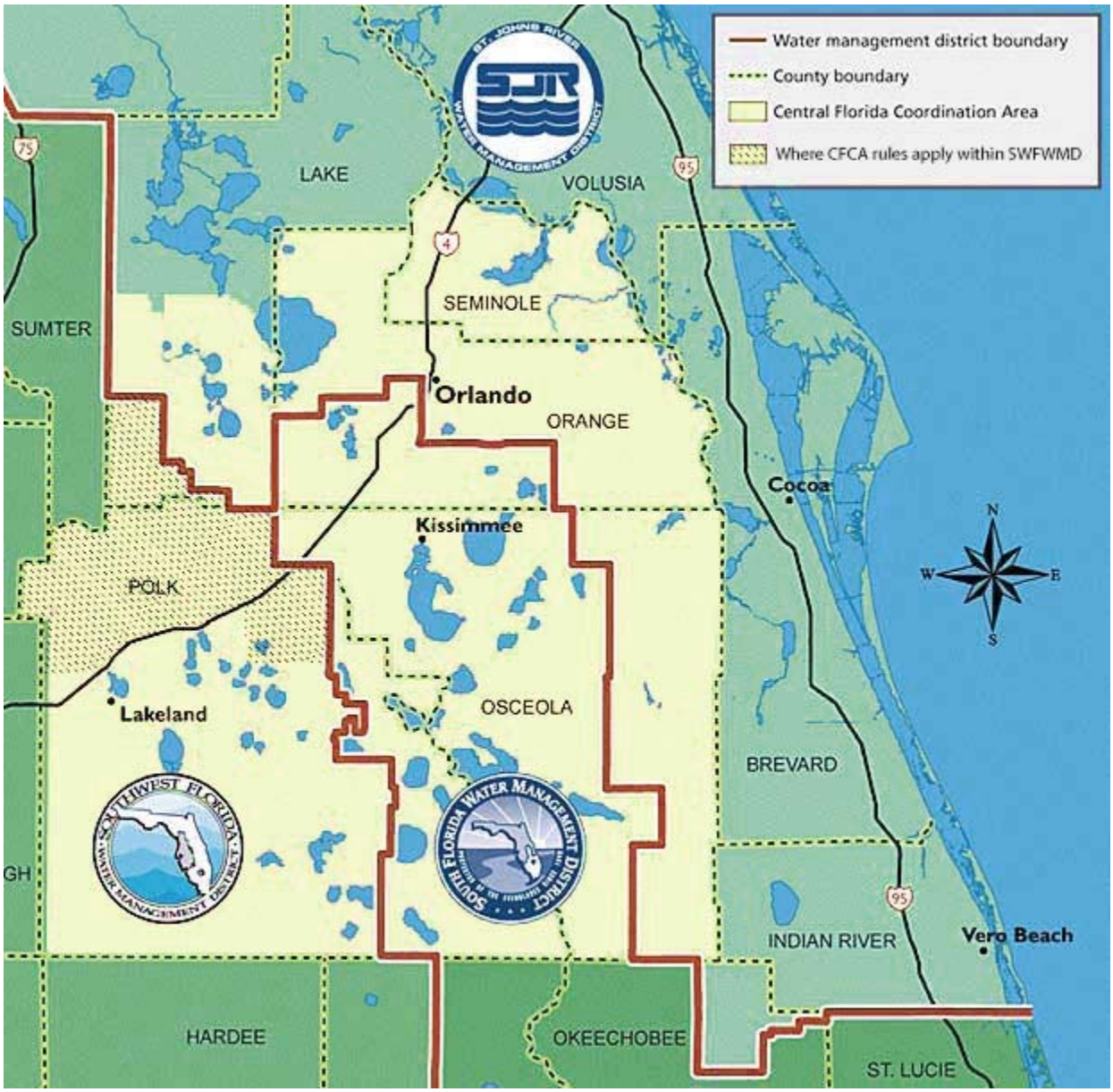
Central Florida Coordination Area (CFCA)
WORK PLAN

Phase II



May 17, 2010

Central Florida Coordination Area (CFCA) Phase II

Overview

St. Johns River Water Management District (SJRWMD), South Florida Water Management District (SFWMD) and Southwest Florida Water Management District (SWFWMD) agreed in 2006 to a Central Florida Coordination Area (CFCA) Action Plan (Action Plan) that included a set of Guiding Principles concerning short- and long-term development of water supplies in the central Florida region, including southern Lake, Orange, Osceola, Seminole and Polk counties.

In Phase I of the Action Plan a framework was established to address the short term water resource issues and concluded with interim water use regulation limiting groundwater withdrawals to projected 2013 demands and requiring development of supplemental water supplies (SWS) for future needs. Because the SWFWMD had already adopted rules for its Southern Water Use Caution Area (SWUCA) that were as restrictive, if not more restrictive, as the CFCA rules, and Polk County has portions in both areas, only the portion of Polk County that is outside the SWUCA is subject to the CFCA rules (see cover graphic). The interim CFCA rules will sunset on December 31, 2012.

CFCA Action Plan

Phase I *– concluded with interim rules to address the short-term water resource needs*

Phase II *– will replace the interim rules before they sunset with a program to continue the protection and maintenance of central Florida's water resources*

The Action Plan contemplated a Phase II process, jointly coordinated amongst the three water management districts to develop and implement a mutually compatible long-term approach to water resource management in central Florida. This approach requires coordinated activities on a variety of issues including: regional water supply planning; investigations and development of traditional and SWS projects; assessment of environmental impacts and groundwater sustainability, development of water use rules and permitting criteria; and local government and other public input. A comprehensive work plan is necessary to develop, coordinate and integrate an implementation strategy to allow for the timely and equitable transition to SWS sources. The work plan will establish the process to be followed and persons responsible for producing necessary supporting documentation, and a timeline for assignments. Accomplishing the work plan requires a commitment by the districts to appropriate necessary resources.

Phase II Work Plan: Initiatives

The objective of the Phase II effort will be completion of rulemaking by December 31, 2012, the date the interim rules sunset. To meet this objective, the Work Plan is organized as follows: Initiatives, Key Components and the schedule for their accomplishment. Included in the Work Plan are individual assignments identifying responsibility and authority to ensure the goal is met. The CFCA Action Plan, which was approved by each Governing Board in 2006, is attached as an appendix. The Action Plan provides general background for this initiative.

Definitions

CFCA Action Plan – the document approved by each Governing Board in 2006 to address the development of sustainable water supplies for all existing and future users in central Florida (see Appendix).

Initiatives – the major components necessary to implement a well coordinated program to meet the overarching goal

Key Components – specific actions to support the initiative

Tasks – individual activities comprise each key component

Overarching Goal:

Ensuring adequate water supplies to meet all reasonable-beneficial needs through 2030 in a sustainable manner.

A description of the initiatives and key components are as follows:

Initiative: Modeling and Tools Support (A)

There are a number of tools that are being utilized in support of the initial groundwater assessment and solution development. The two primary models are the East Central Florida Transient (ECFT) model and District-wide Regulation Model (DWRM). These are regionally based numerical groundwater flow models used to make predictions of water level and flow conditions within aquifers. Additional support tools for the modeling assessment include minimum flows and levels lake models for individual lakes within the SJRWMD, pre- and post-processing tools for the flow models, and two statistical analysis efforts to characterize hydrologic trends in the area and assess factors affecting long-term water level fluctuations.

Key Components

Model Calibration (A1)

The models have been peer reviewed and the Modeling and Tools Support Team has incorporated the peer review comments in their recent calibration of the models to the 1995-2006 conditions. The models have also incorporated the results of the latest aquifer performance tests and other information where applicable.

Statistical Trends in Hydrologic Data (A2)

Groundwater level, spring flow, lake level and rainfall data are being retrieved from the United States Geological Survey (USGS) and water management district databases in preparation of a statistical

relationship/evaluation of the information. The effort is being jointly conducted by staff of the three districts and will characterize historical trends in hydrologic data across the CFCA.

Model Documentation (A3)

This report will describe the ECFT and DWRM modeling efforts. The documentation proposed is a summary report of the model simulation completed for the assessment and solution development phases. Preparation of materials for the public participation process is addressed in the description below.

USGS Data Mining Project (A4)

This effort is being conducted by the USGS and is intended to be an independent statistical analysis of cause and effect. The work will complement the numerical modeling efforts.

Initiative: Environmental Assessment (B)

This initiative identified environmental constraints of wetlands. The wetland environmental constraint requires district staff to develop a consistent approach in assessing existing wetland conditions and functions and to complete an initial inventory of wetland health. The description of the key components below relates primarily to establishing consistent interpretation of environmental impacts when identifying sustainable groundwater withdrawals.

Key Components

Organization, Background Investigation and Comparison of Review Criteria (B1)

Organizational meetings, gathering of background information, comparison of review criteria and discussions of water use constraints have been held. This component includes exchanging information, reviewing permitting criteria and identifying indicators of environmental impact.

Ecological Assessments and Database Compilation (B2)

This work effort includes the collection and analysis of field data, historical and recent aerial photography, field photographs and other existing data. A database will be compiled to organize and compare data from wetland assessment sites.

Data Evaluation (B3)

Constraints for wetlands and other limitations to groundwater availability will be identified. Model results in the form of maps and statistical outputs will be compared to observed and predictive hydrology changes. Current wetland assessments and other environmental information will be used in an iterative process to refine the model. Once the iterative process of comparing environmental conditions with model predictions is complete, an assessment of existing and potential future environmental impacts related to groundwater withdrawals will be undertaken. The results of these assessments and interpretations will be the subject of public workshops.

Evaluate Existing Environmental Monitoring Network (B4)

Identify existing monitoring network for lakes, springs and wetlands. Develop comprehensive and consistent monitoring requirements to demonstrate compliance with permit conditions.

Environmental Assessment Report (B5)

A report describing the methods and results of the current and future cumulative environmental impact assessments will be compiled. The report will present a unified conclusion regarding sustainable groundwater withdrawals in the CFCA that will support future water supply planning and rulemaking by

all three water management districts. The final report, conclusions and recommendations will be presented and discussed at public workshops.

Initiative: Groundwater Availability (C)

This initiative identifies the current and future availability of groundwater in the CFCA. Results of the Environmental Assessment Initiative will be used to establish the current extent of impacts to wetlands in the area.Results of the Modeling and Tools Support Initiative will be used to determine the extent to which these impacts can be attributed to groundwater withdrawals. Future groundwater availability will be based on analysis of modeled drawdowns and the environmental impacts that are expected to be associated with those drawdowns. The amount and location of groundwater that can be used without causing unacceptable impact to the environmental conditions associated with wetlands, springs and lakes will be determined.

Key Components

Model Simulations to Estimate Water Level Drawdown Due to Groundwater Withdrawals (C1)

A series of model simulations will be performed by the Modeling and Tools Support Initiative Team. Results from these simulations will be compared with a regional evaluation of wetlands performed by the Environmental Assessment Initiative Subgroup. These simulations include:

(1) A no-pumping or reduced pumping condition
(2) 1995–2006 calibration period
(3) 1995 estimated water use
(4) 2006 estimated water use

A comparison of results from these simulations will be made to quantify changes in water levels that occur due to different groundwater withdrawal rates. These changes will then be compared to results of the wetland field assessments along with results of the hydrologic trend analysis and other related information to corroborate model results. Areas currently or projected to be adversely affected by groundwater withdrawals will be identified. These comparisons will be used to determine the regional extent of impacts and provide an initial assessment of groundwater availability. Additional simulations will be made as needed to better define the potential regional extent of impacts and identify potential management options for reducing or eliminating any areas of impact.

Modeling Evaluation (C2)

Model output will be used to relate potential aquifer water level changes due to groundwater withdrawals to the existing condition of wetlands, springs, lakes and saltwater intrusion in the CFCA and to predict potential future impacts to these natural resources. It is important that the observed environmental conditions, analyses of hydrologic trends and other information be used to corroborate model predictions. The models will be refined through a feedback loop process with existing environmental and hydrologic data. Additional wetland evaluations will be conducted as necessary during this process.

Estimate of Groundwater Availability (C3)

Maps of predicted hydrologic changes, statistical results, wetland assessment data, land use changes from historical times to present, and other information will be used to identify the location and extent of current and predicted impacts to wetlands, springs and lakes in the CFCA. An evaluation of whether adopted minimum flows and levels will be met shall also be performed. Based on results of the analyses

and consideration that regulatory constraints be met including a requirement that minimum flows & levels not be violated, estimates of groundwater availability will be determined for specific withdrawal conditions. Model simulations of currently permitted and, projected 2013 and 2030 demands will also be performed to assess potential groundwater availability beyond the current time frame.

In order to determine the sustainable water supply from groundwater in the central Florida region it is necessary to understand the connection between the groundwater and environmental conditions to be protected.

Solutions Development Simulations (C4)

Additional simulations will be designed to test possible SWS alternatives and integrated groundwater/SWS solutions to best meet future demands while complying with recognized environmental constraints. The solutions development simulations will be conducted after public input has been collected at the solutions development workshops. As each simulation is developed, data sets will be developed that correspond to that simulation. Following this, the models will be run and post-processing and posting of model results will be conducted for evaluation of potential future adverse environmental impacts and to assist with selection of additional solutions development simulations as needed.

Groundwater Availability Summary Report (C5)

A summary report describing the results of all data and information described in the previous sections (C3 and C4) will be compiled. The report will present a unified conclusion regarding sustainable groundwater withdrawals in the CFCA that will support future water supply planning and rulemaking by all three water management districts. The final report, conclusions and recommendations will be presented and discussed at public workshops.

Initiative: Public Participation (D)

The public participation process is seen as a key initiative to achieve public understanding and input to the effort to develop new rules and implementation of a regional SWS strategy consistent with the existing and updated rules. Public participation is essential to the success of the overall effort. Parallel workshop processes for modeling, environmental constraints and solutions development efforts are planned. Subsequent workshops are planned for rulemaking.

Public participation is essential to success of the overall effort.

Key Components

Modeling Workshops (D1)

This is proposed as a series of workshops for the public to familiarize themselves with the newly calibrated ECFT model and the updates to the DWRM model. The envisioned steps in the process are model introduction, discussion of the initial simulations, model constraints evaluation and a joint solutions development/testing effort.

Environmental Assessment Workshops (D2)

One of the larger efforts in the public forum will be the discussion of the results of the environmental field and data assessments, how this information was used to refine the predictive models, and the environmental constraints that will be applied to the modeling results to determine groundwater availability.

Solutions Development Workshops (D3)

Beyond the determination of groundwater availability is the development of an integrated strategy using both groundwater and SWS for the region. In order to foster this solutions development, public workshops are proposed to be held upon completion of workshops on the modeling and environmental assessments. The solutions development simulations will be conducted after public input has been collected at the solutions development workshops.

Initiative: Long-Term CFCA Rulemaking (E)

The critical path for the CFCA Phase II efforts is development of a rule to replace the existing, interim CFCA rules, which sunset on December 31, 2012. It is currently envisioned that the groundwater availability determination will be concluded prior to initiating the formal rulemaking effort. It is also anticipated that the solutions development phase will begin and end prior to final rule development. An 18 to 24 month window would be optimal to allow for contingencies during the rulemaking effort. Multiple items are envisioned to be considered in rule formulation. Addressing the limitations of groundwater availability, both spatially and temporally, will be paramount. Other items that will be discussed but which are not necessarily required in this rulemaking effort are:

(1) Increased water conservation to reduce potable demand will be a key to addressing the water supply of the region
(2) Allowing for consideration of declining water use and expiring permits when assessing the potential impacts of new withdrawals will be an important factor in certain areas.
(3) Incentives for the development of supplemental water supply sources would greatly aid their coming to fruition
(4) Rules that would foster the development of conjunctive use systems that maximize alternative sources when available would greatly aid the area's water supply
(5) Increased regionalization and sharing of water sources, including potential interdistrict transfers of water, could further alleviate the water supply limitations within the area
(6) Short-term augmentation of reclaimed water systems with groundwater to allow their expansion in such a way that there results in a net reduction in annual average groundwater withdrawal could also help offset future groundwater demand.

Key Components

3-District Rulemaking Discussions

Preliminary work is expected to begin mid 2010 to craft the overall rule framework before issuing a Notice of Proposed Rule Development. During this period the legal and regulatory staff will review the groundwater availability findings, environmental constraints discussions and SWS planning progress.

Public Process

The public process for rulemaking has specified noticing and filing requirements. The major components of this effort are identified in the project schedule; however, the timeline for this effort can change depending on the complexity of the rules contemplated and the amount of public comment. This process is critical to the success of the rule development.

Initiative: Supplemental Water Supply (SWS) Source Development (F)

The development of SWS sources will be required to meet a portion of the future water supply demands in the central Florida region. Many utilities in the CFCA have made significant progress on the development of one or more major SWS sources. The effort described by this initiative will monitor individual project progress in a separate document to track the timing of potential availability of supply.

SWS sources will be required to meet a portion of the future water supply demands in the central Florida region.

Initiative: Water Supply Plans (G)

The original CFCA Action Plan contemplated the integration of an SWS strategy into each district's regional water supply plans. This initiative tracks the development of the regional water supply plans for each district including efforts to revise population projections, water use demand projections, planned SWS projects, water conservation and anticipated progress toward the drafting of each district's plan.

Phase II Work Plan: Schedule

The project work schedule provides for the approximate start and end dates for the respective efforts identified in the Project Work Plan. These identified dates are approximate and are supplied as guidance on the magnitude of the effort involved in each. Dates may be adjusted to provide for adequate time as the project demands require.

Initiatives	Key Components	Start	End
Modeling and Tools Support (A)	Model Calibration (A1)	1/1/2008	5/31/2010
	Statistical Trends in hydrologic data (A2)	1/1/2009	9/30/2010
	Model Documentation (A3)	1/1/2010	12/31/2011
	USGS Data Mining Project (A4)	1/1/2009	12/31/2011
Environmental Assessment (B)	Organization, Background Investigation and Comparison of Review Criteria (B1)	1/1/2006	12/31/2008
	Ecological Assessments and Database Compilation (B2)	7/1/2008	9/30/2010
	Data Evaluation (B3)	1/1/2010	9/30/2010
	Evaluate Existing Environmental Monitoring Network (B4)	7/1/2010	12/31/2011
	Environmental Assessment Report (B5)	7/1/2010	12/31/2011
Groundwater Availability (C)	Estimation of Water Level Drawdown Due to Groundwater Withdrawals (C1)	1/1/2010	9/30/2010
	Modeling Evaluation (C2)	4/1/2010	9/30/2010
	Estimation of Groundwater Availability (C3)	9/30/2010	12/31/2010
	Solution Development (C4)	1/1/2011	12/31/2011
	Groundwater Availability Summary Report (C5)	10/1/2010	12/31/2011
Public Participation (D)	Modeling and Environmental Assessment Workshops (D1 and D2)	9/25/2009	12/31/2012
	Solutions Development Workshops (D3)	1/1/2011	7/1/2012
Long Term Rulemaking (E)	Adopt Final Rule	3/15/10	12/31/2012
Supplemental Water Supply Source Development (F)	Track On-going District and utility SWS development efforts	1/1/2009	12/31/2012
Water Supply Plans (G)	RWSP process	1/1/2009	12/31/2012

Phase II Work Plan: Responsibility, Accountability and Authority

For any major project to be successful, especially one as complex and critical as the CFCA Action Plan, an effective and efficient project management approach must be developed. A fundamental aspect of such an approach is developing the team so that all members understand and accepts their organizational duties. Individuals who have been assigned the responsibility for certain aspects of the CFCA Work Plan must be held accountable for their success.

Work Plan Management#

Project managers are responsible for day to day communication and contract administration of the Facilitator.

- Roy Mazur – SWFWMD
- Dwight Jenkins – SJRWMD
- Dean Powell – SFWMD

Each Project Director, with proper delegated authority from the Executive Director, will have primary accountability for their district's commitment to meeting scheduled deliverables and possess the ability to address manpower conflicts.

- Richard Owen – SWFWMD
- Dave Fisk – SJRWMD
- Deena Reppen – SFWMD

Project Directors

Individuals primarily responsible & accountable for their District's commitment to meeting scheduled deliverables, including the authority to address manpower conflicts:

- *Richard Owen, SWFWMD*
- *Dave Fisk, SJRWMD*
- *Deena Reppen, SFWMD*

Work Plan Oversight#

Individuals listed below will establish general program direction and provide policy level guidance:

- Executive
  - SWFWMD- Dave Moore, Richard Owen
  - SJRWMD- Kirby Green, Dave Fisk
  - SFWMD- Carol Wehle, Tom Olliff
- Governing Board Liaison
  - SWFWMD-
  - SJRWMD-
  - SFWMD- Jerry Montgomery
- Legal
  - SWFWMD- Karen Lloyd
  - SJRWMD- Kathryn Mennella
  - SFWMD- Beth Ross
- Others
  - SWFWMD- Ken Weber
  - SJRWMD- Hal Wilkening
  - SFWMD- Terrie Bates

Work Plan Initiative Leaders#

Responsible for meeting task deliverables on time per "CFCA Work Plan – Phase II"

- Modeling & Tools Support (Initiative A)
  - SWFWMD – Mark Barcelo, Michael Beach
  - SJRWMD – Doug Munch, Pat Burger
  - SFWMD – Akintunde Owosina, Jeff Giddings
- Environmental Assessment (Initiative B)
  - SWFWMD – David Carpenter, Sarah Chinault, Christina Uranowski
  - SJRWMD – Marc Minno, Bob Fewster
  - SFWMD – John Zahina, Don Medellin, Anita Bain
- Groundwater Availability
  - SWFWMD – Mark Barcelo and David Carpenter
  - SJRWMD – Doug Munch and Marc Minno
  - SFWMD – Akintunde Owosina, Chris Sweazy, and Don Medellin
- Public Participation (Initiative D)
  - Modeling Workshops (D1) – Initiative A leaders
  - Environmental Assessment Workshops (D2) – Initiative B leaders
  - Solutions Development Workshops (D3) – Initiative
- Long Term Rulemaking (Initiative E)
  - SWFWMD – Ken Weber, Karen Lloyd
  - SJRWMD – Dwight Jenkins, Tim Smith
  - SFWMD – Jim Harmon, Beth Ross, Mario Cabana
- SWS Source Development (Initiative F)
  - SWFWMD – Brian Armstrong
  - SJRWMD – Hal Wilkening
  - SFWMD – Chris Sweazy
- Water Supply Plans (Initiative G)
  - SWFWMD – Brian Armstrong, Roy Mazur
  - SJRWMD – Tom Bartol
  - SFWMD – Chris Sweazy, Cynthia Gefvert

Because the professionals who have been assigned a specific CFCA activity have other responsibilities and as such may result in conflicts for their or the staffs' time of others, an executive level manager from each district is to be granted specific authority to address manpower or other resource conflicts. This authority will reside with the Project Director.

APPENDIX

- Accountability Matrix

Central Florida Coordination Area ACCOUNTABILITY MATRIX				
April 30, 2010		SWFWMD	SFWMD	SJRWMD
Management	CFCA Project Managers	Roy Mazur	Dean Powell	Dwight Jenkins
	CFCA Project Directors	Richard Owen	Deena Reppen	Dave Fisk
Executive Oversight	Executive Leadership	Dave Moore Richard Owen	Carol Wehle Tom Olliff	Kirby Green Dave Fisk
	Governing Board Liaison		Jerry Montgomery	
	Legal	Karen Lloyd	Beth Ross	Kathryn Mennella
	Other Designees	Ken Weber	Terrie Bates	Hal Wilkening
Initiative Leaders	Modeling & Tools Support (A)	Mark Barcelo Michael Beach	Akintunde Owosina* Jeff Giddings	Doug Munch Pat Burger
	Environmental Assessment (B)	Dave Carpenter Sarah Chinault Christina Uranowski.	Anita Bain Don Medellin John Zahina	Bob Fewster Marc Minno*
	Groundwater Availability (C)	Mark Barcelo David Carpenter	Akin Owosina Chris Sweazy Don Medellin	Doug Munch Marc Minno
	Public Participation (D)	Initiative Leaders		
	Long Term Rulemaking (E)	Ken Weber Karen Lloyd	Mario Cabana Jim Harmon Beth Ross	Dwight Jenkins Tim Smith
	SWS Source Development(F)	Brian Armstrong	Chris Sweazy	Hal Wilkening
	Water Supply Plans (G)	Brian Armstrong Roy Mazur	Cynthia Gefvert Chris Sweazy	Tom Bartol

MANAGEMENT

- Project Managers – Responsible for day to day communication; contract administration
- Project Directors – Primary accountability for their District's commitment to meeting scheduled deliverables; able to address manpower conflicts

EXECUTIVE OVERSIGHT

- Establishes general program direction; policy level, and legal guidance

INITIATIVE LEADERS

- Responsible for meeting task deliverables on time per "CFCA Work Plan – Phase II"
- Primary Point of Contact for Initiative communication; indicated by *
- SWS project responsibility; primary responsibility with public water suppliers