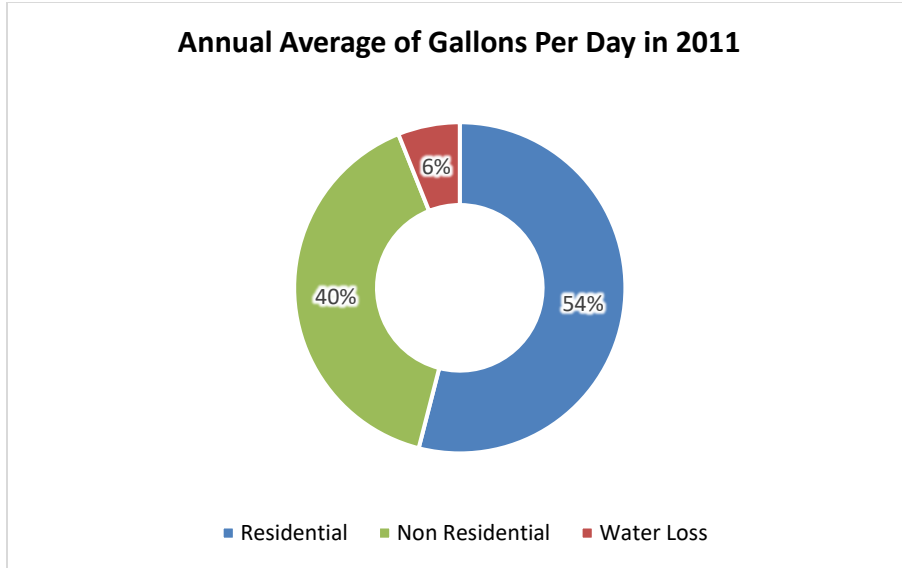


Figure 2: Historic Potable Water Use in 2011

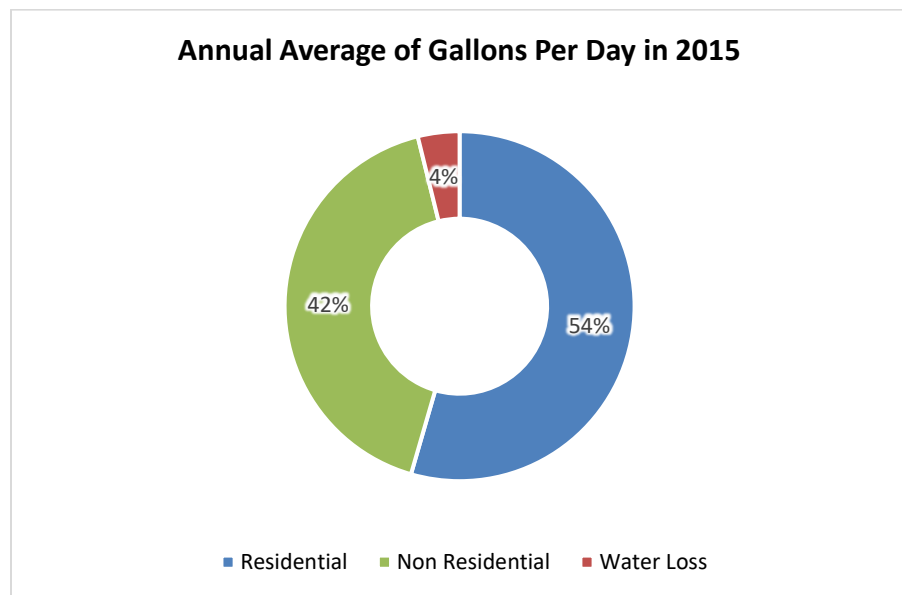


Figure 3: Historic Potable Water Use in 2015

5-year per Capita Demand

A calculation of the average per capita demand for potable water is necessary to monitor potential negative impacts on water resources and to ensure consumption rates do not exceed the Town's adopted LOS standard (115 gpcd) or the maximum 150 gpcd within the SWUCA. The average per capita demand is calculated based on the reported average daily water demand and the total consumption as measured by the Town's functional population. The functional population is defined as the total consuming end user, which includes permanent residents, seasonal residents, tourists, and net commuters as established by the SWFWMD. Table 4 outlines the 5-year per capita water demand.

Table 4: 5-Year Per Capita Water Demand

Service Area	Year	Adjusted Per Capita Demand (GPCD)*
Town of Dundee	2018	108
	2019	108
	2020	122
	2021	108
	2022	114
5-year average per capita demand		112

**Data source: Town of Dundee Public Supply Annual Report*

As shown in Table 4, the Town is generally operating within its adopted LOS of 115 gpcd. Based on the Town's PSARs from 2022 the Town's 5-year average demand is 112 gpcd.

Population Projection

Population projections used in this document are based on a methodology developed by the SWFWMD. The SWFWMD uses medium projections disaggregated to land parcel level using a GIS methodology. The functional population figures are used to reasonably estimate the potential impacts on future potable water demands. A twenty-year projection of the functional population, using the SWFWMD figures is provided in Table 5. 2020 is considered the base year consistent with the SWFWMD 2020 RWSP.

Table 5: Functional Population Projections of Dundee (2020-2040)

Year	Functional Population*
2020	5,583
2025	6,421
2030	7,183
2035	8,046
2040	8,932

* Data source: SWFWMD 2020 RWSP

2.3 Projected Annual Growth Rates

The projected functional population annual growth rates from 2020 to 2040 for the Town of Dundee are shown in Table 6 and Figure 5. In the immediate ten-year period from 2020-2030, the functional population is projected to increase from 5,583 to 7,183, reflecting an annual growth rate of 2.5 percent. Over the twenty-year period (2020-2040), the functional population is projected to increase from 5,583 to 8,932, reflecting an annual growth rate of 2.3 percent. The projected growth rates shown here, which do not include any future land acquisitions (*i.e.*, Town annexations), reflect a moderately-high growth rate over the ten- and twenty-year planning periods.

Table 6: Projected Functional Population Annual Growth Rates

Town of Dundee Projected Annual Growth Rates									
Year				2020-2025		2020-2030		2020-2040	
2020	2025	2030	2040	%Change	Annual Growth Rate	%Change	Annual Growth Rate	%Change	Annual Growth Rate
5,583	6,421	7,183	8,932	15	2.8	28.66	2.5	60	2.37

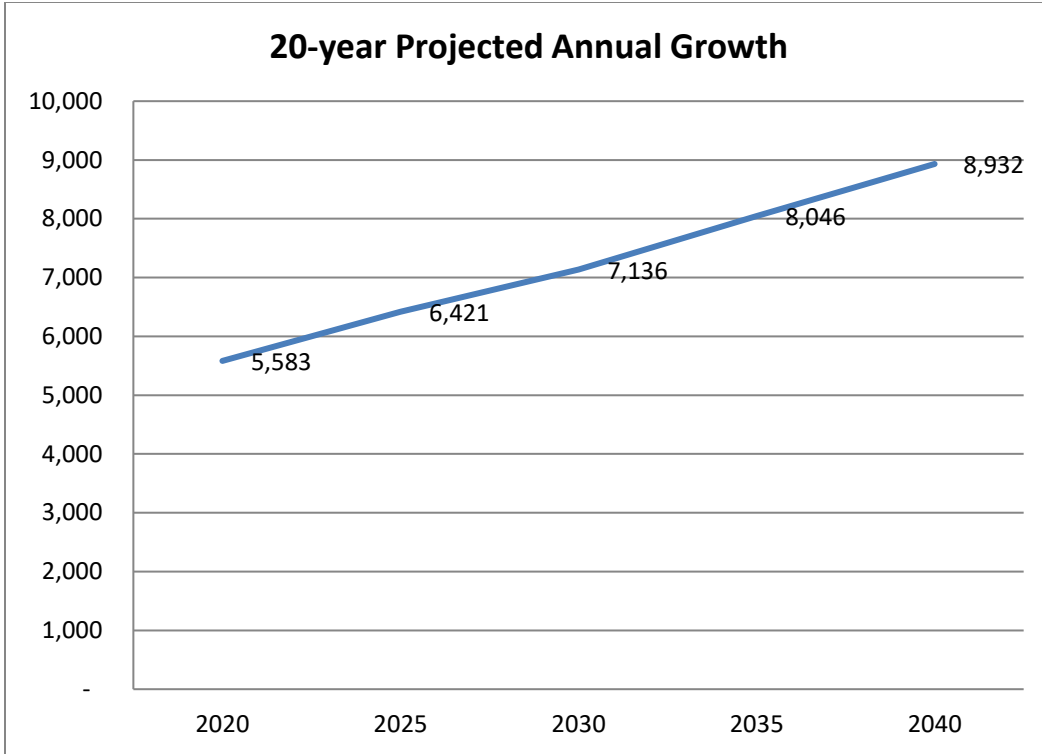


Figure 4: Projected Annual Growth

Table 8 outlines projected water demand to permitted water supply based on functional population projections using the Town's 5-year average demand (112 gpcd) as the multiplier.

Table 8: Projected Water Demand – 5-Year Average Consumption Rate (2020-2040)

	2020	2025	2030	2035	2040
Functional Population	5,583	6,421	7,183	8,046	8,932
Average Per Capita Demand (GPCD)*	112	112	112	112	112
Projected Average Demand (GPD)	625,296	719,152	804,496	901,152	1,000,384
WUP Permitted Capacity (GPD)**	917,500	917,500	917,500	917,500	917,500
Surplus (Deficit) Demand (GPD)	292,204	198,348	113,004	16,348	-82,884
Demand % of Permitted Capacity	68.15	78.38	87.68	98.21	1.090

The projections in Table 8 reveal a daily demand of 804,496 gpd by 2030 (ten-year period) and 1,000,384 gpd by 2040 (twenty-year period). Considering the Town's permitted capacity of 917,500 gpd (based on current WUP,) the Town is anticipated to meet projected growth demands in the ten-year but will face a deficit looking out to the 2040 planning horizon. Based on these findings, the town will continue to explore water re-use options and evaluate current and future projects in coordination with the SWFWMD, the CFWI and the Polk Regional Water Cooperative to assist with additional supply capacity.

SECTION 3: GOALS, OBJECTIVES, AND POLICIES

To promote long-term water resource planning and assure that adequate supplies are available to meet future water demands, the Town recommends goals, objectives, and policies, which are included in the Infrastructure, Conservation, Intergovernmental Coordination and Capital Improvements Elements of the Town's Comprehensive Plan.

3.1 Water Conservation and Water Reuse

The Town of Dundee will continue to promote water conservation and reuse in the service area. To date, the Town has implemented several water conservation regulations and initiatives consistent with SWFWMD's requirement for implementation of a water conservation plan. Dundee will continue conservation effort through the following:

- Conduct audits of the municipal water system to determine areas that may need repairs or contributing to increased water consumption through leaking pipes and prioritize accordingly.
- Require the use of Florida Friendly landscaping techniques for all new development and continuous promotion of all new automatic landscape irrigation systems to be fitted with properly installed automatic shutoff devices.
- Participate in the Florida Water Star program, which provides up to \$350,000 in rebates countywide to builders who participate in a voluntary certification program.
- Educate residents in water conservation and best practices through public education printed and on the Town's website.
- Public education printed and website.
- Promotion of low-flow toilets.
- Line Breaks are set at high priority and fixed promptly.

Additionally, the Town will continue to coordinate water conservation efforts with the SWFWMD, the CFWI, and the PRWC to ensure that proper strategies are being utilized. The Town will also continue to support and expand existing goals, objectives and policies in the comprehensive plan that promotes water conservation in a cost-effective and environmentally sensitive manner.

3.2. Intergovernmental Coordination

The Town continues to coordinate with Polk County regarding water resource issues, including coordination on water supply plans. The Town also recognizes its partnership and intergovernmental coordination with the CFWI, and the PRWC.

As part of the PRWC, Dundee is part of an inter-municipal effort to seek state funding for projects to take care of public supply needs in the next twenty years. The estimated cost of the projects is \$620 million and would produce at least 42 million gallons per day. Dundee is part of a group of municipalities that is currently working to reduce water consumption through a variety of conservation programs, which include toilet rebates and financial assistance with installation costs, rebates for landscaping of new development projects to reduce water use and information on improved irrigation projects. Finally, as part of the SWFWMD permitting requirements, the Town is required to complete a Public Supply Annual Report which documents and provides updates on water demands and facilities information for water use permit compliance and maintenance purposes.

3.3. Capital Improvements

The Town continues to monitor, update, and improve its potable water system with the goal of providing an efficient and safe water supply for its customers. The Town will continue to upgrade facilities and infrastructure as needed to ensure peak operation of its utility facilities.

The Town has identified several improvements in its Capital Improvement Plan for FY 2022/2023 to FY 2026/2027. A total amount of \$24,072,626 is identified for both water and wastewater facility improvements. Potable water, distribution and collection system improvements include water treatment upgrades, ground storage tank repairs, water main upgrades, line, valve, and meter replacements. Project funding in the first two years (through FY 2023/2024) totals \$5,902,414. Wastewater improvements include a storage building, updates to the wastewater master plan, headworks expansion, septic tank elimination projects, and improvements to the plant worth \$5,463,000, with \$1,263,000 programmed through FY 2023/2024.

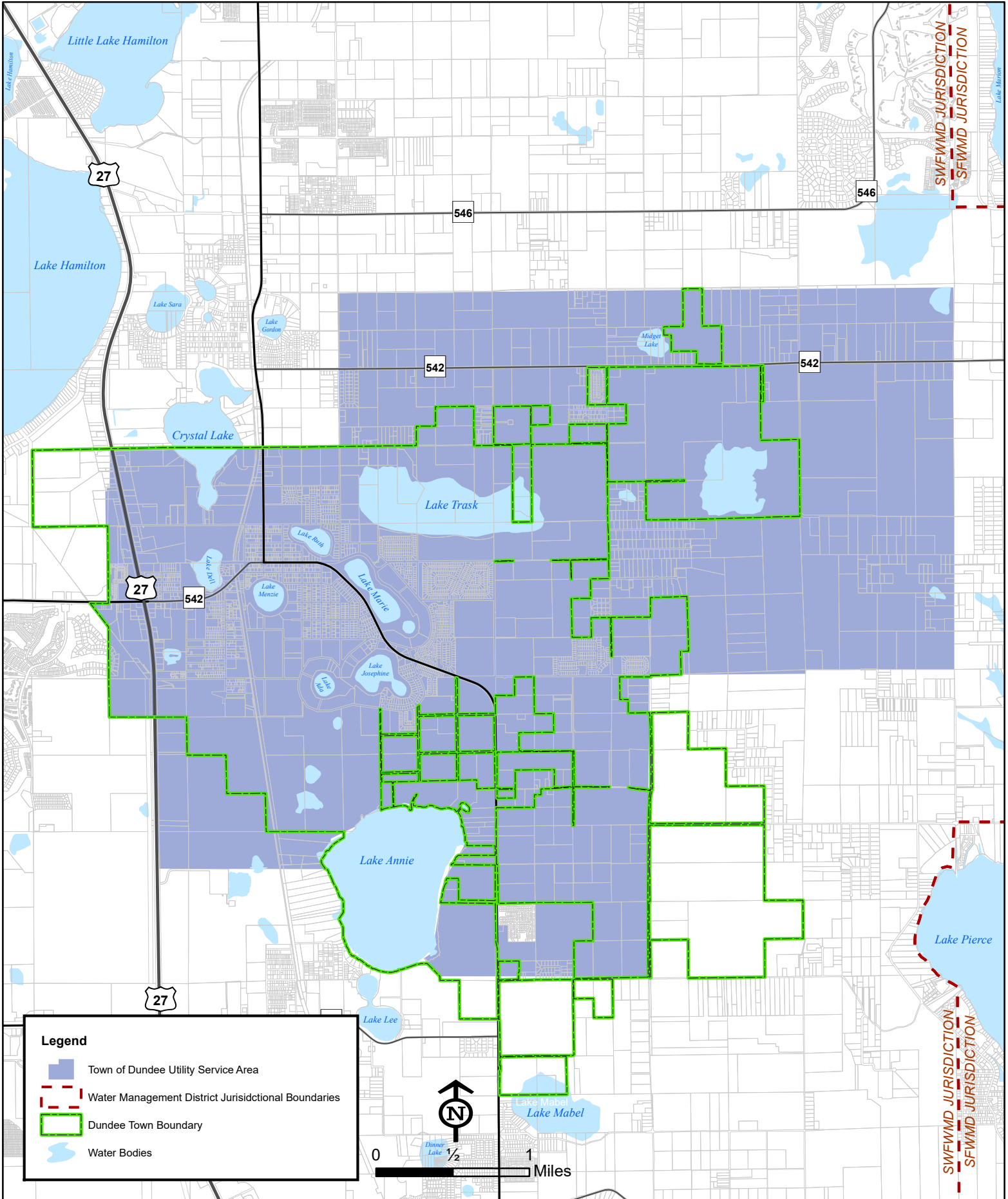
SECTION 4: CONCLUSION

4.1 Conclusion

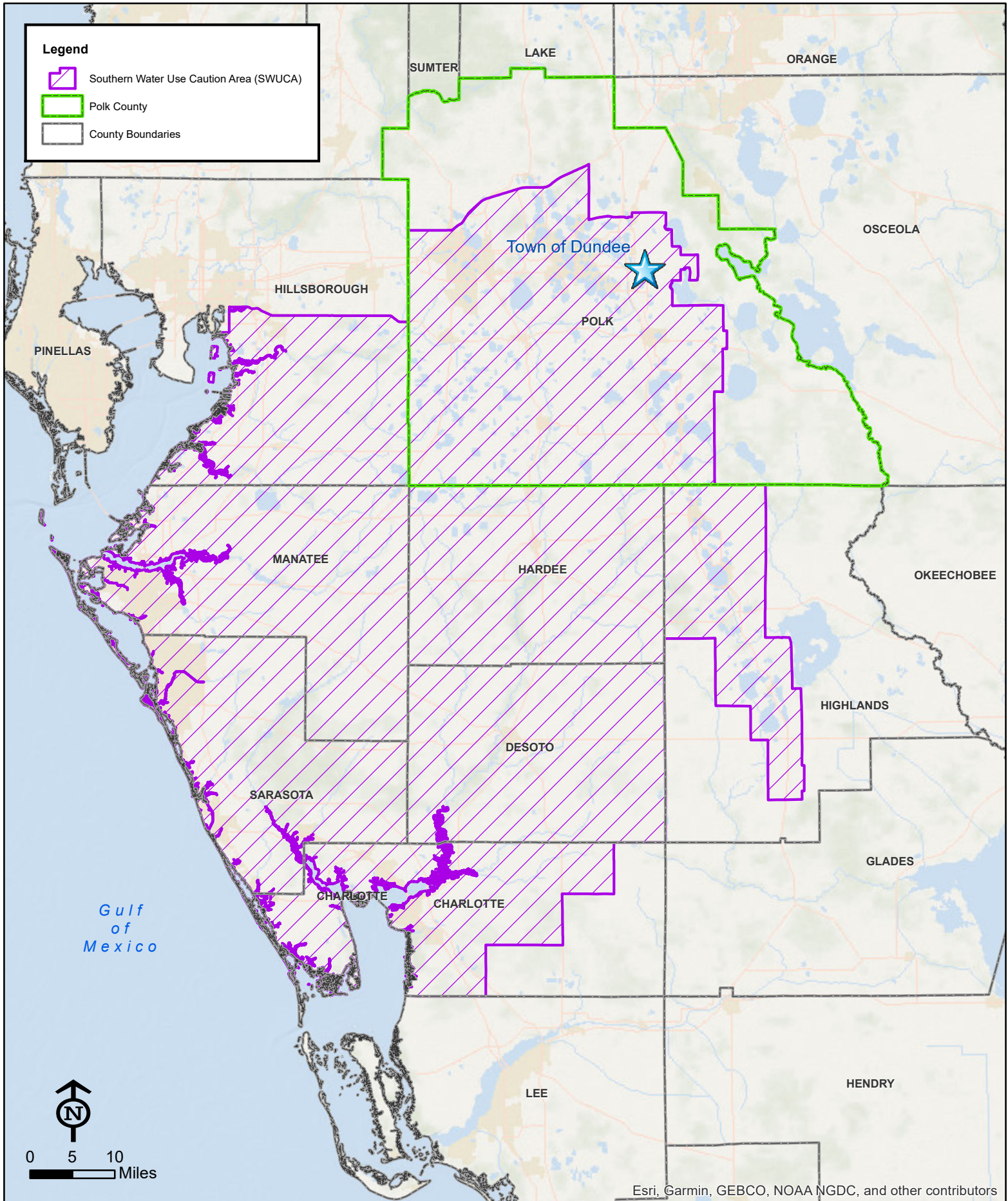
The Town of Dundee maintains and operates a potable water (utility) system serving users both inside and outside of the current Town limits. The Town system also operates within the boundary of the Southern Water Use Caution Area (SWUCA). As mentioned, the requirements under the SWUCA state that the Level of Service (LOS) standard for water must be lower than 150 gpcd. The Town's adopted LOS for water consumption is 115 gpcd. Based on reported consumption rates from 2018 to 2022, the Town's 5-year average demand is 112 gpcd.

Both the current LOS and the Town's 5-year average demand are below the SWUCA limitation of 150 gpcd. Currently, the Town's utility is permitted to distribute 917,500 GPD. The current average demand for potable water service is approximately 625,296 GPD, leaving an available capacity of 292,204 GPD. While the Town is expected to meet demands through the 10-year planning period (2030), findings reflect there will be a deficit through the 2040 planning horizon (See Table 8). Through continued efforts in coordination with the SWFWMD, the CFWI and the Polk Regional Water Cooperative, additional sources of water may be available to help meet additional needs by the 2040 planning horizon. The Town will continue its conservation efforts through all available resources and continue to upgrade its facilities when and where improvements are needed to ensure a quality water supply system is maintained.

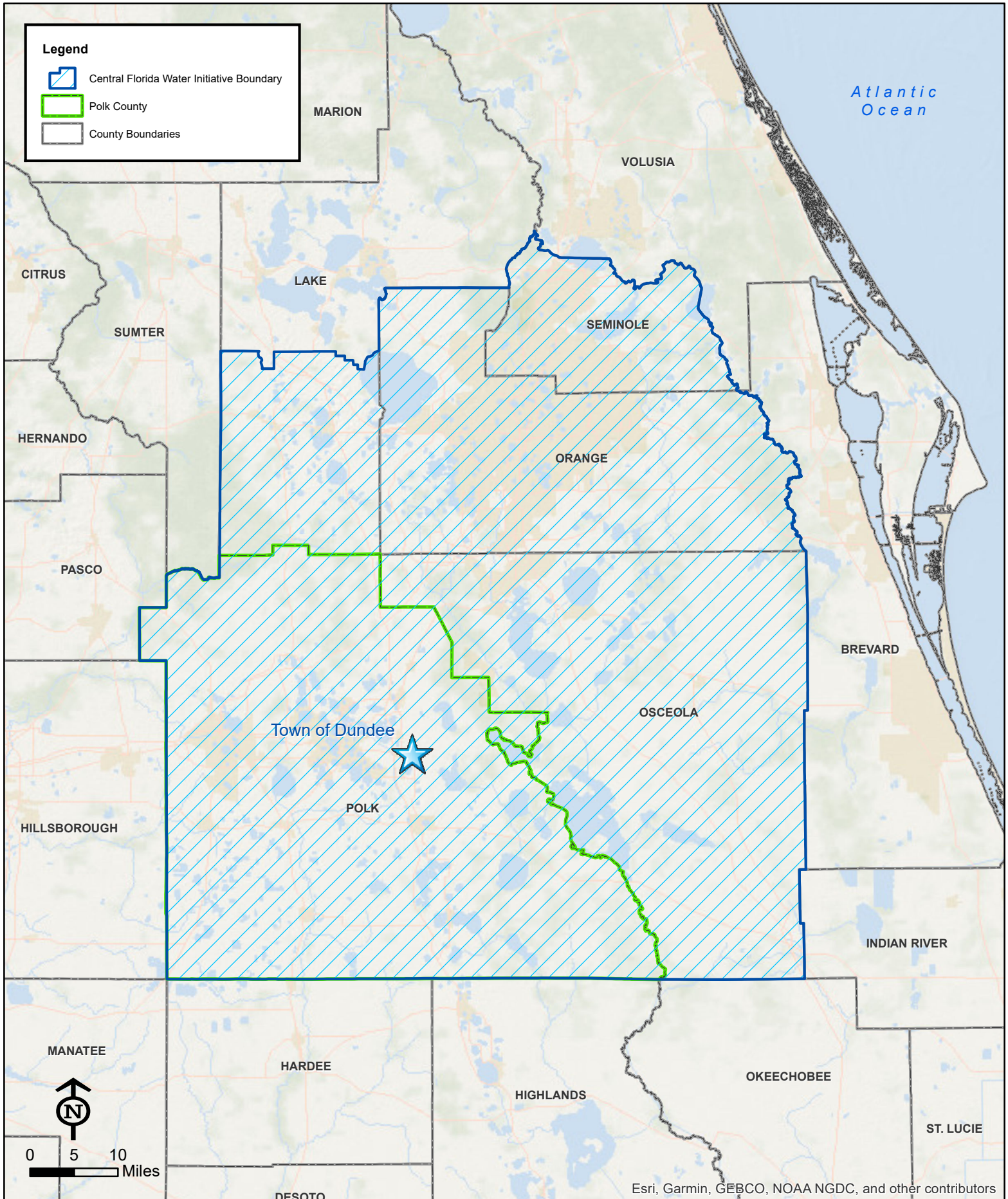
Map 1 UTILITY SERVICE AREA



Map 2 SOUTHERN WATER USE CAUTION AREA



Map 3 CENTRAL FLORIDA WATER INITIATIVE (CFWI)



Map 4 WATER & WASTEWATER UTILITY FACILITIES

