



CONTENTS

EXECUTIVE SUMMARY	V	SOCIAL GOALS	27
We Are a Water-Centric Community	VI	KEY PERFORMANCE INDICATORS	28
WE ARE FACING REAL WATER CHALLENGES	X	S.W.O.T. ANALYSIS	29
Our Community Is Planning For This	XII	GAME PLAN	32
What is the One Water approach?	XIV	ENGAGE AND COMMUNICATE	33
Vision: The Sapphire Necklace	XVI	Develop and Strengthen	33
How will we sustain our water supply?	XVIII	PARTNERSHIPS	34
We Are Charting A Path Forward	XX	RESTORE WATERSHED STORAGE AND FUNCTION	35
Introduction	2	Improve Water Conservation	37
ONE WATER VISION, DEFINITION AND MISSION STAKEHOLDERS AND PARTNERS	5	Develop a Sustainable Water Supply	39
DRIVERS	7 10	Enable Water-Efficient Land Development	40
Population Growth	11	Develop a Green Infrastructure	
LIMITED FRESH GROUNDWATER SUPPLY IMPACTS TO LAKES AND WETLANDS	12 13	Marketplace Enhance Recreational Opportunities	41
CLIMATE VARIABILITY AND CHANGE	14	OPTIMIZE WATER RESOURCE	45
REGULATION	15	MANAGEMENT ACTIONS & PROJECTS	44
AGING INFRASTRUCTURE	17	Enhance Return on Investment	45
NEED FOR FUNDING	19	Align Capital Improvements Plan & Internal Resources	46
GOALS & KEY PERFORMAN	CE	MONITOR TRENDS AND ADAPT	47
Indicators	22	ONE WATER TOOLS	50
SIX GUIDING PRINCIPLES	23	MONITOR TRENDS AND ADAPT	51
ECONOMIC GOALS	25		3-
Environmental Goals	26	PATH FORWARD	54



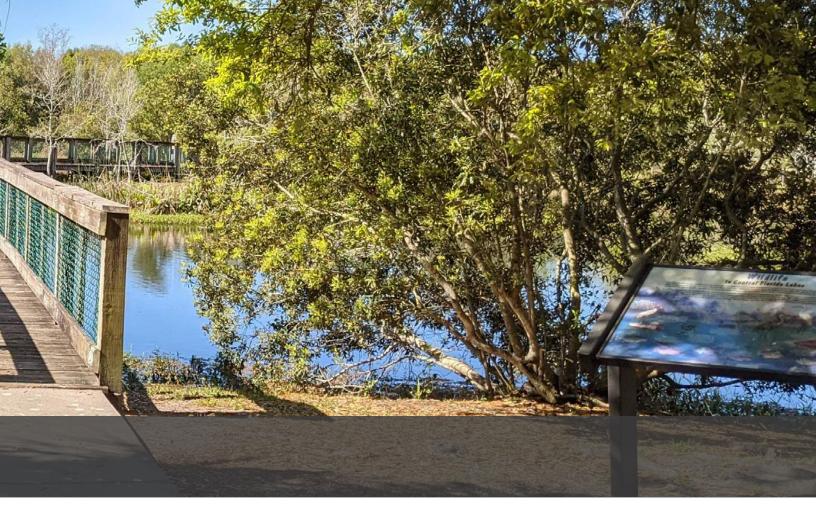
When I started at the **Chamber of Commerce**, I never imagined that in my role I would be so heavily engaged in the subject of water. To be honest, I was one of those Floridians who took water for granted. It's all around us, after all. There are very few streets in **Winter Haven** you can drive down where your travels aren't jogged in one direction or another to traverse around a lake. I knew water was important to our quality of life, a thriving business community and our health and well-being, but I didn't realize that our quantity of water was limited, and with inaction, threatened.

In 2000, the **Greater Winter Haven Chamber of Commerce** embarked on an effort called **Our Future By Design**, a community-wide process that outlined the hopes and dreams, goals and objectives for the community over the next 20 years. A pivotal part of the report was related to **the importance of water to our life in Winter Haven**. As **Winter Haven is a water-centric community**, the quality and quantity of water touches all aspects of our social, recreational, cultural, economic and environmental vitality. This prompted the City's natural resources team to envision what a long-term strategy for water in our community could be. I feel that this **One Water Blueprint** you will read about in the following pages is the perfect aggregation of the foundational work completed over the last 20 years and positions us to continue to be leaders in innovative and progressive water policy.

Why I believe everyone should care about Winter Haven's One Water Blueprint:

- Winter Haven continues to be one of fastest growing cities in the country. The demand for water will grow as our community grows
- Future water supplies will be more costly as traditional water supplies are diminished. If we develop new water supply and retention strategies within our own community, it will not just benefit our lakes and recreation, but also encourage economic growth

EXECUTIVE SUMMARY



- Water strategy "looks" different than you may think. Ultimately, water recharge and retention efforts often result in new parks and recreational areas for our families and tourists to enjoy.
- Developing an integrated approach using nature-based solutions and water sustainability
 has the potential to save businesses and developers money, lessen their own environmental
 impact and benefit the entire community long-term

"Winter Haven" was and always will be synonymous with water. We are referred to as the chain of lakes city, the inland coastal playground, the water ski capital of the world, and the mecca of seaplane training. These monikers aren't by happenstance. Many people throughout our history have been determined that we are the best when it comes to water and the benefits it provides to the community. As such, we have a responsibility to be good stewards of this legacy and collaborative innovators for our collective water future. I hope that you will join me as an active participant in this effort!

Sincerely,

Katie Worthington Decker

Katin Wax Decker

President/CEO

Greater Winter Haven Chamber of Commerce







FROM WATER SKIING TO BLUEGILL FISHING, "THE CHAIN OF LAKES CITY" EMBODIES A CULTURE CONNECTED TO WATER.

Our community's culture, economy, and way of life has been and will continue to be shaped by water. There are 50 lakes within or adjacent to Winter Haven's City limits, and many other lakes in the local area. Our lakes are one of the most valuable social, economic, and environmental resources for the community. The lakes are a defining feature of Winter Haven and have shaped much of the local character and culture. A notable example is Cypress Gardens, which opened in the 1930s and was known as the "Water Ski Capital of the World" and depended on Lake Eloise to sustain its operations. To this day, Legoland Florida continues its successful business in that same location.

Our Chain of Lakes generates
\$120M

annually in economic impact to the area

The health of our lakes correlates with the quality of life, economic opportunity, and cultural identity of Winter Haven.

VI EXECUTIVE SUMMARY

VOICES & VALUES OF ONE WATER



LEGACY LANDOWNER

VALUES FAMILY HERITAGE AND FAIR PRICE OF LAND

"My family have been stewards of this land for generations. My heirs are anxious to develop but I'm willing to have a conversation about the right project to ensure ongoing stewardship."



Builder / Developer

VALUES TIME AND EFFICIENCY OF DEVELOPMENT

"I see that Winter Haven is growing and demand for housing is intense. I'm taking on costs and risks to meet demand and need project approval and construction to run smoothly."



EXISTING RESIDENT

VALUES QUALITY OF LIFE AND LOW UTILITY RATES

"Our family enjoys seeing wildlife, fishing, and sunset dinners with friends on a day out on the lakes - we love our Chain Life."



FUTURE RESIDENT

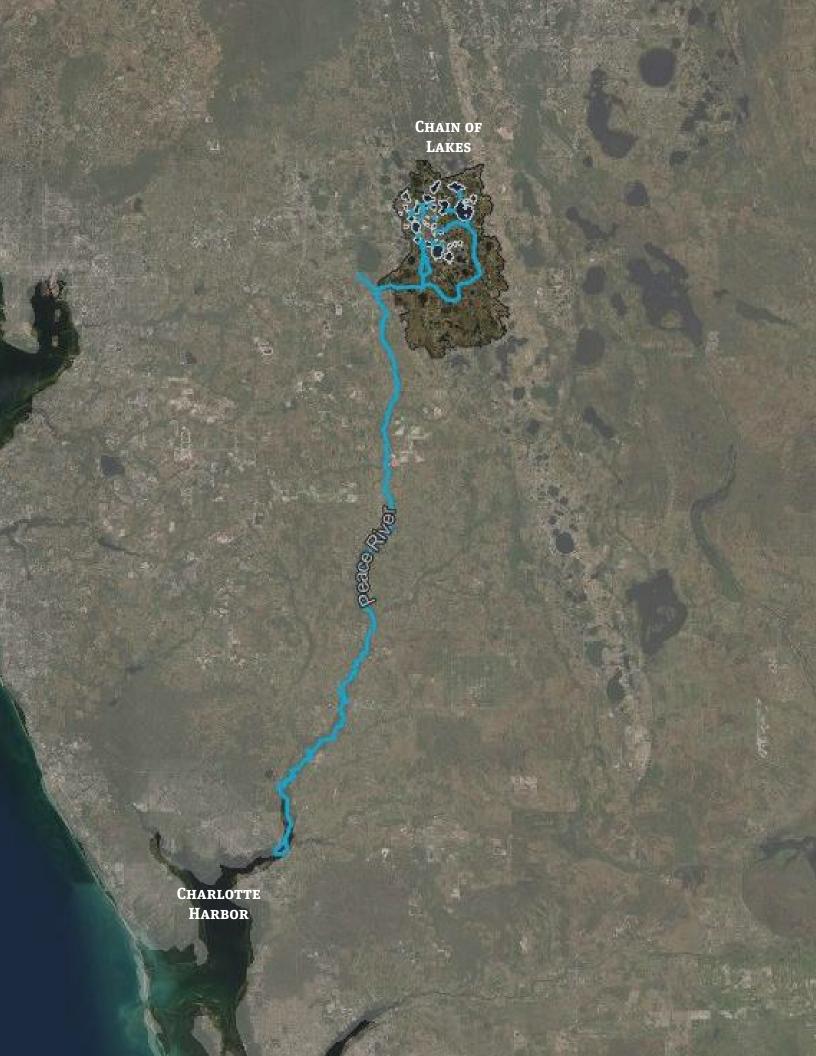
VALUES QUALITY OF LIFE AND LOW UTILITY RATES

"My partner and I work from home and are looking for an affordable place to live that has great recreational amenities for our families to explore."

WINTER HAVEN IS SITUATED AT THE HEADWATERS OF THE PEACE RIVER, IN THE PEACE CREEK WATERSHED,

and is a critical part of maintaining healthy flows of water to the Peace River and the Charlotte Harbor Estuary, an estuary of national significance. In addition, recharge to the Floridan Aquifer System, our primary source of drinking water, occurs in the Winter Haven area. The Floridan Aquifer system also sustains lakes, springs, and rivers throughout Florida and is essential to our quality of life.

Gulf of Mexico





THE QUANTITY OF OUR WATER SUPPLY AND THE QUALITY OF OUR LAKES AND WETLANDS ARE UNDER THREAT.

The challenges are many and have the potential to adversely impact our community, our water future, our infrastructure, and our quality of life. They include rapid population growth, limited fresh water supply, historic loss of water resources, regulation, aging infrastructure, limited funding, climate variability, and flood risk.

Addressing each of these challenges individually could result in a highly fragmented strategy and tremendous expenditures of time and money. We can achieve better outcomes with an integrated planning approach that addresses these challenges concurrently. When challenges are addressed concurrently they can actually be turned into opportunities so that solutions solve multiple problems.

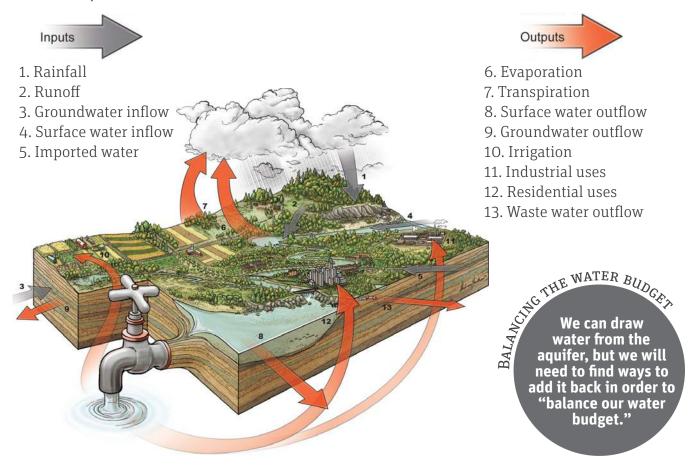
Peace Creek Watershed lost

billion gallons of water storage capacity over the last 100 years.

EXECUTIVE SUMMARY

PEACE CREEK'S WATER BUDGET

The total rainfall in the region is our water budget. We begin depleting our aquifer resource when we use more water than what is stored from rainfall.



FACTORS STRESSING OUR WATER SUPPLY



POPULATION GROWTH

Our growing population is consuming more water.



URBANIZATION

Roads and buildings are preventing water from infilltrating the aquifer.



LAKE & WETLAND DEGRADATION

Human activities are degrading the storage capacity of lakes and wetlands.



LIMITED NATURAL SUPPLY

We are limited in the amount of water we can draw from the aquifer and natural systems.



AGING INFRASTRUCTURE

Antiquated infrastructure increases cost and decreases efficient use of water resources.



CLIMATE CHANGE

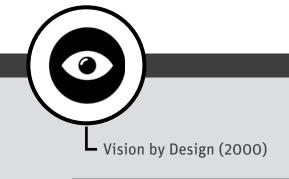
Variations in our climate impacts the frequency of rainfall, our primary source of water supply.



WINTER HAVEN'S ONE WATER BLUEPRINT STANDS ON 20 YEARS OF CAPACITY-BUILDING BY WINTER HAVEN LEADERSHIP, CENTERED AROUND SUSTAINING OUR WATER RESOURCES.

As early as the year 2000, efforts were underway with the Winter Haven Chamber of Commerce Vision by Design. In 2010, the City accomplished a major milestone with the adoption of the Sustainable Water Resource Management Plan to establish a strategic

framework and recommendations for the sustainable management of water resources. The impact of the Sustainable Water Resource Management Plan continues to this day, as it provides the strategic direction and basis for planning and implementation.





Chain of Lakes Water and Nutrient Budgets (2004)

Peace Creek Watershed Management Plan (2007) Subsequent planning efforts have advanced Winter Haven's approach to sustainable water resource management. Notable planning efforts include Building a Water-Centric Sustainable Community in 2015, the Peace Creek Watershed Implementation Plan in 2016, From Gray to Green in 2018, and The Winter Haven Stormwater Assessment and Improvement Project in 2019.

Collectively, these planning efforts have continued to develop, shape, and advance the City of Winter Haven's approach to sustainable water resource management. These prior planning efforts are a strong basis for the One Water Master Plan and the associated planning and implementation tools.



One Water Definition

One Water is a collaborative and innovative water management approach to enhance sustainability of essential resources and overall quality of life, resulting in multiple local and regional benefits.



One Water Vision Statement

To be a vibrant, innovative community embracing a One Water culture that promotes responsible stewardship of social, environmental, and economic resources.



One Water Mission Statement

To align resources, policies, communications, and funding to achieve the City's One Water vision through effective team collaboration.

CITY OF WINTER HAVEN KICKS OFF ONE WATER (2019)

The City leads a crosssector partnership to initiate One Water – a comprehensive effort to integrate their water management resources.

Sustainable Water Resource Management Plan (2010)

Interior Lakes Water Quality Management Plan (2013) Peace Creek Watershed Plans (2016)

Chain of Lake Water Quality Management Plan (2011)

Prioritizing Future Actions for Impaired Lakes (2014)

2050 Integrated Water Supply Strategic Plan (2017)

WHAT IS THE ONE WATER APPROACH?

One Water is a SHIFT in community water management: from managing water as waste to MANAGING WATER AS RESOURCE. Every drop matters for the health of our regional economy, communities, and environment.

FROM



TO



Restore

restoring lakes and wetlands that provide natural water storage.

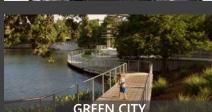




Reclaim

modernizing wastewater reclamation technology.





Recharge

replenishing the natural aquifers using nature-based solutions.

Reuse

increasing the life cycle of water as a renewable resource in Winter Haven.

National recognition for integrated planning

Protection of water resources is one of the most critical issues facing our State and requires immediate action.

-Gov. DeSantis Executive Order 19-12 Agencies will take action to increase water storage and supply through integrated planning and coordination.

-White House Executive Order Oct. 2020 ng Holistic and sustainable management of water resources is critical for building strong economies, vibrant communities, and healthy environments.

-U.S. Water Alliance

PEACE CREEK **Water In** Water Out WATERSHED Aquifer Storage/reuse Rainfall To sustain our water supply, One Water will help us find ways to balance our water budget by increasing residence time, aquifer recharge, and efficient use of water and land within the Peace Creek Watershed. WINTER HAVEN Evaporation Restore Imported potable Reclaim Recharge Reuse Reduce reliance on more costly imported/alternative potable water sources; 2 Restore and enhance the ability Wastewater discharge Stormwater runof for water to reside within the watershed for infilltration and reuse; and 3 Reduce stormwater runoff and wastewater discharge for infilltration or reuse.

Within this Peace Creek Watershed geography, we can accomplish the One Water mission with the transformative vision for Winter Haven's Sapphire Necklace

VISION: THE SAPPHIRE NECKLACE

Winter Haven's Sapphire Necklace is the most significant for 'Nature-Based Solutions' in the Heartland Region, providing a strategy for restored water resources and added community value for a sustainable future.

This approach will help replenish much of the estimated 27 billion gallons of water lost from our area's wetlands and aquifers over the past century, yielding benefits locally and across a 13-county region.

FLAGSHIP PROJECTS

Nature-Based Solutions to Restore Peace Creek

Working with public agencies and future development to restore 5,000 acres of wetlands to store 4 billion gallons of water for local and regional benefits to lakes, streams, rivers, and aquifer systems.

Water Reuse to reduce future demand

Connecting thousands of septic tanks to public sewer systems to improve water quality of lakes and streams, and beneficially reuse the water.

Upper Floridan Aquifer Recharge Demonstration Project

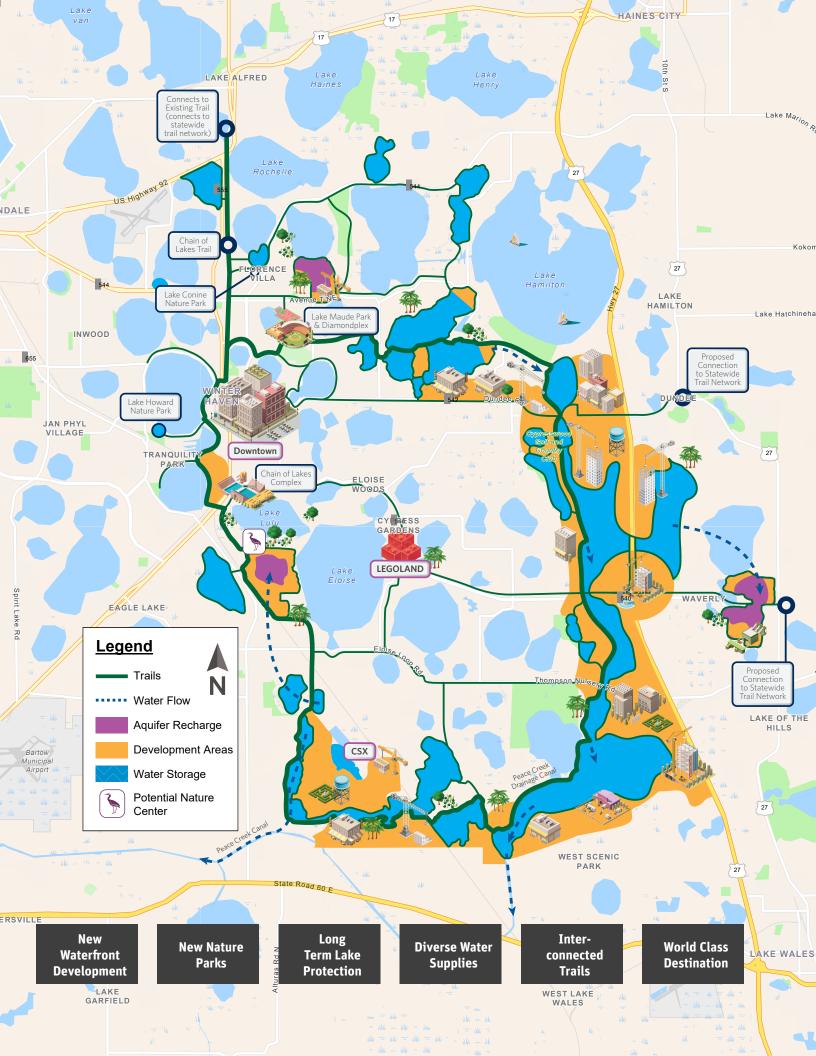
Implementing a nature-based solutions project by retrofitting a stormwater pond into a reclaimed water recharge park for recreational, groundwater, and lakelevel benefits.

Reclaim the Lake Conine Wetland Park

Constructing the City's
4th wetland treatment
nature park to improve
water quality and
reduce flooding, while
adding trails and other
recreational amenities
in a disadvantaged
neighborhood.

Winter Haven's One Water Master Plan is a multi-decade endeavor that begins with a series of flagship projects and investments. These initiatives represent Winter Haven's immediate needs and aspirations for recapturing, reclaiming, recharging, and reusing water resources. Implementation of these projects demonstrates the paradigm **shift** necessary to sustain One Water's impact. State-level support and investment will help kickstart the One Water Master Plan.

XVI EXECUTIVE SUMMARY





WINTER HAVEN'S ONE WATER BLUEPRINT PROVIDES THE GOALS, STRATEGIES, AND TACTICS TO HELP SUSTAIN OUR WATER SUPPLY OVER THE NEXT GENERATION OF WINTER HAVEN'S GROWTH.



The One Water Framework ensures shared benefits to the future social, economic, and environmental sustainability of Winter Haven and a model for the Heartland Region.

XVIII EXECUTIVE SUMMARY

WINTER HAVEN'S ONE WATER GAME PLAN

O1 Engage & Communicate	O2 Develop & Strengthen Partnerships	Restore Watershed Storage & Function
04 Improve Water Conservation	O5 Develop a Sustainable Water Supply	06 Enable Water- Efficient Land Development
07 Develop a Green Infrastructure Marketplace	08 Enhance Recreational Opportunities	O9 Optimize Water Resource Management Actions and Projects
10 Enhance Return on Investment	11 Align Capital Improvements and Internal Resources	12 Monitor Trends & Adapt

The One Water Game Plan includes Actions that should be implemented holistically and in an integrated manner to accomplish the most beneficial outcomes and prevent the creation of singular-purpose silos.



THE PATH FORWARD INVOLVES COMPLETING AND IMPLEMENTING THE ONE WATER MASTER PLAN THROUGH UNDERSTANDING THAT THE ONE WATER MASTER PLAN IS NOT THE DESTINATION – IT IS A ROADMAP OF HOW TO ACCOMPLISH THE GOALS THAT ARE ESSENTIAL TO COMMUNITY QUALITY OF LIFE.

Accordingly, this One Water Blueprint is a "Call to Action" to maintain the momentum and keep moving forward. To reach the destination of a high quality of life defined by sustainable water resources and a thriving economy, the City of Winter Haven, along with its stakeholders and partners, are compelled to continue taking action on the strategies presented herein.

In addition, the One Water Framework is a "Call to Leadership". Each person involved in the One Water Initiative is encouraged to take bold leadership and help champion the One Water Game Plan.

A lack of leadership and action is one of the biggest threats to reaching a successful water future. In the absence of local leadership, external forces will determine water outcomes, and Winter Haven could find itself in an undesirable future place. Therefore, it is the individual responsibility of each citizen, as well as the collective responsibility of the community, to take ownership of water and take charge of its own water destiny.

XX EXECUTIVE SUMMARY



Introduction

Winter Haven's One Water Blueprint is a roadmap to a sustainable water future over a 50-year planning horizon. It helps us establish the vision, mission, strategy, direction, and actions for planning and implementation of the City of Winter Haven's One Water Initiative. Accordingly, this One Water Blueprint is to be adopted as the guide for strategy and actions to accomplish local and regional water resource sustainability and resilience.

Winter Haven's One Water Blueprint provides a basis of action ("why" the One Water approach is important) as well as the recommended path forward ("what" needs to be done and "how" to accomplish it). A simple way to remember this is "long-term vision, ongoing action".

This **Introduction** captures the overall context for the One Water Master Plan, including the One Water Vision, Mission, and Definition.

The City of Winter Haven has a rich history of efforts to drive sustainability in water resource management, and the Introduction provides a summary of the history of planning efforts to help the reader understand where the City of Winter Haven has been and why the City is now positioned to advance into implementation. The

Introduction also situates Winter Haven's One Water Master Plan within a national context of the Integrated/One Water planning movement.

The **Drivers** section provides a description of the significant local and regional challenges that Winter Haven – and many of its stakeholders and partners – are facing, which must be addressed to maintain and enhance a high quality of life. These drivers are to be addressed concurrently – in an integrated approach – to avoid fragmentation of strategy and creation of silos of resources and expertise. These drivers are documented in the current state, and they will likely change in the years to come as social, environmental, and economic conditions change.

The **One Water Goals and Key Performance Indicators** section conveys the outcomes of desired future conditions and the multiple economic, social, and environmental benefits of accomplishing a sustainable water future. The One Water Goals are a touchstone to help maintain motivation, drive, and a sense of purpose over the 50-year planning horizon.

To be successful, the One Water Initiative must be action oriented. Accordingly, this One Water Blueprint includes a **One Water Game Plan** section. One Water Game Plan gives direction on what actions need to be accomplished to reach the desired future conditions of economic, social, and environmental sustainability. Some of the Actions are in progress, and others have yet to be undertaken, so the Actions are written within the context of the conditions at the time of writing of this Blueprint. However, One Water Actions are intended to be adaptive and flexible as conditions and drivers change. In addition, the One Water Actions are to be implemented holistically and in an integrated manner to accomplish the most beneficial outcomes and prevent the creation of singularpurpose silos.

One Water Tools describes the expected work products from the One Water Master Plan and how they are to be used for successful implementation. It is important for us to understand that the tools are expected to take many different forms, including electronic documents, memoranda, reports, spreadsheets, computational models, and geographic information system files. These tools collectively constitute an adaptive planning approach that provides a decision-support system to be adopted, employed, and modified by current and future City of Winter Haven staff and contractors. The One Water Master Plan is not intended to be a collection of hard-copy documents to place in an archive – it should be an ongoing endeavor that adapts to changing conditions.

Path Forward includes a conclusion for the One Water Blueprint and is a "Call to Action" to complete and implement the One Water Master Plan. Path Forward is also a "Call to Leadership" that encourages City of Winter Haven elected officials, staff, contractors, citizens, and stakeholders to be courageous, confront the status quo, take ownership, and be willing to drive the One Water Initiative forward expeditiously for the benefit of the community and the region.

INTRODUCTION



ONE WATER VISION, DEFINITION, AND MISSION

The City of Winter Haven has established a solid foundation for the One Water Master Plan by creating its vision statement and local definition of One Water. In late 2019 and early 2020, the City of Winter Haven Integrated Water Management Team and key stakeholders held a series of workshops to set the One Water Foundation, a key concept recommended by the Blueprint for One Water (Water Research Foundation, 2017). Key outcomes from the workshops include the following statements and definitions.

The vision, definition, and mission statement are foundational to maintaining alignment of future planning and implementation actions with One Water goals. They also help the City of Winter Haven communicate the approach to and goals of the One Water Master Plan to stakeholders and partners.

ONE WATER DEFINITION

One Water is a collaborative and innovative water management approach to enhance sustainability of essential resources and overall quality of life resulting in multiple local and regional benefits.

Introduction





VISION STATEMENT

To be a vibrant, innovative community embracing a One Water culture that promotes responsible stewardship of social, environmental, and economic resources.

MISSION STATEMENT

To align resources, policies, communications, and funding to achieve the City's One Water vision through effective team collaboration.

STAKEHOLDERS AND PARTNERS

Considering the multiple benefits of the One Water approach at both local and regional scales, the City of Winter Haven has and will continue to develop partnerships to drive implementation of One Water management actions, policies, and projects. Partnerships - in both the public and private sectors - are essential to reaching One Water goals, because water touches so many aspects of the community, and the way water is managed involves many decisions. Partnerships are also needed to implement projects, because local funding and logistical resources are limited. The multiple benefits of One Water projects can accrue to many entities in both the public and private sectors at local and regional scales, so investment in One Water projects can be attractive to partners at the local, regional, state, and federal levels.

The City of Winter Haven, in the course of developing the One Water Master Plan, has developed a number of key partnerships to promote and advance the effort. Key partners that have been involved include, but are not limited to, the following:

- · The Nature Conservancy
- Florida Department of Environmental Protection
- · Southwest Florida Water Management District
- · Polk Regional Water Cooperative

- · Florida Department of Economic Opportunity
- · Winter Haven Chamber of Commerce
- · Florida Department of Transportation
- · U.S. Environmental Protection Agency

The comprehensive nature of the One Water Master Plan's actions and policies deserves a robust decision-making process that should involve the community and key local, regional, state, and federal stakeholders. In the local area, an effective forum for ongoing communication and decision-making could be established in the Peace Creek Working Group. This Working Group could consist of local governments in the Peace Creek watershed, the Polk Regional Water Cooperative, Southwest Florida Water Management District, and select non-governmental organizations. The purpose of the Working Group would be to promote the One Water Initiative across jurisdictions for a consistent approach, advance implementation of projects, develop project funding initiatives, and ensure multiple benefits accrue to partners and water resources.

7 Introduction





Drivers

While we maintain focus on the Desired Future Conditions, we must also be mindful of the drivers, or challenges, that we face now. These drivers are many and have the potential to adversely impact our collective future if we do not take ownership, responsibility, and leadership. The drivers that challenge our community, our water future, our infrastructure, and our quality of life include rapid population growth, limited fresh water supply, historic loss of and increasing stress on water resources, regulation, aging infrastructure, limited funding, climate variability, and flood risk.

Addressing each of these drivers individually could result in a highly fragmented strategy and tremendous expenditures of time, capital, and other resources. Accordingly, an integrated approach to planning that considers these drivers concurrently in a holistic planning process can efficiently address these drivers. When drivers are addressed concurrently, they can actually be turned into opportunities so that the solutions may solve multiple challenges. The following sections help our collective understanding of the drivers and why they must be considered in the One Water Master Plan.

POPULATION GROWTH

The 2020 census estimate shows the City of Winter Haven incorporated area population at about 47,000, while the 2010 census estimate was about 34,000. This represents a 38 percent increase in population in 10 years, which is a very high growth rate. Unincorporated Polk County, over the same time frame has a growth rate approaching 19 percent. This is consistent with the rapid population growth across Central Florida – from Tampa to Orlando and beyond.

Population and water demand projections have been developed for the utility service area as part of the One Water Master Plan. These projections recognize that population, and associated demands for water supply, are expected to grow rapidly. For the utility service area, the projections estimate that population could grow from 91,000 in 2020 to 135,000 in 2040 to 157,000 in 2070. This rapid rate of population growth will result in significant demands for new water supply, wastewater service, flood protection, waterbased recreation, and many other infrastructure needs. Water supply needs are projected to grow from an estimated 10 million gallons per day in 2020 to over 16 million gallons per day in 2070, an increase of over 60 percent.

In addition to increased water supply demands, an increasing population results in increased needs for homes, businesses, roads, parking areas, and other urban land development. This typically increases stormwater runoff while reducing the amount of water that can infiltrate into natural aquifers because of impervious surfaces. Wetlands and surface water storage areas are often impacted by development. Even though the development process is regulated on a site by site basis, the cumulative impact of development at a landscape scale often increases flooding, degrades water quality, reduces areas of aquifer recharge, and eliminates vital wetlands.

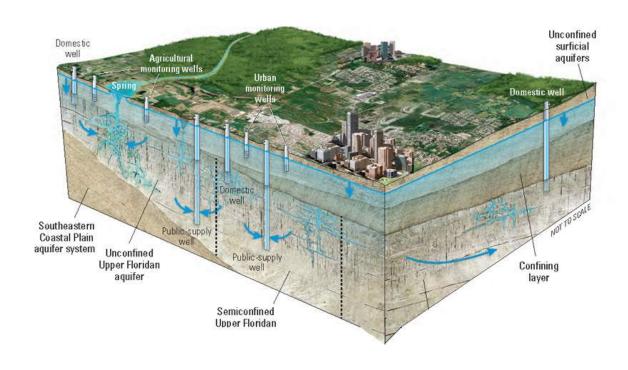


11 Drivers

LIMITED FRESH GROUNDWATER SUPPLY

The Floridan Aquifer System has been the traditional source of water supply for many parts of Florida, and the region in and around Winter Haven has followed this tradition. The Floridan Aquifer System tends to produce high quality water that supports municipal supply, residential self-supply, businesses, industries, and agriculture. According to the Central Florida Water Initiative (CFWI) Regional Water Supply Plan, it has been estimated that Polk County uses approximately 215 million gallons per day of fresh groundwater as of 2015. The projected demands for groundwater in Polk County are expected to increase to 260 million gallons per day by 2040, an increase of 21 percent (CFWI 2020).

Historic overuse of the Floridan Aquifer System, coupled with other water resource impacts, has resulted in significant regional impacts to wetlands, springs, lakes, and rivers across Central Florida, including Polk County. Additional impacts are projected unless alternatives to traditional fresh groundwater sources are developed (CFWI 2020). This points to the need for a change of approach to future water supply, and water management overall, and a shift to an integrated approach that considers all water as a resource.



IMPACTS TO LAKES AND WETLANDS

Prior to development of the watershed, water was stored naturally in wetlands and lakes, and natural recharge areas allowed water to percolate into aquifers, which sustained area lakes and river flows.

With the onset of development, canals were constructed to drain water off the land, with that idea that it would be more suitable for agriculture, residential development, industry, and businesses. As development has expanded, the construction of pavement and buildings (impervious surfaces) has reduced the percolation of water into aquifers, where water is naturally stored underground. In addition, more wells were drilled to withdraw water for essential human uses. The combination of reduced percolation, loss of storage of water in wetlands and lakes, increased withdrawals of water, and draining of water from the Peace Creek watershed has resulted in multiple impacts on water resources and a loss of water from the Winter Haven area that could support both improved natural systems and future water supply.

Essentially, the Peace Creek drainage canal and its tributaries reduced the water budget of the area, meaning that large amounts of water leaves the area and drains to the Gulf of Mexico instead of being stored in the Peace Creek watershed for the benefit of nature and residents. According to the 2010 Sustainable Water Resource Management Plan, the digging of the Peace Creek drainage canal, and the subsequent impacts to wetlands and shallow aquifers resulted in a decrease of nearly 9,000

acres of wetlands. This has led to the loss of about 6 billion gallons of wetland storage and 21 billion gallons of shallow aquifer storage, for a total loss of about 27 billion gallons, enough water to fill an 8,000-acre lake over 10 feet deep. This massive reduction of the water budget means there is less water available to keep lakes, wetland, streams, and rivers healthy and meet human needs for water. As development continues to increase runoff, reduce percolation and wetland storage, and consume more water, additional water resources are lost.

The historic and ongoing loss of water resources is a critical driver, because more water is needed to sustain future development; while lakes, wetlands, rivers, and aquifers need their water levels restored to sustain a healthy environment that is attractive and sustainable. This clearly points to the need for improving the water budget for the benefit of nature, society, and the economy.

13 Drivers

CLIMATE VARIABILITY AND CHANGE

Climate variability and change is a multifaceted, emerging issue across the United States. In Florida, where there is a significant risk of impact from sea level rise on infrastructure, it is a significant concern that is driving agencies and local governments to plan far into the future. The Southeast Florida Regional Climate Change Compact (SEFRCCC) has been developing strategies and actions for over10 years, and the Tampa Bay Regional Resiliency Coalition is now following a similar approach to regional adaptation planning. While sea level rise is the significant topic of concern for coastal areas, concerns for inland areas of Florida like Polk County relate to drought and flood intensity, duration, and frequency. Droughts and floods are a natural part of our climate in Florida, but there is growing concern that these events may become more intense with climate change. The Southeast Florida Regional Climate Change Compact has identified precipitation and drought as an issue to monitor and consider for adaptation planning and has stated that changing climate has already begun to affect rain patterns and intensity, as well as drought (SEFRCCC 2021). These changes in precipitation patterns will likely extend to inland areas of Florida as well.

The Southwest Florida Water Management District has identified climate change as a significant concern it its water supply plans, with the potential for changing conditions related to sea level rise and changing rainfall patterns. The 2020 Heartland Planning Region Water Supply Plan, which includes Polk County,

states that higher summer temperatures and humidity may increase the frequency of local thunderstorms, which can increase stormwater runoff and flooding in some areas. Warming temperatures in the Atlantic Ocean and Gulf of Mexico may increase the likelihood of intense tropical storms and hurricanes with heavily concentrated rainfall. From a water supply and natural systems perspective, increasing temperatures would drive increased evaporation and irrigation demands, both causing potential impacts to wetlands, lakes, rivers, and streams. Increased evaporation is likely to impact stormwater runoff, soil moisture, groundwater recharge, and reservoir storage losses (SWFWMD 2020).

Changes in climate drives the need for improved community resilience across Florida. For the City of Winter Haven, the strategies to improve resilience and adapt to the impacts of potential climate change focus on watershed restoration and shifting the approach to future development. Restoring wetlands and lakes, restoring surface water storage, and shifting to more sustainable development patterns help the community become more resilient. The Integrated/One Water planning approach is the forum for developing and implementing these strategies and actions.

REGULATION

Federal, state, and regional regulatory agencies have put laws and regulations into place to address the growing scarcity of water and increasing degradation of water quality. The goal of these regulations is to prevent activities that are harmful to the environment and water supply, such as over pumping of groundwater, water pollution, and loss of wetlands. These regulations obligate both public and private entities to take actions, such as reducing pumping of groundwater, improving the quality of wastewater and stormwater discharges, capturing runoff, and mitigating for impacts to wetlands. Many of these regulations have been developed within individual programs and are not integrated to manage water holistically (they tend to be regulatory silos). These regulations require actions that are costly, and requirements to comply should be carefully planned within an integrated framework to ensure cost effectiveness of solutions.

In 2020, the Florida Department of Environmental Protection (FDEP) initiated two significant regulatory efforts. The first is the Central Florida Water Initiative rules that propose to reduce withdrawals of fresh groundwater in all or part of five central Florida counties, including Polk County. The purpose of the reduction is to remedy existing and prevent future impacts from groundwater withdrawals to lakes, springs, rivers, and wetlands. The Central Florida Water Initiative is a joint effort of FDEP, Southwest Florida Water Management District, and St. Johns River Water Management District. Through this multi-

agency coordination, it has been documented that more water has been allocated for use than the natural systems can sustainably yield. The CFWI rules will require that increases in water demands for public supply be met with alternative sources such as surface water, brackish groundwater from deep aquifers, and reclaimed wastewater. These alternative water sources tend to be more costly to develop and maintain, which typically increases the cost of water supply and the rates that customers pay.

The second significant regulatory effort initiated in 2020 is a comprehensive change to stormwater rules in the Environmental Resource Permitting program. This effort is led by FDEP with participation by all five of Florida's water management districts and was implemented by Senate Bill 712, effective July 1, 2020. The purpose of this regulatory change is to improve the quality of water discharged from stormwater treatment systems. This is necessary because many waterbodies across Florida, and in the Peace Creek watershed, are "impaired", meaning the water quality is degraded to the point that standards are not met, and the waterbodies may not be fishable, swimmable, or meet other intended uses.

For water bodies that are impaired, the FDEP establishes total maximum daily loads (TMDLs). A TMDL is a calculation of the amount of pollutants (such as nutrients, bacteria, or mercury) that a water body can process and still meet the water quality standards for human and aquatic health. If TMDLs are not met, then FDEP develops a Basin Management Action

15 Drivers

Plan (BMAP) in collaboration with watershed stakeholders to restore water quality. BMAP projects are costly for both public and private entities. In addition, the proposed changes to stormwater regulations will likely increase the cost of stormwater management.

With the expense of new regulatory requirements, it is imperative to consider how solutions to improve water supply, flood protection, natural systems, and water quality can be developed with integrated thinking. Integrated solutions may help reduce the costs of compliance, and, ultimately, reduce the cost burden on businesses and residents within the Peace Creek watershed.



AGING INFRASTRUCTURE

Aging infrastructure, and the need for renewal and replacement, is an ongoing and ever increasing challenge for communities across the United States. Aging infrastructure is the major concern for respondents to Black & Veatch's 2020 Strategic Directions Water Report survey. Nearly 80 percent of the water, wastewater, and stormwater professionals who took the survey named aging infrastructure as the most challenging issue they face today (Black & Veatch 2020).

The American Society of Civil Engineers (ASCE) publishes an Infrastructure Report Card periodically to evaluate and grade the status of infrastructure in the United States, and for states individually. In the 2017 National Report Card, drinking water infrastructure was graded as a D, and wastewater infrastructure as a D+ (ASCE 2017). Florida's infrastructure has been graded somewhat better than the nation as a whole, with a drinking water infrastructure grade of C+ and a wastewater infrastructure grade of C. Unfortunately, Florida has been assigned a stormwater grade of D, largely because stormwater utility fees have declined, while stormwater infrastructure needs continue to increase and the health of water bodies continues to be impaired (ASCE 2016).

According to the U.S. Environmental Protection Agency's (USEPA) Clean Watersheds Needs Survey 2012, Report to Congress, the total national need for wastewater capital improvements was \$270 billion as of January 1, 2012 (USEPA 2016). This included publiclyowned wastewater conveyance and

treatment facilities, combined sewer overflow correction, and stormwater management. The wastewater infrastructure needs within Polk County has been estimated at over \$600 million for wastewater treatment, work on sewers, and distribution of treated (reclaimed) wastewater. For the City of Winter Haven, the reported needs were over \$126 million for wastewater infrastructure (USEPA 2016). Both of the City of Winter Haven's wastewater treatment facilities were constructed in the 1970s, and are in need of replacement or rehabilitation.

For drinking water infrastructure, the needs total \$472.6 billion across the United States according to USEPA's sixth national assessment of public water system infrastructure (USEPA 2018). USEPA's assessment shows that improvements across the U.S. are primarily needed in:

- Distribution and transmission: \$312.6 billion to replace or refurbish aging or deteriorating pipelines.
- Treatment: \$83 billion to construct, expand, or rehabilitate infrastructure to reduce contamination.
- Storage: \$47.6 billion to construct, rehabilitate, or cover water storage reservoirs.
- Source: \$21.8 billion to construct or rehabilitate intake structures, wells, and spring collectors.

In the State of Florida, USEPA reported that the total drinking water need was \$21.89 billion, with the majority (\$13.73 billion) required

17 Drivers

for transmission and distribution and \$1.446 billion needed for source water development.

Winter Haven's One Water Blueprint 35 Considering the increasing scarcity of traditional fresh groundwater sources, the total capital need for source water development is likely significantly underestimated because of the increasing demands to develop costly alternative water sources.

The City of Winter Haven's 2021–2025 five-year capital improvements budget for water-related utility infrastructure has been forecast at over \$166M. The prior year was forecast at about \$84M, indicating that the capital needs for water infrastructure nearly doubled in one year, and this capital needs forecast does not include land acquisition (Winter Haven 2020). This

shows that there is a rapidly growing need for water infrastructure renewal and replacement.

As the One Water Master Plan is developed, Winter Haven's capital needs will be re-forecast. It is likely that the One Water Master Plan will identify additional water infrastructure projects. The need to address infrastructure across water, wastewater, reclaimed water, and stormwater sectors presents tremendous opportunities to shift our collective thinking and seek integrated/One Water solutions that drive multiple benefits, making expenditures more efficient.



NEED FOR FUNDING

As discussed in the previous section, water infrastructure needs are increasing locally, across Florida, and nationally. The need for infrastructure brings a hefty price tag, which should cause us to ask questions such as:

- Are local funding sources sufficient to provide water infrastructure needs? If not, where can we find funding?
- How can we be innovative in finding funding solutions?
- How can we prioritize water infrastructure expenditures?

Most communities struggle with funding water infrastructure because the need for capital exceeds available funding. The American Society for Civil Engineers (ASCE) has estimated that America's 2019 water infrastructure investment gap was \$81 billion, meaning there is far more infrastructure investment need than there is available funding. The impact to communities is compounded because underinvestment in infrastructure translates into higher costs for businesses to manufacture and distribute goods and provide services. These higher costs, in turn, are passed along to workers and families. ASCE has estimated that, over the next 20 years, America's overdue infrastructure needs will cost the average American household \$3,300 per year (ASCE 2019).

While a failure to act has consequences, investment in water infrastructure can yield significant returns. Investment in the nation's aging water infrastructure can spark a new era of job creation and economic growth while protecting public health and improving the quality of life for families across the United States. ASCE has estimated that closing the water infrastructure investment gap would result in three impactful outcomes (ASCE 2020):

- Business sales would increase, and the US GDP would grow by \$4.5 trillion.
- The U.S. trade balance would dramatically improve, making exports more competitive.
- Investment would create 800,000 jobs, and disposable income would rise by over \$2,000 per household.

While this big-picture outlook is well beyond the scale of a community like the City of Winter Haven, we should be mindful that the actions of each community play a role in the success of our region, state, and the United States. To meet the needs of the community, the City of Winter Haven will have to make investments in water infrastructure. With the significant limitations on funding, Winter Haven should seek to invest in solutions that yield the most benefits to the economy, society, and the environment (in other words, strive to optimize the benefit to cost ratio). Accordingly, Winter Haven must be equipped to quantify the total benefits of its water infrastructure investments.

19 Drivers





Goals & Key Performance Indicators

The 2010 Sustainable Water Resource Management Plan established overarching goals for water resource management in the Peace Creek Watershed. The One Water Master Plan builds upon these goals and provides a focused set of goals with related Key Performance Indicators to enable the City of Winter Haven to verify progress and success.

The overarching goals from the 2010 Sustainable Water Resource Management Plan are as follows:

- 1. Meet long-term water resource needs of people and natural systems.
- 2. Manage all sources of water floodwater, stormwater, reuse water, groundwater, and rainfall as a finite interconnected resource.
- 3. Establish a local leadership role in managing water resources and not rely on others to make decisions for the watershed.
- Ensure the unique characteristics of the Peace Creek watershed are considered in local and regional decisions.

- 5. Direct today's actions for a defined future result of water resource sustainability.
- 6. Ensure all approaches are aligned with goals for economic growth; providing opportunities for nature-based tourism, recreation, open space, water amenities, and urban development.
- 7. Integrate water storage and treatment areas into the community using nature parks.
- 8. Manage land to improve water resources in the future and not all their gradual degradation as in the past.

These goals are foundational for the One Water Master Plan and are to be built upon through completion of the Plan and actions to implement.

SIX GUIDING PRINCIPLES

The 2010 Sustainable Water Resource Management Plan established Six Guiding Principles of sustainable water resource planning and management that form a foundation for how to think, plan and take action. These guiding principles speak to "why" it is important to adopt a sustainable approach. The One Water Master Plan should be developed, adapted, and implemented with these Six Guiding Principles in mind. These Six Guiding Principles are provided here for the reader's convenience:

1. Increase rainwater storage.

2. Preserve and Enhance the Watershed.

3. Balance Impacts with Mitigation.

The total rainfall in the region is that region's water budget – supplies from outside the region are considered to be "borrowed" or "leased" and cannot be counted on during drought or after the watershed is built out. The storage of water in the landscape – in aquifers, lakes, rivers, and wetlands allows variations in rainfall to be averaged, and this vital function should be restored and protected.

In the long run, it is far more efficient and cost-effective to use the watershed's natural infrastructure to provide multiple long-term water resource benefits than to restore lost hydrologic function using structural, man-made means. It is essential to preserve and protect whatever is left of the watershed's existing natural landscape, which provides multiple water resource services and benefits (such as improved water quality, water supply, natural systems, and flood protection) at a lower cost.

Any impacts to water resources in a watershed should be mitigated in the watershed – specifically, mitigation for wetlands, water quality, recharge, and flooding impacts should be carried out in the areas of the watershed that are critical to increased infiltration, storage, and conveyance.

4. Integrate Natural Systems in Regional Planning.

The locations of surface water and groundwater storage areas to protect and restore water resources must be integrated into urban and community design. The development of areas such as nature parks and the setting aside of open spaces create a strong sense of place in the community.

5. Recapture Water for Renewed Use in the Watershed

Stormwater, wastewater, and reuse water should be viewed as a valuable resource, rather than a form of waste to be disposed of. This resource should be recycled and recharged at a rate commensurate with use – the storage and recharge of stormwater, wastewater, and reuse water should be achieved at the neighborhood, community, and regional scale.

6. Every Parcel can Contribute to the One Water Mission.

Each parcel of land should contribute to the water budgets of both the watershed and the region. The post-development water budget for each parcel should equal the pre-development water budget as much as possible, and historical hydrologic functions such as recharge, water quality treatment, storage, and conveyance should be restored and protected to the greatest extent possible.

ECONOMIC GOALS

The City of Winter Haven's One Water Vision Statement includes promoting responsible stewardship of economic resources. Considering the tremendous needs for water infrastructure capital discussed in Section 3, it is imperative that the One Water Master Plan be aligned with economic goals, and that actions taken provide a good return on investment. Integrated/One Water solutions can provide a good return on investment, because they can often be designed to solve multiple problems at once.

Winter Haven's economic goals for the One Water Master Plan were developed during workshops on October 2 and November 6, 2019. The following are the economic goals that were articulated by the City of Winter Haven team:

- Offset the need to develop expensive alternative water supplies by conserving traditional sources of water and developing less expensive alternative supplies.
- Establish water rates at or below the regional average.
- Examine the cost/benefit ratio of water infrastructure projects.
- Enhance per capita income.
- Drive efficiency in water supply infrastructure by examining the per capita miles and diameter of water pipe.
- Develop incentives to streamline developer permits to reduce the time needed to obtain authorizations.

In addition, we can look to the goals of the 2010 Sustainable Water Resource Management Plan and incorporate them into our One Water thinking and actions. The following goal from the 2010 Sustainable Water Resource Management Plan is an overarching economic goal to be considered:

 Ensure that all approaches are aligned with goals for economic growth; key considerations include providing opportunities for nature-based tourism, recreation, open space, water amenities, and urban development.

A key tenet of the One Water
Master Plan is that economic goals
are not in conflict with social and
environmental goals. Integrated/
One Water solutions should be
developed to return a "triple
bottom line" of economic, social,
and environmental benefits.

ENVIRONMENTAL GOALS

In addition to economic goals, the City of Winter Haven's One Water Vision Statement includes promoting responsible stewardship of environmental resources. Environmental goals are also a key feature of the 2010 Sustainable Water Resource Management Plan.

Winter Haven's environmental goals for the One Water Master Plan were developed during workshops on October 2 and November 6, 2019. The following are the environmental goals that were articulated by the City of Winter Haven team:

- No lakes on any impairment list for water quality or lake levels.
- Enhance water conservation to decrease per capita water use.
- Increase local water storage in the Peace Creek Watershed.
- Increase recharge to the aquifers.
- Increase beneficial reuse.
- Improve flood protection.
- Increase the acreage of restored wetlands.
- Increase the number of nature parks and miles of new trails.
- Obtain data on services that ecosystems provide to the community.
- Mitigate for wetland impacts within the local watershed.

Many of these environmental goals are aligned with the environmental goals in the 2010 Sustainable Water Resource Management Plan. The following are the environmental goals found in that Plan:

- Meet the long-term water resource needs of people and natural systems.
- Manage all sources of water including floodwaters, stormwater, reuse water, groundwater, and rainfall – as a finite, interconnected resource.
- Direct today's actions for a defined futureresult: that of water resource sustainability.
- Preserve and restore the natural infrastructure as much as possible and use it to provide multiple hydrologic functions and benefits.
- Mitigate any impacts to water supply, water quality, hydrology, and natural systems within the Peace Creek watershed.
- Manage land to improve water resources in the future, and not allow their gradual degradation as in the past.

SOCIAL GOALS

Social goals should be considered of equal significance as economic and environmental goals. In fact, many of the social goals interrelate with economic and environmental goals. Winter Haven's One Water Vision Statement also includes and puts importance on social goals.

Winter Haven's social goals for the One Water Master Plan were developed during workshops on October 2 and November 6, 2019. The following are the social goals that were articulated by the City of Winter Haven team:

- Increase water resource benefits with higher density development around a water resource feature.
- Increase community pride by communicating One Water with existing developments and how they can participate.
- Raise awareness by recognizing businesses that embrace One Water culture, public outreach, and surveys.
- Improve community health, safety, and welfare.
- Develop incentives to streamline developer permits to reduce the time needed to obtain authorizations.

The 2010 Sustainable Water Resource Management Plan contains social goals, some of which overlap with environmental and economic goals. The socially-related goals in that Plan are as follows. Note that several contain policy elements to be considered by community leaders and elected officials.

- Meet the long-term water resource needs of people and natural systems.
- Establish a local leadership role in managing water resources to make decisions for the watershed.
- Ensure that the unique characteristics of the Peace Creek watershed are considered in local and regional decisions.
- Use existing experience, information, and science to make sound decisions for today and the future.
- Direct today's actions for a defined future result; that of water resource sustainability.

Collectively, these goals align with the One Water Vision and Definition and will help guide decisions and actions, provide a strong sense of purpose, and convey a vision of what is really important to the community.

KEY PERFORMANCE INDICATORS

Key Performance Indicators (KPIs) help us measure success and progress toward meeting goals. KPIs are the specific factors that can typically be directly measured and compared to a baseline, and are a tool for quantifying progress. During the workshops on October 2 and November 6, 2019. KPIs were discussed. then follow-up email discussions were engaged to collect input from the City's Integrated Water Management Team. Through that process, a draft list of KPIs was compiled and each KPI was categorized as economic, environmental. or social. The draft list of KPIs is extensive and represents a desire by the City of Winter Haven to measure and report success of the One Water Initiative. The draft list includes:

- · 5 economic KPIs
- · 17 environmental KPIs
- · 7 social KPIs

This profile of KPIs shows that the One Water Initiative has a very strong environmental component, yet not to the exclusion of economic and social factors, which are equally important for One Water success.

As the One Water Master Plan is completed, KPIs should be further developed and prepared for display through a dashboard. This will enable effective communication of successes and trends to stakeholders and the community. Several of the KPIs do not yet have readily available data. Overall, the City of Winter Haven may desire to reduce the number of KPIs for simplicity of tracking and communication.

This effort will require KPI prioritization and data management.

One example of a KPI dashboard to explore is The Clean Water Partnership in Prince George's County, Maryland: https://analytics.consultaegis.com/published/d411389ef2c9592d43eO252b2aac5ac8/cwp-county. This program is a Community-Based Public-Private Partnership that delivers stormwater retrofits to improve water quality. The dashboard presents KPIs for social, environmental, and economic factors that are important to the community.

- Cooperative/Grant Funding Obtained Per Year
- Annual Potable Water Cost Per Capita
- Annual Wastewater Cost Per Capita
- Water Rates
- Increased Use Of Electronic/Real-Time Data (Smart Utility)
- Annual Potable Water Loss
- Integration Of Different Water Sources
- Annual Per Capita Potable Water Use
- Wetland Acres Restored Less Acres Lost
- Increased Surface And Groundwater Storage
- Volume Of Water Stored In Watershed
- Land Purchased For Conservation

S.W.O.T. ANALYSIS

Strengths, Weaknesses, Opportunities, and Threats (S.W.O.T.) is a valuable framework development tool that helps an organization focus on their strengths, protect against threats, identify and resolve weaknesses, and take the greatest possible advantage of available opportunities. Typically, strengths and weaknesses are viewed from an internal perspective, and opportunities and threats from an external perspective. The SWOT analysis helps all involved develop and deploy strategies to drive success and improve the program or initiative.

During a workshop on November 6, 2019, the City's Integrated Water Management Team participated in a group S.W.O.T. exercise. In summary, during the workshop, the Team identified a significant list in each category (strengths, weaknesses, opportunities, threats).

The S.W.O.T results will be helpful in mitigating for threats and weaknesses that could hinder the City achieving its One Water Vision, Mission, and Goals.

STRENGTHS

Catering to Newer Generation Public Acceptance

Internal Funding Sources

Smart City Initiative Aligns

Forward Momentum

<u>Collaborative</u> Culture Keeping Winter Haven Authentic

Local Political Support

Water-Centric Community

City Commission Endorses Concept We Value Communication

Creative, Forward-thinking Team

Data & Information Collection Processes

Business Intelligence Group

Strong Economy

Knowledgeable Staff / Citizens

"Small Town" Feel **Chain of Lakes City**

Alignment with State Water Policy

WEAKNESSES

Capital Improvements Plan Silos **Regulatory Framework**

Limited Time

Staff Wear Multiple Hats

Proactively Reactive Septic Tanks Onto Force Mains Prioritization Of Resources

Lots Of Data Economy Strength

Existing Codes And Ordinances

Lack Of External Funding Source

Staff Turnover And Retirements

35 Miles Of Asbestos-containing Pipe

One Water New Progressive Concept Limited Resources

Moving Toward More Proactive Silos In Departments

Documentation For Succession Planning

Hesitation To Change Codes

Aging Infrastructure And Workforce

Funding Streams More Blending

OPPORTUNITIES

Engage Community Stakeholders
Water Conversation Can Start Improve Regional Hydrology

Improve Social Justice

New Project Types Amendment One Funds Ecosystem Development Lead By Example

Attractive To New Residents

Recognition **Development Pressure**

Partnerships With Developers
Shape Winter Haven Plan For 30 Years
Cooperation On Local Model
Benefits Of One Water Pla

Public/Private Partnerships Legal Aspects Prwc Funding & Support

Prioritization Of Capital Improvements Plan Fiber Assets To Gather Data

Data Collection Practices

Awareness Of Community Growing Pains Regional Water Supply Alternatives

Regional Partnerships

Utilities/planning Interface With Developers Parks And Greenspace Leading And Planning For Future Public Accountability - Water Use Educate Public On The Lakes

Leadership In One Water Central Florida Water Initiative Opportunity To Change Regulations

THREATS

Adverse Impacts To Hydrology **Resistance To Change**

Rate Increases

Successful Depends On Stakeholders

Land Management

Surrounding Governments Community Perception Of Cost

Changing Political Climate **Transportation Plan**

Misinformation Vs. Public Perception

Political Decisions

Regional Competition

State-wide Water Allocations

Minimum Flows And Levels Regulations Environmental Ngos

Too Rapid Development

Climate Change

Ratepayers Not Understanding Benefits Historical Practices **More Debt**



Game Plan

To be successful, the One Water Master Plan must be action oriented, implemented, and adapted to changing needs and conditions. The One Water Game Plan gives direction on what Actions need to be accomplished to reach the desired future conditions of economic, social, and environmental sustainability. Some of the Actions are in progress, and others have yet to be undertaken, so the Actions are written within the context of the conditions at the time of writing of this One Water Blueprint. These Actions should be implemented holistically and in an integrated manner to accomplish the most beneficial outcomes and prevent the creation of singular-purpose silos.

01	Engage & Communicate	02	Develop & Strengthen Partnerships	03	Restore Watershed Storage & Function
04	Improve Water Conservation	05	Develop a Sustainable Water Supply	06	Enable Water-Efficient Land Development
07	Develop a Green Infrastructure Marketplace	08	Enhance Recreational Opportunities	09	Optimize Water Resource Management Actions and Projects
10	Enhance Return on Investment	11	Align Capital Improvements and Internal Resources	12	Monitor Trends & Adapt

ENGAGE AND COMMUNICATE

Why: Stakeholder Engagement is listed as the first action because, arguably, successful implementation of the One Water Master Plan requires engagement externally and must include elected officials, regulators, special interest groups, technical advisors, and the community.

Who & When: A significant number of agency stakeholders have already been engaged during development of the One Water Master Plan, including:

- Florida Department of Environmental Protection
- · Southwest Florida Water Management District
- · Florida Department of Transportation
- · Polk Regional Water Cooperative
- · The Nature Conservancy
- · Winter Haven Chamber of Commerce
- · Polk County

Stakeholder engagement should continue throughout the process of One Water Master Plan development and implementation to keep everyone informed and on board with the process. Additional stakeholders should be engaged as identified in the Stakeholder Engagement Plan.

How: A Stakeholder Engagement Plan and corresponding Communications Plan have been developed as part of development of the One Water Master Plan. These tools are available to help guide the City of Winter Haven through the stakeholder engagement process.

The Stakeholder Engagement Plan provides goals and methods for involving community, regulatory, political, funding, environmental and educational voices at the local, region, state, and national level in the City's One Water Master Planning process. The Stakeholder Engagement Plan identifies the stakeholders initially targeted for engagement, and provides recommended activities for stakeholder engagement. The Stakeholder Plan is intended to be a living document that can adapt through the development of the One Water Master Plan.

The Communications Plan includes communications goals and methods for the One Water Master Plan. It provides communications procedures, external communications elements and methods, recommended activities and outreach collateral. The Communications Plan is intended to be a living document, evolving and adapting over the multi-year development of the One Water Master Plan.

Additional Resources: Blueprint for One Water, Water Research Foundation, 2017

<u>Austin, Texas Water Partnership Stakeholder Committee</u>

DEVELOP AND STRENGTHEN PARTNERSHIPS

Why: The scale, cost, and complexity of work to be accomplished to achieve One Water goals across the Peace Creek watershed is beyond the capacity and authority of the City of Winter Haven to accomplish individually. Winter Haven needs partners for One Water funding, financing, stakeholder engagement and communications support, and interjurisdictional policy cooperation. Partnerships are an effective way to combine resources, accomplish multiple goals, and bring benefits to all involved. As the City of Winter Haven continues to engage stakeholders on the One Water Master Plan, some will emerge as partners.

Who & When: The City of Winter Haven has already realized success in developing partnerships for One Water planning and implementation. Agency and non-governmental organizational partners, such as the Southwest Florida Water Management District, Florida Department of Environmental Protection, and The Nature Conservancy, have invested both time and funding to assist with planning components. Winter Haven is actively seeking and developing additional partnerships with agencies, and these actions should continue.

How: Winter Haven should continue to communicate with existing partners and seek additional partnership opportunities. This can be accomplished by seeking alignment of mission and goals and articulating how One Water projects, policies, and management strategies can provide mutual benefits. To accomplish effective land development

approaches across the Peace Creek Watershed, Winter Haven should seek partnerships with other local governments.

In addition, developing public-private partnerships would be a powerful way for Winter Haven to leverage the financial and logistical capacity of the private sector to accomplish its One Water goals. One Water projects could be developed into a program that would be attractive for a private partner to deliver.

Additional Resources:

U.S. Environmental Protection Agency Guidance on Public-Private Partnerships
Prince George's County, Maryland - The Clean Water Partnership
One Water for America Policy Framework Big Idea 1
One Water for America Policy Framework Big Idea 4

RESTORE WATERSHED STORAGE AND FUNCTION

Why and What: The natural systems in the Peace Creek watershed have tremendous capacity to meet local and regional water infrastructure needs because the systems are already there ready to serve our needs — they just need to be restored and enhanced to function properly.

From a water supply perspective, all water needed for human consumption originates from natural systems. With demands for water outstripping the available supply of fresh groundwater across Central Florida, it makes perfect sense to restore the water storage capacity of the Peace Creek watershed, both on the surface of the earth and below ground.

From a flood protection perspective, the wetland areas that once held flood waters are in the landscape ready to once again hold flood waters and improve our community resilience to flood events. These wetland areas, with restoration and enhancement, can also beautify the community, increase opportunities for water-related development, increase recreational opportunities, and improve the quality of water in our lakes and streams.

How: The 2010 Sustainable Water Resource Management Plan established two main priorities to restore the essential functions in the Peace Creek Watershed:

- 1. Increased storage and conveyance of surface water in wetlands, lakes, and streams
- 2. Increased infiltration into local and regional aquifers to store more groundwater.

The Sapphire Necklace contains an overall vision of how a restored watershed brings significant benefits to Winter Haven. To accomplish this, there are a number of One Water strategic actions to be accomplished:

- 3. Acquire lands containing historic wetlands through a voluntary acquisition program. For landowners desiring to keep their lands, develop partnerships to accomplish wetland restoration projects.
- 4. Work with developers to configure developments with water storage features in restored wetlands, which could generate Green Infrastructure credits (see Green Infrastructure Marketplace section).
- 5. Develop infrastructure to capture water when rainfall is abundant, store it in wetlands, and use excess water to recharge aquifers for withdrawal when it is needed during dry times (imagine a water "savings account").
- 6. Reuse reclaimed wastewater to augment restored natural systems, improve water quality, and recharge aquifers when water is abundant.

Funding Sources:

Wetland restoration projects may be eligible for US Department of Agriculture, Natural Resources Conservation Service (NRCS) Regional Conservation Partnership Program (see NRCS Regional Conservation Partnership Program). These projects may be worked in partnership with landowners.

For lands in public ownership, the Southwest Florida Water Management District's Cooperative Funding Initiative is a viable option for up to 50 percent cost share for projects that improve water supply, restore natural systems, improve water quality, and enhance flood protection (see SWFWMD CFI Program).

While not a grant funding source, creation of a local or regional marketplace that would generate credits for wetlands restoration and stormwater management could be an effective way to accelerate watershed restoration (see the section titled "Develop a Green Infrastructure Market place"). This approach could include attracting wetland mitigation bankers to the Peace Creek watershed to make sure the mitigation for local impacts to wetlands stays in the local area.

Additional Resources:

<u>U.S. Environmental Protection Agency Healthy</u>
<u>Watersheds</u>
Florida's Everglades Restoration

IMPROVE WATER CONSERVATION

Why: Conserving water consists of customers efficiently using water and minimizing losses of water in delivery to customers. All of Winter Haven's water comes from natural systems, so reducing demands for water helps protect us protect area lakes, streams, aquifers, and wetlands. Water conservation benefits both customers and the utility by reducing the costs of water supply, production, and delivery. Water conservation can defer capital improvements and upgrades, reduce wastewater treatment costs, and lower energy and longterm water costs. From Winter Haven's perspective, the conservation program is also a key avenue to promote One Water culture to the City's residents, businesses, and visitors because valuing every drop is a key tenant of One Water.

The City of Winter Haven's water conservation planning goals include:

- Eliminating, downsizing, or postponing the need for capital projects.
- Improving the utilization and extending the life of existing wells, treatment plants, and water distribution pipes.
- · Lowering operating costs.
- Avoiding and/or deferring the costs of developing new, expensive alternative water supplies.
- Educating customers about the value of water, and promoting a water-centric culture.

What: An effective water conservation program consists of many specific strategies:

- Accounting for and controlling losses of treated drinking water,
- · Notifying high-use customers,
- Establishing water rates that promote conservation,
- Requiring efficient plumbing fixtures in homes and businesses.
- Changing the approach to cultivating lawns and landscaping.
- · Educating customers.

How: Water Conservation has been a longterm strategy for the City of Winter Haven, and conservation has been incorporated into the One Water Master Planning process. Winter Haven has also been working closely with the Polk Regional Water Cooperative to develop a regional, effective approach to water conservation. These efforts should continue. while water conservation efforts should be enhanced and improved by completing and implementing a targeted water conservation master planning effort. The outcome of this effort will be specific conservation best management practices scenarios to maximize return on investment for water conservation practices.

Funding Sources: The Southwest Florida Water Management District (SWFWMD) offers a Cooperative Funding Initiative (CFI) targeting projects that improve water supply, natural systems, flood protection, and water quality. Cooperative funding is typically provided up to 50 percent for eligible projects. Water conservation practices may be excellent candidates for this program (see Southwest Florida Water Management District CFI Program).

In addition, the SWFWMD offers the Water Incentives Supporting Efficiency (WISE) program for cost-share reimbursements of up to \$20,000 to support water conservation projects for property owners within SWFWMD. The WISE program is different than the CFI program because property owners enter into a direct agreement with the District.

Connecting property owners with this program is an attractive way for Winer Haven to stretch its conservation budget, because the property owner would pay 50 percent of the implementation instead of the City (see Southwest Florida Water Management District Water Incentives Supporting Efficiency).

Additional Resources:

City of Winter Haven Water Conservation

Southwest Florida Water Management District
Water Conservation

Alliance for Water Efficiency





DEVELOP A SUSTAINABLE WATER SUPPLY

Why: Across Florida, including Central Florida, the traditional source of water supply has been fresh, high-quality groundwater from the Floridan Aquifer System. However, extensive research has shown that this water source has either reached or exceeded its ability to sustain further withdrawals without causing significant impacts to lakes, springs, streams, rivers, wetlands, and estuaries. The good news is that our human need for water does not necessarily have to conflict with nature – by using an Integrated/One Water approach, we can develop an approach to water supply that is sustains our needs and protects, and even enhances, our natural systems.

What: Sustainable water supply for the City of Winter Haven means planning and implementing all available water sources in a way that meets our local *Water Budget*.

How: We need to use a mindset of not throwing away any water. Water is perfectly reusable, and we can "**upcycle**" water over and over again to reduce our water supply costs and protect our lakes. To make this happen, we must integrate our water sources with the following strategic actions.

- Use fresh groundwater efficiently as a base supply.
- Capture and store surface water for alternative water supply and natural systems restoration.
- Reclaim and upcycle our wastewater for natural systems restoration, aquifer recharge, potable reuse, and irrigation.

- Capture stormwater for infiltration to aquifers and reuse as a water supply.
- Import treated brackish groundwater from a regional supplier to fill remaining water supply gaps.
- Optimize the portfolio of water supplies by developing a watershed optimization tool.

Funding Sources: There are several funding sources available for development of alternative water supplies:

- The State of Florida has promoted the development of Alternative Water Supplies through annual \$40 million legislative appropriations. These funds are administered through the Florida Department of Environmental Protection with applications through the water management districts. This process should be tracked annually during the legislative session.
- The Southwest Florida Water Management
 District offers a cooperative funding program
 that prioritizes cost-effective alternative water
 supply development (see <u>Southwest Florida</u>
 <u>Water Management District CFI Program</u>).

Additional Resources:

Tampa Bay Water
Peace River Manasota Regional Water Supply
Authority
Austin Texas - Water Forward

ENABLE WATER-EFFICIENT LAND DEVELOPMENT

Why: Land development primarily impacts our water resources by replacing the natural environment (such as forests and wetlands) which provide water storage and filtration services with the built environment (such as houses and roads) which generally consume, pollute, and waste water resources. Waterefficient land development aims to balance and blend the built and natural environments to make the most use and reuse of water.

What: Land development regulations, such as zoning, are community tools with significant influence over how local development happens. Some land development regulations tend to force varying degrees of land and water waste (i.e. urban sprawl) as an unintended consequence. There are strategies for addressing these types of regulations.

How: In practice, enabling water-efficient land development is as much about eliminating water waste as it is about eliminating land waste. Modern development in the U.S. is subject to state and local land development regulations that control aspects of the local built environment, including housing, transportation, and natural preservation. Florida State legislation enables local jurisdictions like City of Winter Haven the authority to govern certain property rights to protect human health, safety, and welfare. Unfortunately, some of these regulations may unintentionally waste land (thus water) resources by forcing extra land consumption and/or impairing hydrological function. The following four regulations tend to do this:

- 1. Regulations that segregate housing types and other land uses (e.g., single-family zoning) reinforce a sprawling pattern of development.
- 2. Regulations that prioritize automobile transportation (e.g., minimum parking requirements) inflate the amount of land we cover with pavement and other impervious surfaces.
- 3. Regulating density (dwellings per acre) forces larger but fewer homes that tend to consume water in greater amounts per capita and generate more fertilizer runoff.
- 4. Regulation gaps that allow wetland and floodplain compensation/credit to occur outside the local watershed are also externalizing the benefits to the local watershed hydrological function.

OneWater LDR Fixes

- Walkability. All trips begin and end on foot.
 To the extent that people can go where they want without using an automobile, less of our watershed will need to be paved over. Mixing housing types & land uses as well as providing safe & accessing walkways are primary factors for enabling walkability.
- Tree canopy and natural land cover. Trees provide significant benefits to safety, comfort, and water resource efficiency. Over the years, dredging, deforestation, mining, agriculture, urbanization have drastically altered the watershed's natural landscape by removing natural vegetation. Expanding urban tree canopy and incorporating native vegetation into Green Infrastructure help restore aquifer recharge and water storage functions.

DEVELOP A GREEN INFRASTRUCTURE MARKETPLACE

What: The increase of impervious area (pavement, buildings, parking areas) means less infiltration of stormwater and impacts to evapotranspiration, water quality treatment, flow attenuation, and storage, resulting in negative impacts on lakes, streams, and rivers. Managing stormwater typically consumes valuable land space in developments. Green Infrastructure is a cost-effective and appealing strategy for improving stormwater management. A market to implement Green Infrastructure can reduce land consumption for stormwater, regionalize management, and increase the pace of implementation. At state and national scales, Green Infrastructure is a growing approach to improving stormwater management while protecting and restoring

lakes, wetlands, streams and aquifers. Green Infrastructure is a key strategy for making Winter Haven a distinctive community with restored watershed features and quality, sustainable development.

Why: Accelerating the deployment of Green Infrastructure will help Winter Haven achieve its One Water Goals, while assisting the developers with innovative ways to manage stormwater. Leveraging the financial and logistical capacity of the private sector through a market-based program can incentivize Green infrastructure. Rapid development of the Winter Haven metropolitan area will continue, which brings opportunities for deploying green infrastructure within new developments, redevelopment areas, and public properties.



How: Developing a Green Infrastructure market for the City of Winter Haven is a highly innovative approach that should incorporate lessons learned from other programs across the nation. A key to program viability is making green infrastructure investment and the generation of credits attractive to entities with working capital. Winter Haven should consider a feasibility study to develop a Green Infrastructure marketplace, which should involve other jurisdictions in the Peace Creek watershed to broaden the geographic reach and scale of the program.

Funding Sources: The City of Winter Haven should explore funding opportunities with the Southwest Florida Water Management District's Cooperative Funding Initiative both for the City's Green Infrastructure Projects and a Program Feasibility Study (see <u>SWFWMD CFI Program</u>).

The U.S. Environmental Protection Agency offers two grant programs for improvement of stormwater quality, including Green Infrastructure: Clean Water Act Section 319(h) Grants and State Water-quality Assistance Grants. Both grant programs are administered through the Florida Department of Environmental Protection (see FDEP Nonpoint Source Funds).

The City of Winter Haven operates a Stormwater Utility, which is an enterprise fund to assist with stormwater systems maintenance and capital improvements. Stormwater utility revenues could be leveraged to support a Green Infrastructure marketplace by guaranteeing a minimum return on investment for developers and businesses desiring to create Green Infrastructure credits.

Additional Resources:

Washington, DC Stormwater Credit Trading
Program
Florida Department of Environmental
Protection Green Infrastructure
City of Winter Haven, From Gray to Green
U.S. Environmental Protection Agency Green
Infrastructure

ENHANCE RECREATIONAL OPPORTUNITIES

Why: Over the years, our shared water resources have attracted waves of people seeking great water-based recreation, such as fishing and water-skiing, becoming a defining characteristic of the Chain of Lakes lifestyle. Recent green infrastructure projects, such as the South Lake Howard Nature Park, demonstrate that nature-based recreation can go beyond fishing and skiing to enhance the quality of our water resource while also providing greater community access to parks and recreation.

What: Nature parks, trails, and water bodies are places where people can access the health and recreational benefits of our shared water resources. Expanding park space where aquifer recharge or water storage potential is high can help restore hydrological functions. Investing in safe and equitable access, such as walking and biking trails, to and between these recreation resources magnifies their benefits and supports community awareness and buy-in.

How: The City can pursue a comprehensive parks vision that supports a connected parks network within a 10-minute walk of every household. Public investments in multimodal connections between parks and nature spaces will make it easier for people to safely access parks. New and infill development projects can do more to finance parks and natural land expansion as a strategy for long-term property value appreciation. Park design can provide stormwater and/or reclaimed water storage and filtration as well as aquifer recharge where soils and topography permit.

Funding Sources: The Land and Recreation Grants staff administers grants to local governments through the Florida Recreation Development Assistance Program (FRDAP) (see FRDAP Assistance)

Additional Resources:

Boston's Emerald Necklace



OPTIMIZE WATER RESOURCE MANAGEMENT ACTIONS & PROJECTS

Why and What: As seen throughout this One Water Blueprint, there are numerous management actions and projects to be implemented to achieve Winter Haven's One Water goals. Faced with so many priorities, it could be a daunting task to decide which combinations of projects and management actions to engage. A robust decision-support tool is needed to help with optimization of management actions and projects in a way that will best achieve economic, social, and environmental goals.

How: Winter Haven is working cooperatively with the Southwest Florida Water Management District to develop an Optimization Model for the Upper Peace Creek Watershed. The Optimization Model will involve estimating a water budget, building a hydrologic simulation planning model, then linking the planning model to an optimization tool. The expected outcome of this effort is a recommended portfolio of water resource management actions and projects that satisfy economic, social, and environmental goals. These results will help prioritize recommendations for the One Water Master Plan. Once the Optimization Model is developed, it can be adapted, refined with new data, and used to support planning updates. The Optimization Model will be developed in close partnership with stakeholders to increase understanding of how to configure projects in the Upper Peace Creek Watershed for mutual benefit.

Funding Sources: The project is being cofunded with the Southwest Florida Water Management District Cooperative Funding Initiative (see <u>Southwest Florida Water Management District CFI Program</u>).

Additional Resources:

U.S. Environmental Protection Agency's
Watershed Management Optimization Support
Tool



ENHANCE RETURN ON INVESTMENT

Why: As shown in Section 3, aging infrastructure and limited funding are straining the ability of communities to meet capital investment needs. With scarce funding, each dollar spent on infrastructure should be wisely invested by fully accounting for the costs and benefits of each project.

What: Use an economic evaluation framework to analyze the costs, benefits, and return on investment of each water infrastructure project. This approach is aligned with integrated planning in that solutions that provide multiple benefits for the funds spent are often preferred.

How: The City of Winter Haven, as part of the One Water Master Planning process, is developing an Economic Evaluation Framework for Nature-Based Solutions to support local and regional decision-making processes.

The Economic Evaluation Framework will provide a method for estimating the full spectrum of benefits for comparison to the cost of investment, enabling decision-makers to drive the best return on investment. Economic Evaluation should be coordinated with, and be part of, the Optimization Model discussed in the "Optimize Water Resource Management Actions and Projects" section.

Additional Resources:

One Water for America Policy Framework Big
Idea 3
One Water for America Policy Framework Big
Idea 4



ALIGN CAPITAL IMPROVEMENTS PLAN & INTERNAL RESOURCES

Why and What: To achieve community economic, social, and environmental goals, priority One Water projects must be implemented through the Capital Improvements planning and budgeting process. This process should include developing a funding and financing plan for each project.

Internal alignment of the City of Winter Haven's resources with One Water will provide assurance that scarce resources are being spent on the solutions that drive success. Without alignment, there is a risk that resources will be spent in a fragmented manner, resulting in a lack of progress toward meeting goals.

How: The annual Capital Improvements planning and budgeting process should be integrated across municipal business units in view of One Water goals, actions, and priorities. This approach maintains a holistic view and prevents "siloing" of programs that could lead to single-purpose solutions.

The City of Winter Haven has developed an effective internal collaboration forum called the Integrated Water Management Team, consisting of leaders from across all City departments. These meetings should continue to be held at least on a quarterly basis to maintain alignment with strategy and make sure resources are properly aligned.

Funding Sources: Delivering priority capital improvements requires access to viable sources of funding and financing. A Funding Strategy has been developed as part of the One Water Master Plan that seeks to leverage the City's investments as much as possible, with consideration given to alternative delivery approaches, such as public-private partnerships.

Additional Resources:

One Water for America Policy Framework Big Idea 3
One Water for America Policy Framework Big Idea 4



MONITOR TRENDS AND ADAPT

Why: As implementation occurs, monitoring key performance indicators and trends will demonstrate progress and success. Monitoring progress towards success is vital to maintaining momentum and provides a reason to celebrate. Over time, conditions will change, whether economic, climate, demographic, cultural or otherwise, and the One Water Master Plan will likely need to adapt to these changing conditions to continue driving success.

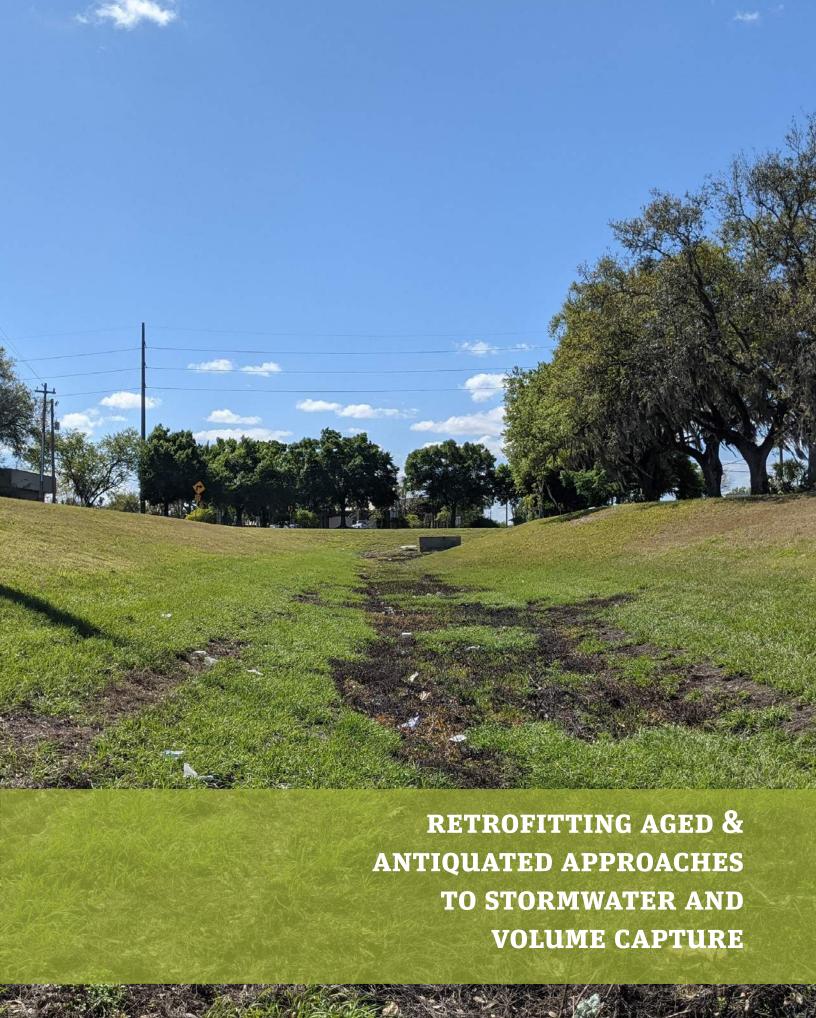
What: Establish and measure a manageable portfolio of Key Performance Indicators (KPIs) for environmental, economic, and social factors. The Key Performance Indicators should be communicated to the public to show progress and celebrate success. A website dashboard is an effective way to communicate progress to the public.

How: Select meaningful KPIs that are relatively easy to measure, such as water and money saved through conservation programs, acres of wetlands restored, and number of community One Water events. As trends are measured, the One Water Tools can be used to adapt the Plan to changing conditions.

Funding Sources: Utility system revenues are a logical source of funding for monitoring trends related to infrastructure. For natural systems monitoring, such as stream flows, the Southwest Florida Water Management District's Cooperative Funding Initiative may be a viable source of cost share (reference https://www.swfwmd.state.fl.us/business/finance/cooperative-funding-initiative).

Additional Resources:

The Clean Water Partnership, Prince George's County, Maryland
Save Our Indian River Lagoon Dashboard Page





One Water Tools

Implementation of the One Water Master Plan requires a robust set of tools to drive success. Several tools have been developed, are being developed, and will be developed as the One Water Master Plan is completed. It is important to understand that the tools are expected to take many different forms, including electronic documents, memoranda, reports, spreadsheets, computational models, and geographic information system files. These tools collectively constitute an adaptive planning approach that provides a decision-support system to be adopted, employed, and modified by current and future City of Winter Haven staff and contractors. The One Water Master Plan is not intended to be a collection of hard-copy documents to place in an archive — it should be an ongoing endeavor that adapts to changing conditions. The following graphic helps with understanding the components of the One Water Master Plan.

MONITOR TRENDS AND ADAPT



Community Engagement

Stakeholder and **Communications** plans are documents that help identify key stakeholders and how and what to communicate about One Water. These tools are essential to developing community understanding and involvement.

Monitor Trends

Sapphire Necklace Restoration Goals provides estimates of physical quantities of key water resource objectives such as acres of wetlands restored, volume of water stored, and amount of water recharged to aquifer systems. This gives an overall target for restoration and helps with valuation and estimation of benefits of building the Sapphire Necklace system. Progress toward goals can be evaluated with **Key Performance Indicators**.

51 One Water Tools

Evaluate Needs

Population and water demands models are tools needed to understand and forecast how population will grow and what demands for water will be. These forecasts are critical for determining the capacity, timing, and sizing of essential water infrastructure.

Utility system hydraulic models are tools used to evaluate the capacity and need for improvements to the City's water, wastewater, and reclaimed water systems. These models can be updated as conditions and needs change and additional data is collected.

The **water conservation model** is a tool to help the City of Winter Haven manage demands for water from its customers with a goal of reducing unnecessary and wasteful uses of water. This tool provides an implementable suite of projects with cost/benefit information to drive the best return on investment.

Cost/Benefit

The **Economic Evaluation Framework** provides a way to calculate the cost to benefit ratio of the projects proposed through the Master Plan. These cost to benefit ratios are key information to feed into the Watershed Optimization Model, which is used to determine which portfolio of One Water projects and policies bring the most benefit for the expenditure, similar to a return on investment.

Funding Plans are essential to the viability of projects. Each One Water project should have a specific **Funding Initiative** that includes the funding and financing sources. The overall **One Water Funding Strategy** is a strategic approach to leveraging the City of Winter Haven's funds as many times as possible to make projects viable and Funding Plans should seek to be consistent with this strategy.

Adapt Plan

The **Capital Improvements Plan** is to be updated annually based on trends, needs, and the cost/benefit analysis of One Water Projects.

The **Land Development Toolkit** provides a set of actionable strategies and approaches for sustainable development practices that are aligned with One Water. The development typologies are to be integrated with the Sapphire Necklace vision and other key water resource features to drive sustainable and attractive development patterns.



Path Forward

The City of Winter Haven will continue to be a water-centric community. With over 50 lakes in and around the City, water will continue to be a key element for high quality of life and a healthy economy, environment, and community. The future, however, is not certain. Our community is facing ongoing and emerging challenges including rapid development, limited fresh water supply, historic loss of water resources, new regulations, aging infrastructure, scarce funding, climate variability, and risk of flooding.

The One Water Master Plan is an integrated approach to addressing these challenges in a holistic, watershed-wide view and planning a resilient and successful water future. The Vision, Definition, and Mission for our One Water Blueprint has been established and gives our community guidance for moving forward. Our water future is envisioned by the Sapphire Necklace with the many benefits that a restored watershed will bring to the community.

The path forward involves completing and implementing the One Water Master Plan. However, we must be mindful that the One Water Master Plan is not the destination – it is a roadmap of how to accomplish the goals that are essential to community Quality of Life. Accordingly, this One Water Blueprint is a "Call to Action" to maintain the momentum and keep moving forward. To reach the destination of a high quality of life defined by sustainable water resources and a thriving economy, the City of Winter Haven, along with its stakeholders and partners, are compelled to continue taking action on the strategies presented herein.

In addition, the One Water Framework is a "Call to Leadership". Each person involved in the One Water Initiative is encouraged to take bold leadership and help champion the One Water Game Plan.

A lack of leadership and action is one of the biggest threats to reaching a successful water future. In the absence of local leadership, external forces will determine water outcomes, and Winter Haven could find itself in an undesirable future place. Therefore, it is the individual responsibility of each citizen, as well as the collective responsibility of the community, to take ownership of water and take charge of its own water destiny.

REFERENCES

Atkins. (2010). City of Winter Haven's Sustainable Water Resource Management Plan.





