Session HH
Central Florida Water Initiative

Regional Challenges
Regional Solutions

Drew Bartlett, FDEP
Robert Beltran, SWFWMD
Len Lindahl, SFWMD
Marjorie Craig, Polk County BoCC Utilities
Eric Olsen, Hopping Green & Sams

July 8, 2015
History

Regional Challenges
Regional Solutions

Drew Bartlett, Deputy Secretary
Florida Department of Environmental Protection
What is the CFWI?

A collaborative water supply planning effort to protect, develop, conserve and restore central Florida’s water resources.
What Are the Challenges?

1. Reaching sustainable groundwater limits
2. Meeting future demands on the area’s water resources
3. Overlapping regulatory programs
Users Seeking a Limited Resource

Withdrawal Types
2006 Annual Average

- < 0.1 mgd
- 0.1–0.5 mgd
- 0.5–1 mgd
- 1–3 mgd
- > 3 mgd

Public Supply
Agriculture
Commercial/Industrial
Central Florida Water Initiative

Projected Population

Projected Increase of 1.4 Million People
Water Use
All Classes

MGD


Historic
Projected
Primary Areas Susceptible to Groundwater Withdrawals
How Did We Get Here?

- February 2006 – Legal Action
  SFWMD intervened in Orange County’s water use permit issued by SJRWMD permit

**Phase I**
- August 2006 - Action Plan
  Central Florida Coordination Area- CFCA
- 2008 - Interim Rules

**Phase II**
- 2009 - Attempts to replace interim CFCA rules
- September 2010 - Unable to meet schedule resulting in stakeholder concern
- February 2011
  New process / new name – CFWI
- April 2011
  CFWI Steering Committee initiated
  Full collaboration” with stakeholders
Organization
CFWI Governance

- Steering Committee
  - One representative each from:
    - Utilities, St. Johns River, South Florida & Southwest Florida water management districts’ Governing Boards (3), Florida Department of Environmental Protection and Florida Department of Agricultural & Consumer Services

- Management Oversight Committee
- Technical Oversight Committee
- Technical Teams (6)
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- **Public Input**
- **Steering Committee**
- **Management Oversight**
- **Regional Water Supply Plan**
- **Solutions Planning Team**

**Technical Teams (as needed)**
- HAT
- GAT
- EMT
- MFLT
- DMIT

**Sub-Teams**
- Surface water (dispersed storage, reservoirs)
- Groundwater
- Reclaimed water
- Conservation & other management strategies (agriculture & urban landscape)
- Environmental Evaluation
- Other (stormwater, etc.)
Technical Teams

- Hydrologic Analysis (completed)
- Environmental Measures (completed)
- Minimum Flows and Levels (completed)
- Groundwater Availability (completed)
- Data, Monitoring & Investigations (completed)
- Regional Water Supply Planning
- Solutions Planning
- Regulatory
Central Florida Water Initiative

Collaboration

- Active membership in all workgroups across stakeholder groups
- Conference calls, web meetings, and periodic face-to-face meetings
- Over 200 participants across workgroups
One Plan for CFWI Region

- Water Supply Planning
- Water Use Regulation
- Natural Systems
- Local Comprehensive Planning
- Alternative Water Supply
One Plan for CFWI Region

- Developing first-ever Regional Water Supply Plan
- Collaborative effort between Districts, FDEP, FDACS, utilities and other stakeholders
- Technical teams provided strong scientific foundation for development of Plan
- Published Draft Plan
Addressing the Challenges

- One shared groundwater model
  Evaluate impact on water resources
- One coordinated strategy for Minimum Flows & Levels (MFLs) prevention & recovery
- One Regional Water Supply Plan (RWSP)
  Evaluating all water resource options
Stakeholders

- Water User Groups
- MyRegion.org
- Advisory Committees
- Local Governments
- Regional Planning Councils
- Citizens
- Non-Governmental Organizations

CFWI
RWSP
Public Involvement

- RWSP public comment period
  - 1,248 people submitted comments

- Ongoing outreach through business community, government/utilities, independent organizations
  - reached over 3,500 people through more than 120 presentations and briefings from June ‘12 – April ‘14

- Community outreach for the Solutions Plan is ongoing
  - expected to reach ~1,350 people
Regional Challenges
Regional Solutions

Solutions Plan & Implementation

Robert Beltran, P.E.
Executive Director, SWFWMD
What are the MOST important PERSONAL priorities?

- Jobs and Employment Opportunities
- Outdoor Recreation
- Traffic Congestion
- Safe/Secure Community
- Growing Class Divide
- Access to Healthcare
- Theme Parks
- Decreasing Homelessness
- Low Cost of Living
- Overreliance on Tourism Economy
- Friendly People and Neighbors
- School System
- Infrastructure (roads, utilities, broadband, etc.)
Central Florida Water Initiative

Water Values: Economic/Community Benefits

- Personal Values
  - Peace of Mind
  - Happiness
  - Financial Security

- Psychosocial Consequences
  - Quality of Life
  - Less Stress
  - Better Communities

- Functional Consequences
  - Economic Development
  - Agriculture and Food Production
  - Support Business/Growing Communities

- Attribute
  - Plentiful, Readily Available

- Lower Cost of Living
Where Does Our Water Come From?

More than 90% of our water comes from the aquifer system.
What Happens When We Overuse the Aquifer?

- Wetlands
- Spring flow
- Lake levels
With population growth in central Florida, the pressures on water supply will only increase.
One Plan for CFWI Region

- Developed first-ever
- Collaborative effort
- Strong scientific foundation
AWS Projects

Updated Water Supply Project Options:

- 37 brackish/nontraditional groundwater
- 87 reclaimed water
- 17 surface water
- 6 stormwater
- 3 management strategies
Updated Water Supply Project Options (WSPOs) within the Central Florida Water Initiative (CFWI) Planning Area

- Groundwater
- Reclaimed Water
- Surface Water
- Stormwater

CFWI Boundary
County Boundaries
Water Management District Boundaries
Regional Solutions

1. Shared interests
2. Partnerships
3. Creativity, collaboration, resolve
Central Florida Water Initiative

2035 Water Resources Protection & Water Supply Strategies Plan

CFWI Solutions Plan

Executive Summary

Chapter 1: Introduction

Chapter 2: Water Conservation

Chapter 3: Solutions Project Options

Chapter 4: Environmental Evaluation

Chapter 5: Regulation

Chapter 6: Financial Assessment

Chapter 7: Conclusions & Implementation Strategies

Appendices
Chapter 3: Solution Plan
Projects

- 3 Brackish Groundwater
- 5 Reclaimed Water
- 5 Surface Water
- 3 Stormwater
### Chapter 6: Financial Assessment/Solutions Projects

<table>
<thead>
<tr>
<th>Projects</th>
<th>Total Quantity</th>
<th>Year 1 (MIL $)</th>
<th>Year 2 (MIL $)</th>
<th>Years 3-5 (MIL $)</th>
<th>Total Cost (Mil $)</th>
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<tr>
<td>Conservation (All)</td>
<td>36.8 mgd</td>
<td>3.8</td>
<td>6.1</td>
<td>24.5</td>
<td>170</td>
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<td>Recovery Projects</td>
<td>2</td>
<td>1.5</td>
<td>10</td>
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<td>50</td>
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<td>Data Monitoring &amp; Investigation</td>
<td>3</td>
<td>7.5</td>
<td>23.1</td>
<td>34.1</td>
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<td>Other Investigations</td>
<td>1.3</td>
<td>3.3</td>
<td>3.7</td>
<td>8.9</td>
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<tr>
<td><strong>Groundwater Projects</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>South Lake County Wellfield</td>
<td>12.7 mgd</td>
<td></td>
<td></td>
<td>60.7</td>
<td>116.5</td>
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<td>Cypress Lake Wellfield</td>
<td>30 mgd</td>
<td>14</td>
<td>25.8</td>
<td>153.7</td>
<td>374.3</td>
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<td>Southeast Polk County Wellfield (centralized)</td>
<td>30 mgd</td>
<td>2.4</td>
<td>2.6</td>
<td>129.5</td>
<td>284.6</td>
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<td><strong>Reclaimed Water Projects</strong></td>
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<td>Project RENEW</td>
<td>9.2 mgd</td>
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<td></td>
<td>24.6</td>
<td>50.5</td>
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<td>West Ditch Stormwater for Reuse Augmentation</td>
<td>0.9 mgd</td>
<td>1.6</td>
<td>2.3</td>
<td>11</td>
<td>28.2</td>
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<td>160-ac Site Indirect Potable Reuse</td>
<td>4.5 mgd</td>
<td>0.6</td>
<td>0.7</td>
<td>6.4</td>
<td>7.7</td>
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<td>TECO Polk Power Reuse</td>
<td>10 mgd</td>
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<td>AFIRST/Altamonte Springs</td>
<td>4.5 mgd</td>
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<td><strong>Surface Water Projects</strong></td>
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<td>St. Johns River/Taylor Creek Reservoir</td>
<td>54 mgd</td>
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<td>10</td>
<td>637.6</td>
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<td>St. Johns River near State Road 46</td>
<td>40 mgd</td>
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<td>St. Johns River near Yankee Lake</td>
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<td>2</td>
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<td>Polk Regional Alafia River Basin</td>
<td>10 mgd</td>
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<td>Grove Land Reservoir and Stormwater Treatment</td>
<td>122.4 mgd raw water</td>
<td>3</td>
<td>3</td>
<td></td>
<td>435.4</td>
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<td><strong>Stormwater Projects</strong></td>
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<td>Judge Farms Reservoir and Impoundment</td>
<td>5 mgd</td>
<td>0.5</td>
<td>17.7</td>
<td>6.8</td>
<td>28.3</td>
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<td>Lake Wailes Stormwater Mitigation</td>
<td>1.4 mgd</td>
<td></td>
<td>1.2</td>
<td>12.4</td>
<td>13.6</td>
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<td>Reedy Creek Watershed</td>
<td>4 mgd</td>
<td></td>
<td></td>
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<td>1.6</td>
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<td><strong>Total Financial Plan</strong></td>
<td>224.5 mgd</td>
<td>32.2</td>
<td>73.7</td>
<td>496.4</td>
<td>2,775.7</td>
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<td><strong>Total Solutions Projects</strong></td>
<td>415.4 mgd</td>
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<td>3,737.7</td>
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Chapter 7: Conclusions

- Water conservation is an important element
- Sufficient options to meet the regions’ needs through 2035
  - 150 options – more than 340 mgd
- Conceptual management strategies can be developed into specific projects
- Stakeholder engagement has and will continue to be important
- Project cost estimates scenario
  - $2.8 billion for 225 mgd
- Establishment of consistent rules and regulations to be developed to implement the results of CFWI Planning effort
Chapter 7: Implementation Strategy

- Implement Water Conservation Programs
- Develop Specific Prevention and Recovery Projects
- Support Development and Implementation of Regional Project Solutions
- Support Additional AWS Projects
- Improve Water Resource Assessment Tools and Supporting Data
- Develop Options for Consistent Rules and Regulations
- Continued Communication and Outreach
- Identify Options for Future CFWI Framework to Support Implementation Strategies
CFWI Plan Schedule

May/June/July

- Public review period
  - May 8 – July 31
  - 82 days

August/September

- Finalize CFWI Document Series

October

- Steering Committee Meeting
  - Final approval of CFWI Document Series

November

- Present to the 3 WMD’s Governing Boards
How to Submit Comments

cfwiwater.com
Regulatory

Lennart J. Lindahl, P.E.
Assistant Executive Director
South Florida Water Management District
Guiding Principle three for the CFWI is to “establish consistent rules and regulations for the three water management district that meet the Collaborative Process Goals and implement the results of this Central Florida Water Initiative.”
Regulatory Team Objectives

- Develop options for consistent regulations (including Legislative) to implement the solution strategies identified in the CFWI process.
- Assist with resource recovery strategies.
- Provide for equitable and predictable review of consumptive use permit applications among the districts.
Path Forward

Building upon the planning process.

- **Solutions Planning Team**
  - Meeting future water supply demands
  - Resource protection

- **Regulatory Team**
  - Consistent rules and regulations
  - Balance public interest, permitted user rights, and sustainability of water resources
Regulatory Team

- **Scope of Work**
  - Develop sustainability, demands, and strategy options
  - Regulatory alignment options
Regulatory Team

Scope of Work

- Regulatory and statutory options to support Solutions Planning
- Review management activities
- Implementation consistency
- Reasonable-beneficial demand options
CENTRAL FLORIDA COORDINATION AREA

Central Florida Water Initiative

Regulatory Team

Interim Steps

- Per FDEP Memo (12/13/13), coordinated process for:
  - Application decisions
  - Conservation
  - Permit duration
  - Limiting conditions added to all CUPs issued

TO:       John A. Miklos, Chair, SFWMD
          Hans G. Tamulis III, Executive Director, SFWMD
          Carter Beifuss, Chair, SFWMD
          Robert Behn, Executive Director, SFWMD
          Daniel O’Keefe, Chair, BFWM
          Blake Galloway, Executive Director, BFWM

FROM:    Doreen Bartlet
         Deputy Secretary, Water Policy and Ecosystem Restoration

SUBJECT: Guidance Memo re: Interim Consumptive Use Permitting (CUP) within the Central Florida Water Initiative Area.

DATE: December 13, 2013

The Central Florida Water Initiative (CFWI) has made significant progress in its collaborative effort to plan for the future water supply needs of Central Florida while sustaining our natural resources. The completion of the regional groundwater model, the determination of the sustainable yield of water supplies from the upper Floridan aquifer, and the release of the draft of the first joint Regional Water Supply Plan for the CFWI area are significant milestones in achieving the goals of the Initiative. As summarized in the draft regional water supply plan, an additional 250 MGD of water will be needed by 2050 to meet demand and protect current resources.

By the end of 2014, the CFWI Solutions Team will use the work accomplished to date as the foundation to select specific projects and develop strategies to provide the additional water needed for users and for resource recovery. In the interim, the water management districts must continue to perform their statutory responsibility to review and process consumptive use permit applications under applicable statutes and rules provisions. The purpose of this memo is to provide guidance to the districts in implementing the CUP programs during this interim period. This guidance is effective immediately.

Coordination on Pending Applications

There is an immediate need for coordination and the three water management districts are directed to closely coordinate agency actions on consumptive use permit applications within the Central Florida Area, and provide transparency in the application process for water users and other stakeholders in the region. The WMDs should generate monthly reports of consumptive use permit applications for consideration by the CFWI Regulatory Team, and make this information available to the public on the CFWI website (www.cfwatax.org). The reports should include information on pending applications and anticipated renewal applications, including location and requested withdrawal quantities and permit terms.
Regulatory Team

Reporting consumptive use data
Issue Identification

Chapter 5 of the Solutions Plan

- Water use per capita
- Water shortage criteria comparison
- Aquifer recharge and impact offset sources and programs
- Resource redistribution
- Caution areas
- Interdistrict transfers of ground and / or surface water
- Public interest
- Permitting Thresholds / Domestic Self Supply
- Conservation
Consistent themes and programmatic goals that should be considered when developing consistent regulations (Chapter 7):

- **Overall Program Description**
  - The program’s approach / regulatory tools need to be matched the problem.
  - Performance measures are established to gauge success in achieving the program goals.
  - Establish time tables, interim milestones, and deadlines to achieve program goals.
Themes and Goals

Consistent themes and programmatic goals that should be considered when developing consistent regulations (Chapter 7):

- **Resource Sustainability**
  - Define the role of regulation and integration with other programs in achieving sustainability of the water resources
  - Incorporate water resource development and restoration projects in achieving sustainability
  - The program follows Legislative direction in addressing sustainability
  - The program provides for adaptive management
Themes and Goals

Consistent themes and programmatic goals that should be considered when developing consistent regulations (Chapter 7):

- **Existing Legal User Rights**
  - Defines existing legal uses (e.g., actual use, permitted use or projected use)
  - Program considers implementation timing in regards to permit renewal
  - Regulatory components of prevention and recovery are apportioned among the existing legal uses
  - Programs establish waivers, variances, or other forms of relief based on hardship
  - Programs provide funding to implement changes to existing legal uses
Themes and Goals

Consistent themes and programmatic goals that should be considered when developing consistent regulations (Chapter 7):

- **Future Projected Uses**
  - The program provides pathways for all projected reasonable-beneficial uses of water (e.g., optimization, efficiency, conservation, preferred sources, alternative water supplies, water resource development)
  - Programs provide funding for future new water supply projects
Regulation Options

■ Additional progress can be made prior to any legislation coming back next session.

■ Three areas of focus:
  ■ Memorandum of Understanding (MOU)
    • Existing 3-District MOU (2000)
    • Relevant topics include water supply planning, water use regulation, and water shortage management
    • Opportunities to update MOU considering CFWI
  ■ Consumptive Use Permitting
    • Identify priority topics
    • Build on CUPcon process
  ■ Minimum Flows and Levels
    • Review existing criteria
    • Investigate water body selection and performance measures
Utility Perspective

Regional Challenges
Regional Solutions

Marjorie G Craig, PE
Utilities Director
Polk County Board of County Commissioners
What Does CFWI Mean to Utilities?

A collaborative *regional* water supply effort to protect, conserve and restore our water resources.
Primary Areas Sensitive to Lowered Aquifer Levels in the CFWI

- South Lake County
- Lake Wales Ridge
- Southern Water Use Caution Area (SWUCA)
- West Seminole & West Orange Counties
Central Florida Water Initiative

Historic Water Use vs Population in the CFWI

Population

Historic Population in the CFWI

Public Supply

Domestic Self-Supply

Agriculture

Landscape / Recreational / Aesthetic

Commercial / Industrial / Institutional & Mining / Dewatering

Power Generation
Central Florida Water Initiative

Projected Population

Projected Increase of 1.4 Million People
Chapter 2: Water Conservation

- **Projects**
  - **Public Supply**
    - 10 BMPs, $122M, 27.9 MGD
  - **Other Self Supply (LRA,DSS, CII, PwGn)**
    - 8 BMPs, $17.9M, 4.6 MGD
  - **Agriculture Programmatic Approach**
    - 8 BMP Categories, $10.1M, 4.3 MGD

- **Additional**
  - Public Education
  - Statewide Clearinghouse
  - Conservation Planning Tools
  - Research
Chapter 2: Public Supply BMPs

- CII facility water use assessment/audit
- High efficiency showerhead replacement
- High efficiency toilet replacement
- High efficiency faucet aerator replacement
- High efficiency pre-rinse spray valve replacement
- High efficiency urinal replacement
- Irrigation system audits
- Soil moisture sensors
- Advanced ET irrigation controllers
- Waterwise Florida landscaping
Polk County & CFWI
What Have We Been Doing?

• Aggressive water conservation program
• Comprehensive reclaimed water program
• Worked with the STOPR central Florida utilities on optimizing and cost sharing resources through common permitting and compliance
  • St Cloud
  • Toho Water Authority
  • Orange County
  • Polk County
  • Reedy Creek Improvement District (RCID)
Polk County & CFWI
What Have We Been Doing?

• Formed Central Florida Water Cooperative and RCID (STOP and RCID)
  • Cypress Lake Wellfield and water treatment facility
  • “Water wheeling” concept (optimize resources and facilities through interconnects)
Cypress Lake Wellfield
(A CFWI Solutions Plan Project)

• Toho acts as agent for 5 utilities
• Joint project by STOPR utilities provides
  • 34 million gallons per day (MGD) of AWS from the lower Floridan aquifer
• Regional water treatment facility (WTF)
Cypress Lake Wellfield
(A CFWI Solutions Plan Project)

- Polk County allocated 10% capacity (3.4 MGD)
- Polk County share $15.4M (10% of cost)
- Conceptual design complete
  - Wellfield WTF and transmission
  - Phase I – “water wheeling” optimization
Polk County & Cypress Lake
What’s Next?

• Cypress Lake Wellfield, Water Treatment Facility, “Water Wheeling”
  • Procure finance consulting services
  • Land/easement acquisition
  • Design of Class V injection well for concentrate
Southeast Wellfield
(A CFWI Solutions Plan Project)

• Began feasibility study in 2008
• Secured 30 year, 30 MGD water use permit from the South Florida Water Management District
• Partnered with Polk’s cities
• Drafted $160 million cooperative funding grant agreement with the SWFWMD
Polk Regional Water Supply Entity
What Have We Been Doing?

• May 2015 - SWFWMD passed a resolution supporting Polk County and its cities in forming a regional water supply entity
• Specific milestones must be met to secure the first $40M
  • June 30, 2015 – Agreement with SWFWMD signed (secures $20M)
  • April 30, 2016 – Polk regional water supply entity formed (secures $10M)
  • April 30, 2017 – Water supply project(s) totaling 30 MGD must be identified and selected (secures $10M)
Polk Regional Water Supply Entity
What Do We Have Planned? (Short Term)

- June 23\textsuperscript{th} – PCU brought SWFWMD cooperative funding agreements to BoCC meeting for approval
- By June 30\textsuperscript{th} – bring signed cooperative funding agreement to SWFWMD for Governing Board approval
- Draft inter-local agreement in approval process with 17 cities
Polk Regional Water Supply Entity
What Do We Have Planned? (Long Term)

• PCU will implement Phase I of formation of the entity
  • Form entity through signed agreement
• Identify
  • Needs
  • Potential water supply sources
  • Projects
• Develop selection/solution tool
Polk Regional Water Supply Entity
What Do We Have Planned? (Long Term)

• Lakeland will implement Phase II of formation of the entity as the agent
  • Select 30 MGD of water supply projects
  • Develop and sign implementation agreement(s)
Polk Regional Water Supply Entity

What Do We Have Planned? (Long Term)

- August 10\textsuperscript{th} - Elected Officials Water Summit in Haines City
  - Kicks off the phase I concept of developing a regional water supply entity
  - Polk Regional Water Cooperative
  - As many of the cities that would like to be at the table may join
  - City/County managers understand the need
  - Key to buy-in will be elected officials commitment
  - Utilities working together at table during both phases
Regional Challenges
Regional Solutions

Non-Utility Business Perspective

Eric Olsen
Attorney
Hopping Green & Sams
Land Development & Water Supply

Local comp plan and RWSP statutory links:

- §163.3167(9) – comp plans must address adequate water supply for existing and projected use considering WMD RWSP
- §163.3177(4)(a) – comp plan must coordinate with WMD RWSP
- §163.3177(6)(c)3 – potable water element must incorporate traditional & alternative water supply projects from WMD RWSP to meet needs for at least 10 years with facilities work plan
- §163.3177(6)(c)3 – local gov’s water supply work plan must update every 5 years 18 months after WMD approves RWSP. Submitted to DEO for review.
- §163.3180(2), – adequate water supplies and facilities in place to serve new development by certificate of occupancy or equivalent
CFWI Draft Plans

Key water demand points:

- Population projected increase 49% from 2.7 million in 2010 to 4.1 million in 2035
- Public supply water demand projected increase 50% from 435 mgd in 2010 to 653 mgd in 2035
- Agriculture water use projected increase 16% from 185 mgd in 2010 to 215 mgd in 2035
- Power generation, mining, industrial/commercial projected to increase
- Total water demands projected increase from 800 mgd in 2010 to 1,100 mgd in 2035
Conclusions:

- Fresh groundwater alone cannot meet future CFWI demands
- Conservation - 42 mgd potential
- Water Supply Project Options – 150 potential project options providing up to 334 mgd of additional water supply
- AWS project options – reclaimed water, water storage, brackish groundwater, surface water, desalinated seawater
- Project option cost – total estimated cost = $2.8 billion for 225 mgd of 250 mgd needed!
CFWI – Possible Impacts on Land Development?

- Incorporating RWSP AWS into local gov. comp plans?
- More expensive water sources for new growth?
- Who pays?
- Higher impact fees or utility charges?
- Higher conservation standards in comp plans or local development regs?
- More time needed for local government utility cooperation to jointly develop and fund AWS projects?
- Will AWS projects be in place to support new growth or development?
Agriculture

- New ag production – more crops on less land with irrigation
- Where does new and existing agriculture in CFWI obtain water?
- Plan focus – increased conservation & efficiency
Non- Ag Self Suppliers

Definition – obtain their own water *(i.e. not from utilities)*

Examples: power plants, bottled water, mining, manufacturing, golf courses, water recreation

Not covered by solutions projects (except TECO reclaimed water)

Alternative water sources?

Self-planning
Additional information can be found at cfwiwatert.com