

Regulatory Team Success Criteria Sub-group Interim Report

Introduction

The Regulatory Team Success Criteria Sub-group (SCS) has been tasked with developing recommendations for criteria to be used to measure success for the work of the CFWI. Understanding the value of precedents, the SCS has preliminarily surveyed various water supply and water quality programs around the state to find elements that may be usable for elaboration of success criteria for the CFWI.

Findings

We found that the programs surveyed had similar elements designed to address specific challenges:

- ❖ Goals
- ❖ Tools
 - Regulation
 - Incentives for alternative sources of water
 - Funding
 - Conservation
 - Equitable allocation
 - Limitations on future uses
- ❖ Protections for existing users
- ❖ Performance measures
- ❖ Timetables
- ❖ Adaptive management

To complete this effort, the SCS suggests that the Solutions and Regulatory Teams study these program summaries and provide the SCS guidance for developing customized criteria, which may include elements from the list above designed to address the unique aspects of the CFWI. This Interim Report is provided to the Regulatory Team for discussion with the Solutions Team. The SCS proposes to complete its effort upon receipt of additional guidance from the Regulatory and Solutions Teams.

Methodology

Individual members of the SCS were provided a series of questions to assess with regard to specific programs (See Table 1). The SCS review the following programs:

1. SWFWMD – Northern Tampa Bay Water Use Caution Area (NTBWUCA)
2. SWFWMD – Southern Water Use Caution Area (SWUCA) and the Most Impacted Area (MIA)
3. SWFWMD – Dover/Plant City WUCA
4. Basin Management Action Plan for the Lower St. Johns River Basin – Main Stem

5. Northern Everglades Payment for Environmental Services (NE-PES) aka Dispersed Water Management/originally from Florida Ranchlands Environmental Services Program (FRESP)
6. Tampa Bay Reasonable Assurance Plan (Nutrient Impairment) by the Tampa Bay Nitrogen Management Consortium – Adopted September 22, 2010
7. St. Johns River Water Management District (SJRWMD) Prevention/Recovery Strategy for Implementation of Minimum Flows and Levels for Volusia Blue Spring and Big, Daugharty, Helen, Hires, Indian, and Three Island Lakes (VSA Strategy)
8. Lower East Coast Restricted Allocation Area (LEC RAA), including Comprehensive Everglades Restoration Project (CERP)

Project Review Summary

Table 2 is a chart consisting of a general summary of the programs studied and information mined therefrom. More detailed summaries of the programs appear in the Appendix to this report. Additional information can also be found in the Water Use Caution Area review charts provided as a separate task by the Regulatory Team.

Table 1. Regulatory Team Success Criteria Sub-group Evaluation Form

Instructions: Enter the answers to the questions listed below in summary form on the following table. Use the "enter" key to add additional lines in each category, as needed.

1. Overall Program Description:
 - a. Program name
 - b. What problem was the program intended to solve?
 - c. Did the program establish goals? (e.g. water resource sustainability, future water supply, existing legal use protection) If so, describe the program goals.
 - d. Describe the program's approach (i.e. "tools" to be used) to fix the problem. (e.g. Water resource development projects, water supply development projects, regulatory components, operational, water shortage plan, etc.)
 - e. Describe performance measures, if any, established to gauge success in achieving the program goals?
 - f. Were there time tables, interim milestones, and deadlines established for achieving the program goals? If so, describe.

2. How does the program address existing legal user rights?
 - a. How were existing uses considered? (E.g. actual permitted, permitted, projected uses? Cutbacks proposed? Source shifts? Before or after permit renewal?)
 - b. Did the program include recovery/restoration/prevention components that affected among existing legal users? If so, how were they apportioned among the existing legal uses?
 - c. Did the program establish waivers, variances or other forms of relief for hardship cases? If so, what was the nature of the relief provided by the program?
 - d. Does the program provide funding to implement changes to existing legal uses?

3. How does the program provide for future / new uses?
 - a. Does the program provide for future / new uses? If so, how were future uses addressed (e.g. optimization, efficiency, preferred sources, alternative sources, water resource development projects)
 - b. Does the program provide funding for future / new water supply projects?

4. How does the program achieve resource sustainability?
 - a. Is sustainability achieved through regulatory components? If so, explain and include any integration with other programs.
 - b. Is sustainability achieved through water resource development / restoration projects? If so, explain.
 - c. Did the Legislature specifically address the program sustainability? (E.g.: provide for "trade-offs," program components, funding, reporting)
 - d. Did the program provide for adaptive management? If so, what adaptive management procedures were included in this program?

Table 2. Summary of Projects

Project Name	NTBWUCA	SWUCA & MIA	D/PCWUCA	LSJRBMP	NE-PES	TBRAP	SJVSA	CERP/LECRAA
1. Overall Program Description								
Target	Adverse impacts to waters affected by groundwater withdrawals associated with public supply and more specifically, Tampa Bay Water (TBW)	MFL waters impacted by groundwater withdrawals; aquifer level impacts; saltwater intrusion. Problem is not tied to a single user or type of water use.	Sinkholes and well failures caused by crop freeze protection groundwater withdrawals	Segments of main stem of river impaired for nutrients	Excess nutrient-laden water moves into Lake Okeechobee and to estuaries	Maintain or restore designated uses in nutrient-impaired Tampa Bay basin segments	Measures needed to achieve MFLs	CERP – restore Everglades and meet projected water supply needs LECRAA –assure water needed for CERP was not allocated to consumptive use
Goals	Recover MFLs; abate harm; reduce groundwater withdrawals for public supply.	Recover MFLs; provide sufficient water supply for existing and projected reasonable-beneficial uses; slow the rate of saltwater intrusion	Recover Minimum Aquifer Level; reduce groundwater withdrawals for freeze protection by 20% by 2020.	Implement load reductions to achieve nutrient TMDLs	Improve water quality, hydrologic flow, habitat; preserve agriculture	Restore sea grasses and Chlorophyll A to target levels; maintain N loadings at target levels	Establish and maintain withdrawals at or below sustainable yield or mitigate impact via recharge or other methods	CERP – restore key ecosystems; develop sustainable water management LECRAA assure water for Everglades; encourage AWS; restoration to occur via CERP project components

Project Name	NTBWUCA	SWUCA & MIA	D/PCWUCA	LSJRBMP	NE-PES	TBRAP	SJVSA	CERP/LECRAA
Tools	Partnership agreement between SWFWMD & TBW lead to a consolidated permit that combined all of TBW's central system wellfield withdrawals into one permit. The consolidated permit provides for phased reduction of withdrawals and development of AWS and requires water conservation measures; Financial assistance for AWS; permitted users impacting resource evaluated upon renewal; and extensive monitoring network	Prohibit new or increased quantities that impact MFLs unless offset by net benefit; develop AWS and water resource projects to enhance flow; maximize conservation; offset groundwater withdrawals through irrigation BMPs; backplugging poor quality wells; metering and monitoring	Amendments to rules to address withdrawal impacts, AWS, freeze protection methods and recovery; expand FARMS program to increase incentives for alternative frost/freeze protection; special well construction standards; conservation requirements; metering and monitoring	WWTP upgrades; beneficial reuse; SW retrofits; urban and ag BMPs; water quality credit trading; aggregating permits	incentives for storage and cleaning of water; contracts with specific parameters and payments	SW facilities and upgrades; land acquisition; WW reuse; air emissions reductions; habitat restoration; BMPs; education and public involvement; IWW upgrades; load allocations; credit trading; action plan	Implement projects; monitor trends; align permitted allocations with demonstrated need; rulemaking as needed; standard permit conditions; funding; phased approach	Extensive modification to C&SFFCP; land acquisition; funding; adaptive assessment; monitoring; federal regulation schedules; water reservations/certification of allocation; CUP criteria; MFLs; water shortage; alternative source identification; water supply development projects

Project Name	NTBWUCA	SWUCA & MIA	D/PCWUCA	LSJRBMP	NE-PES	TBRAP	SJVSA	CERP/LECRAA
Performance Measures	Phased reduction of withdrawals; increased scrutiny; no new uses with some exceptions	Reduce avg annual withdrawals from UFA by 50 mgd; No increase to withdrawals without net benefit;	Applications evaluated for impact to MALPZ; new quantities will not exceed 0.0 feet drawdown; greater burden on newer uses in ratio for resolving crop establishment complaints; option to offset MALPZ impacts through net benefit.	Tracking BMAP measures; water qual trend monitoring; annual reviews	Contract compliance field team; monitoring and inspection	Decision matrix with management actions for deviations; annual review and reporting	Data assessments	CERP – performance measures (quantitative indicators) linked to planning objectives LEC RAA – withdrawals capped at base condition water use by use class; provision for AWS development; milestones; conditional "borrowing" from the regional system; reporting
Timetables	Two phases spanning 20 years: Phase One required new withdrawals not violate MFLs; Phase Two to be implemented through 2020 limits TBW to 90 mgd.	Multi-phased	2020 goal of 20% reduction of freeze protection withdrawals	Specific projects, actions with associated goals and timetables; five year reevaluation	10-year contracts		Implementation in 5-year phases with review at end of each phase	Sequencing in 5-year increments over more than 20 years; adaptive assessment; no sunset provisions; no deadlines added to existing permits; applicable to new projects; renewals

Project Name	NTBWUCA	SWUCA & MIA	D/PCWUCA	LSJRBMP	NE-PES	TBRAP	SJVSA	CERP/LECRAA
2. How does the program address existing legal user's rights?								
Treatment of User Rights	Withdrawal right guaranteed by permit for TBW; others reviewed upon renewal for feasibility	Impacts existing as of baseline not a basis for denial	Renewal or modification with no proposed increase evaluated according to applicable conditions for issuance but existing impact not basis for denial	load allocations and required reductions; "level the playing field" between point and non-point sources; prior investments for reuse and treatment taken into account in allocation	Voluntary program	Nitrogen allocations for all geared to equitable distribution of burden	Conservation, reuse, aquifer recharge and water supply is focus in light of difficulties with reduction of allocation	Assured current level of service flood protection/ water supply for urban and ag users; tribes; ENP; fish and wildlife
Recovery/ Restoration/ Prevention	MFLs established in NTB; Recovery strategy set forth in Rule 40D-80.073, F.A.C.; TBW must investigate water withdrawal complaints within a specified area to determine if TBW withdrawals are causing problem	As prescribed in rule and recovery strategy final report	Mitigation of impact of freeze protection withdrawals	Three step assignment of reduction among existing sources	N/A		Focus on most appropriate and effective projects and measures; apportionment methodology provides basis for quantifying magnitude of responsibility by user group	Permittees capped at their base condition water use
Relief Mechanisms	Consolidated Permit allows TBW to exceed 90 mgd while the C.W. Bill Young Regional Reservoir is renovated upon TBW meeting specified requirements.	Permitting new uses upon showing of net benefit; Water conservation credits for irrigation; self-relocation outside the SWUCA; non-	Self-relocation of existing permitted uses, provided no impact on MALPZ; net benefit option for new uses; water conservation credits for irrigation; non-AWS	None listed	N/A		None	Temporary allocations permitted for applicants while implementing AWSW or an offset; potential for certification of allocable water

Project Name	NTBWUCA	SWUCA & MIA	D/PCWUCA	LSJRBMP	NE-PES	TBRAP	SJVSA	CERP/LECRRA
	smaller users cutback based on feasibility; mitigation allowed	AWS quantities can be put on standby if AWS is vulnerable to being insufficient.	quantities can be put on standby if AWS is vulnerable to being insufficient.					
Funding	Over \$300M funding assistance from SWFWMD for AWS development	New AWS funded to the greatest extent practicable; cost-share funding for irrigation BMPs available through FARMS program.	cost-share funding for irrigation BMPs available through FARMS program.	State cost share grants; legislative appropriation; sources remain responsible regardless	Per contract terms		Cooperative cost share among permittees and possibly District	Federal and state funding for project; some funding at state level for AWS and conservation projects
3. How does the program provide for future/new uses?								
Future Uses	New uses not permitted unless use contributes to attainment of rule objectives	No new quantities may be permitted within SWUCA or MIA that would impact MFL, unless offset by net benefit as defined by rule; applicants are required to evaluate AWS; augmentation for purely aesthetic purposes are not permitted.	Uses with impacts prohibited without net benefit; applicants are required to evaluate AWS	Allocation set aside for new facilities planning for next 5 years	N/A	Future users must offset additional N loads	Projects designed to avoid impacts and projects designed to meet future demand with AWS	Certified CERP project water; reallocation of terminated/reduced BCWU; AWS offsets; available wet season water; temporary allocation of water from restricted source
Funding	Funding assistance from SWFWMD for AWS development	New AWS funded to the greatest extent practicable	Incentive-based programs for ag users	None listed	Legislative appropriation; ad valorem and reserves		See 2.d.	State and federal funding for CERP programs; potential AWS and conservation funding
4. How does the program achieve resource sustainability?								
Regulatory Components	Reduction in permitted withdrawals; review	No general WUP by rule within MIA;	Limitation on new quantities; assigning re-	Enforceable by order; NPDES per-	MOU and federal permits provide assur-		Impact offsets and substitution cred-	Sustainability achieved through CERP project components; LEC RAA

Project Name	NTBWUCA	SWUCA & MIA	D/PCWUCA	LSJRBMP	NE-PES	TBRAP	SJVSA	CERP/LECRAA
	on renewal	when evaluating beneficial use of water, emphasis is given to reasonable water need, water conservation and use; no WUPS for surface water withdrawals from streams/lakes where MFLs are not achieved; Regulatory components intended to achieve sustainability by 2025	sponsibility for crop establishment impacts.	mits incorporate BMAP at renewal	ances that rancher can revert		its in CUP rules	assures water to be stored in CERP projects is not allocated
Water Resource Development/Restoration	Partnership agreement requires AWS and enhanced conservation	Water resource and water supply development projects to assist in attaining goals; cumulative impact analysis evaluates changes in permitted groundwater quantities and water resource development projects benefiting the UFA in and around the MIA.	AWS development is an option for new uses	None listed	Funds programs that rehydrate wetlands, provide habitat, reduce nutrients and excessive flows		Focus is on conservation, reuse, aquifer recharge and water supply	CERP Program and LEC regional water supply plan
Legislative Intent	None specific	Statute provides for development of SWUCA	None specific	Extensive BMAP direction by statute	Specific statutory provisions	Specific statutory provisions for RAP in lieu of	None specific	Specific statutory direction in Chapter 373

Project Name	NTBWUCA	SWUCA & MIA	D/PCWUCA	LSJRBMP	NE-PES	TBRAP	SJVSA	CERP/LECRAA
						TMDL		
Adaptive Management	Phased approach with reevaluation of progress	Annual and 5-year reevaluations	5-year reevaluation of goals	Annual reviews of BMAP	Program is monitored for compliance	Decision matrix applied annually	Two-phased implementation; five year assessments	CERP – Recover; joint monitoring; evaluation and adaptation to address uncertainties in modeling and ecological response

APPENDIX

Project 1.

SWFWMD – Northern Tampa Bay Water Use Caution Area (NTBWUCA)

1. Overall program description

a. Program Name: **SWFWMD – Northern Tampa Bay Water Use Caution Area (NTBWUCA)**

b. Target Problem: Within the NTBWUCA, certain wetlands, lakes, streams, springs and aquifer levels have been impacted by lower groundwater levels resulting from groundwater withdrawals from Tampa Bay Water's (TBW) Central System Wellfields. The eleven public water supply wellfields (Central System Facilities) located account for the majority of groundwater withdrawal impacts. For this reason the Central System Facilities are the primary focus of this program.

c. Program Goals: Achieve recovery of minimum flows and levels and abatement of environmental harm to wetlands, lakes, streams and springs; reduce groundwater withdrawals for public supply.

d. Program Tools: Partnership Agreement with Tampa Bay Water for phased reduction of withdrawals from the Central System Facilities from 158 MGD in 1998 to 90 MGD in 2008 coinciding with development of 85 MGD of alternative water supplies and implementation of enhanced conservation, with financial assistance from SWFWMD totaling in excess of \$300M. Consolidated Permit also requires an extensive monitoring network. Other users potentially impacting MFLs or contributing to adverse environmental impacts would be re-evaluated upon permit renewal for their practical ability to implement measures to reduce impacts.

e. Performance Measures: Phased reduction of withdrawals from the Central System Facilities, increased scrutiny of other existing permitted uses on renewal and prohibition of new uses, unless they are consistent with overall objective of the program.

f. Timetables/deadlines: Yes. Phased reduction of withdrawals from Central System Facilities during Phase I (1998-2010) and sustained withdrawals from Central System Facilities at 90 MGD during Phase II (2010-2020) for purposes of assessing efficacy of the program.

2. How does the program address existing legal user rights?

a. Tampa Bay Water's right to withdraw a specified quantity from Central System Facilities during Phases I and II is guaranteed by a system wide permit (known as the "consolidated permit") and modifications to the conditions for issuance. Other existing uses were not required to address impacts until renewal and only if they have a practicable ability to reduce impacts.

b. Recovery/Restoration/Prevention: Yes. MFLs established in NTB; Recovery strategy set forth in Rule 40D-80.073, F.A.C.; Tampa Bay Water must investigate water withdrawal complaints within a specified area to determine if its withdrawals are causing the problem; modifications to the various portions of the Applicant's Handbook and the SWFWMD-Tampa Bay Water Partnership Agreement.

<p>c. Relief Mechanisms for Flexibility: Consolidated Permit allows TBW to exceed 90 mgd while the C.W. Bill Young Regional Reservoir is renovated upon TBW meeting specified requirements. Partnership Agreement tied cutback of permitted use from Central System Facilities to receipt of cooperative funding from SWFWMD. Smaller water users subject to evaluation of practical ability to implement impact reduction measures. Supplemental hydration of wetlands and lakes authorized as a means of achieving MFLs and mitigating adverse environmental impacts.</p>
<p>d. Funding: Over \$300M of cooperative funding committed by SWFWMD to develop alternative water supplies and implement enhanced conservation by Tampa Bay Water. Cutback of Central System Facilities tied to receipt of funding.</p>
<p>3. How does the program provide for future/new uses?</p>
<p>a. Provision for New/Future Uses: Requests for new withdrawals projected to impact a water body, which is suffering unacceptable adverse impacts or below its MFL, shall not be approved unless the use contributes to attainment of objectives set forth in Rule 40D-80.073, F.A.C.</p>
<p>b. Funding: No specified funding. However, SWFWMD has an extensive alternative water supply source funding program.</p>
<p>4. How does the program achieve resource sustainability?</p>
<p>a. Regulatory Components: Yes. Reduction in permitted withdrawals by Central System Facilities to 90 MGD, requirement that upon renewal other users implement measures to reduce their impact to the extent practicable and prohibition of new quantities that are projected to impact water body, unless they contribute to achieve resource sustainability.</p>
<p>b. Water Resource Development/Restoration: Yes. SWFWMD-Tampa Bay Water Partnership Agreement, which was incorporated by reference in Rule 40D-80.073, F.A.C., required development of 85 MGD of alternative water supplies and implementation of enhanced conservation aided by more than \$300M in cooperative funding from SWFWMD.</p>
<p>c. Legislative Intent: No specific legislative intent beyond what can be implied from general provisions of Chapter 373, Florida Statutes.</p>
<p>d. Adaptive Management: Yes. Phased approach with reevaluation of progress is specified in the strategy.</p>

Project 2.

SWFWMD – Southern Water Use Caution Area (SWUCA)
and the Most Impacted Area (MIA)

1. Overall program description
a. Program Name: SWFWMD – Southern Water Use Caution Area (SWUCA) and the Most Impacted Area (MIA)
b. Target Problem: Flow rates and water levels for most MFL water bodies are below MFLs predominantly because groundwater withdrawals have lowered Floridan aquifer levels. As a result of the lowered aquifer levels, saltwater intrusion is occurring and river flows and lake levels are impacted by reduced water levels, including some of the rivers and lakes for which MFLs have been established. The problem is not tied to a single user or type of water use.
c. Program Goals: Recovery of the flows and levels to the MFLs; the provision of sufficient water supplies for all existing and projected reasonable-beneficial uses; and slow the rate of saltwater intrusion.
d. Program Tools: Regulatory component involving prohibition of new or increased impacts on MFLs, unless offset by a “Net Benefit” and implementation of enhanced conservation. Guiding principles for regulatory component are: (i) Contribute significantly to resource management and recovery, (ii) protect investments of existing water user permit holders; and, (iii) allow for economic expansion and new economic activities in the SWUCA. Planning component involves development of alternative water supplies and water resource projects to enhance surface water flow such as the Lake Hancock Project. Permits within the SWUCA and MIA require permittees to maximize conservation, offset groundwater withdrawals through irrigation best management practices (BMPs), and metering and monitoring of water withdrawals. SWFWMD also has a program to provide financial incentives to backplug poor quality wells.
e. Performance Measures: No increased or new impacts to MFLs without corresponding net benefit. Reduce average annual withdrawals from the Upper Floridan Aquifer by 50 mgd.
f. Timetables/deadlines: (i) Restore MFLs in priority lakes in the Ridge area by 2025; (ii) Restore MFLs flows to the Upper Peace River by 2025; (iii) Reduce the rate of saltwater intrusion in coastal Hillsborough, Manatee and Sarasota counties by achieving the proposed minimum aquifer level for saltwater intrusion by 2025; and, (iv) ensure there are sufficient water supplies for all existing and projected reasonable beneficial uses.
2. How does the program address existing legal user rights?
a. Treatment of Existing & Proposed Uses: MFL impacts existing as of January 1, 2007 are not a basis for permit denial, because the recovery strategy as a whole is intended to achieve recovery as soon as practicable.
b. Recovery/Restoration/Prevention: Yes, as provided in Rule 40D-80.074, F.A.C., various provisions of the Applicant’s Handbook and the SWUCA Recovery Strategy Final Report dat-

ed March 2006.

c. Relief Mechanisms for Flexibility: Yes, applications submitted for new groundwater quantities after January 1, 2007 may be permitted, if the applicant provides a “net benefit,” as defined in AH 3.9.2.6.2.2.4. Permittees can earn water conservation credits for irrigation and can apply for self-relocation outside the SWUCA. Non-alternative water supply (AWS) quantities can be placed on standby if AWS is vulnerable to being insufficient.

d. Funding: New alternative water supplies funded by SWFWMD to greatest extent practicable. Cost-share funding for irrigation best management practices (BMPs) is available through SWFWMD’s FARMS program.

3. How does the program provide for future/new uses?

a. Provision for New/Future Uses: No new quantities of water withdrawals within the SWUCA or MIA that would impact MFLs may be permitted after January 1, 2007, unless the applicant provides a “net benefit” as defined in AH 3.9.2.6.2.2.4. New applicants are required to evaluate AWS. Augmentation for purely aesthetic purposes is not permitted.

b. Funding: New alternative water supplies funded by SWFWMD to greatest extent practicable.

4. How does the program achieve resource sustainability?

a. Regulatory Components: Yes. There are no general Water Use Permits by rule within the MIA. When evaluating the beneficial use of water, emphasis is given to reasonable water need, water conservation and use. No Water Use Permits are issued for surface water withdrawals from streams/lakes where MFLs are not achieved. Regulatory components are intended to achieve resource sustainability by 2025.

b. Water Resource Development/Restoration: Yes, SWUCA Recovery Strategy Final Report dated March 2006 provides for water resource and water supply development projects to assist in attaining the sustainability goals. Cumulative impact analysis evaluates changes in permitted groundwater quantities and water resource development projects benefitting the Upper Floridan Aquifer in and around the MIA.

c. Legislative Intent: Yes, Section 373.0363, Florida Statutes provides for development of a Southern Water Use Caution Area Strategy

d. Adaptive Management: Yes, subject to annual and 5-year reevaluations.

Project 3.

SWFWMD – Dover/Plant City Water Use Caution Area (D/PCWUCA)

1. Overall program description

a. Program Name: **SWFWMD – Dover/Plant City WUCA**

b. Target Problem: Farmers in the Dover/Plant City area (eastern Hillsborough County and western Polk County) pump groundwater to protect crops during freeze events. Large quantities of groundwater withdrawals during January 3-13, 2010 resulted in reduction of aquifer levels by 60 feet, which contributed to more than 140 sinkhole occurrences and impacted approximately 750 neighboring groundwater wells. Significant freeze events resulting in well failures and sinkholes have occurred three times over the past 10 years.

c. Program Goals: The goal of the recovery strategy is to recover the Minimum Aquifer Level (MAL) and to reduce groundwater withdrawals for freeze protection by 20% by January 2020. Rule 40D-80.075(2), F.A.C.

d. Program Tools: Regulatory component consists of amendments to the Applicant's Handbook to address groundwater withdrawal impacts, alternative water supplies, frost/freeze protection methods and recovery. The new rules for existing and future water use permit (WUP) holders with crops that require frost/freeze protection within the Dover/Plant City WUCA are designed to ensure impacts from groundwater withdrawals do not worsen. In addition, the FARMS program has been expanded to increase incentives for alternative frost/freeze protection methods, and special water well construction standards apply to prevent impacts to water wells from periodic high water use. Metering and monitoring is required.

e. Performance Measures: According to AH 3.9.4.2.1, all applications will be evaluated to determine whether the proposed withdrawal for crop protection will impact the Minimum Aquifer Level Protection Zone (MALPZ) and for new quantities, the resulting drawdown will not exceed 0.0 feet within the boundary of the MALPZ. Additionally, according to AH 3.9.4.5.2, the responsibility of existing and new permittees to investigate and resolve crop establishment withdrawal rated complaints will be determined based on a ratio that places a greater burden on recently permitted uses versus previously permitted uses. The MALPZ is the area within the 30 ft. drawdown contour that resulted from the January 2010 frost/freeze event, where the greatest concentration of withdrawal impacts have occurred (i.e., well complaints and sinkholes).

f. Timetables/deadlines: Yes. The goal is to reduce groundwater withdrawals for frost/freeze protection by 20% by January 2020.

2. How does the program address existing legal user rights?

a. Treatment of Existing & Proposed Uses: According to AH 3.9.4.2.2, applications for re-

new or modification of a WUP with no proposed increase in crop protection quantities or change in use type will be evaluated according to the then applicable conditions for issuance, provided, however, the existing impact of permitted quantities on the MALPZ will not be a basis for permit denial.

b. Recovery/Restoration/Prevention: Applications are evaluated for impacts to the MALPZ. In addition, permits require a mitigation process for impacts to existing legal uses (e.g., if a well pump no longer operates) caused by a permittee withdrawing groundwater for crop establishment or protection.

c. Relief Mechanisms: AH 3.9.4.2.3 allows for self-relocation of existing permitted uses to a different property provided that the withdrawal at the new location cannot increase impacts on the MALPZ. Additionally, AH 3.9.4.2.6 allows applicants for new quantities with requested withdrawals constrained by impacts on the MALPZ to be permitted based on implementation of a “net benefit” option identified in the rule. Permittees can also earn water conservation credits for irrigation.

d. Funding: Cost-share funding for irrigation best management practices is available through SWFWMD’s FARMS program.

3. How does the program provide for future/new uses?

a. Provision for New/Future Uses: Applicants for new quantities with impacts on the MALPZ are not permitted without implementation of a “net benefit.” Applicants are required to evaluate AWS options.

b. Funding: Incentive based programs for agricultural users.

4. How does the program achieve resource sustainability?

a. Regulatory Components: Yes, via limitation on new quantities with impacts on the MALPZ and through the provision assigning responsibility for crop establishment impacts. Permit condition requires investigation of well complaints.

b. Water Resource Development/Restoration: Yes, AWS development is an option for permitting of new uses. AWS can be used to demonstrate “net benefit” through groundwater

replacement credit.

c. Legislative Intent: No specific legislative intent beyond what can be implied from general provisions of Chapter 373, Florida Statutes..

d. Adaptive Management: Provides for 5 year reevaluation of recovery strategy goals.

Project 4.

Basin Management Action Plan for the Lower St. Johns River Basin – Main Stem

1. Overall program description

a. Program Name:
Basin Management Action Plan for the Lower St. Johns River Basin - Main Stem

b. Target Problem:
Several segments of main stem of River are impaired for nutrients.

c. Program Goals:
Implement load reductions to achieve the nutrient TMDLs for the Lower St. Johns River Basin.

d. Program Tools:

Projects to reduce pollutant discharges:

- Wastewater treatment plant upgrades
- Redirecting wastewater discharges to beneficial reuse for irrigation and other purposes
- Stormwater retrofits
- Urban structural BMPs
- Urban nonstructural BMPs such as cleaning and maintenance activities
- Agricultural BMPs

Regulatory:

- Aggregating permits
- Water quality credit trading (Initially authorized by statute only in the St. Johns River BMAP as a pilot project - statute later revised to authorize a statewide credit trading rule.)

e. Performance Measures:

- Tracking of implementation of BMAP measures
- Water quality trend monitoring
- Implementation and monitoring summarized in an annual report
- Executive Committee holds annual meetings to discuss implementation issues, consider new information, and determine need for additional management strategies if monitoring indicates nutrient reductions not occurring or implementation schedule not being met.

f. Timetables/deadlines:

- Plan includes specific projects/actions with associated nutrient reduction goals and timetables for completion.
- Five year rotating basin schedule for reevaluation of impaired status, TMDL, and any subsequent needed changes to BMAP.

2. How does the program address existing legal user rights?
<p>a. Treatment of Existing & Proposed Uses:</p> <ul style="list-style-type: none"> • “Level the playing field” between point and non-point sources (require nonpoint sources to at minimum implement BMPs before additional reductions required of point sources). • Prior investments in treatment technologies or reuse infrastructure taken into account in the allocation process • Sources assigned load allocation and required reduction
<p>b. Recovery/Restoration/Prevention:</p> <p>Assignment of reductions among existing sources:</p> <p>Step 1 – Assume 45% of non-point sources met “BMP”, if more reduction needed, Step 2 – Assume 95 % of non-point sources met “BMP”, if more reduction needed, Step 3 – Across the board reductions to all sources in 10% increments until TMDL met.</p>
<p>c. Relief Mechanisms:</p>
<p>d. Funding:</p> <ul style="list-style-type: none"> • State cost share grants • Legislative appropriations • Sources remain responsible for reductions with or without public funding
3. How does the program provide for future/new uses?
<p>a. Provision for New/Future Uses:</p> <ul style="list-style-type: none"> • Allocation set aside for growth/new facilities planning for next five years.
<p>b. Funding:</p>

Project 5.

Northern Everglades Payment for Environmental Services (NE-PES)
aka Dispersed Water Management/originally from Florida Ranchlands Environmental
Services Program (FRESP)

1. Overall program description

a. Program Name: Northern Everglades Payment for Environmental Services (NE-PES)/ aka Dispersed Water Management/ originally from Florida Ranchlands Environmental Services Program (FRESP) pilot program

b. Target Problem: Last century, there were large scale man-made changes to the hydrology and land use of the Northern Everglades, Lake Okeechobee and St. Lucie and Caloosahatchee estuaries. As a result, excess nutrient-laden water moves quickly from the Northern Everglades landscape to Lake Okeechobee. When Lake Okeechobee water levels rise to certain levels, nutrient-filled fresh water is released out of the lake through canals to the St. Lucie and Caloosahatchee estuaries, in turn harming these natural systems. Meanwhile, cow-calf ranches in the Northern Everglades are experiencing economic pressure to intensify agricultural production or transform into urban development, which would result in higher nutrient loads to Lake Okeechobee.

c. Program Goals: Improve water quality, wildlife habitat, provide carbon sequestration, and hydrologic flow while preserving the integrity of working ranchlands.

d. Program Tools: An incentive program in the Northern Everglades with landowners and land managers to pay for the storage and cleaning of water on working ranchlands. The original FRESP program tailored different Water Management Alternatives for individual users, which included combinations of flashboard riser, weirs, constructing or improving earthen berms or impoundments, rehydrating wetlands, diverting surface runoff to onsite storage, and other improvements to help reduce seepage from lands. Under NE-PES, SFWMD evaluated and funded RFPs by a series of criteria, including but not limited to an estimate of volume of water that can be retained and P retention potential using tools provided by the agency, the requested level of payments, and the proposed ways in which the service provision would be documented. The parties agree on a contract that sets a constant annual service payment over the life of the contract.

e. Performance Measures: For NE-PES, this is currently under development by SFWMD. District is now performing a comprehensive assessment of storage needs north of the Lake at a sub-watershed level which will be more beneficial than measuring flows to the Lake and the St Lucie and Caloosahatchee Estuaries.

For monitoring and compliance, SFWMD contracted with a third party "field team" to verify contract compliance for the eight water retention service contracts awarded under the first solicitation. The field team installs monitoring equipment at each WMA site makes monthly site visits; operates and maintains the equipment; collects, manages and analyzes data from the sites; and prepares reports. The field team conducts monthly site visits to verify that structures are bolted at the contracted elevation, downloads water stage and rainfall data, and checks on the condition of the WMA. During these site visits, the rancher provides a form that verifies that the WMA site has been operated and maintained as specified in the contract. After collecting and transferring the data to an electronic format, the field team processes the data through a standard QA/QC procedure, ensuring that stage inside the WMA varies logically with rainfall and pumped water inputs.

f. Timetables/deadlines: Contracts with landowners under NE-PES are for 10 years

2. How does the program address existing legal user rights?
a. Treatment of Existing & Proposed Uses: This is a voluntary program with contractual rights
b. Recovery/Restoration/Prevention: N/A
c. Relief Mechanisms: N/A
d. Funding: For NE-PES, payment is generally on a fixed rate over the course of the 10 year contract. For FRESP, payment is provided on an annual basis if documentation shows services were provided
3. How does the program provide for future/new uses?
a. Provision for New/Future Uses: N/A
b. Funding: State legislative appropriations, SFWMD Ad Valorem and reserves
4. How does the program achieve resource sustainability?
a. Regulatory Components: Under development for NE-PES FRESP projects were based on fixed-length contracts, and the land owners wanted some assurance that they could return the land to its pre-existing condition after the contract period ends. Regulatory agencies were engaged up-front to assure this kind of post-contract flexibility. First, FRESP negotiated a Nationwide 27 Permit (Section 404 of the Clean Water Act) and a Memorandum of Understanding between FDEP, SFWMD, and FDACS, that would allow ranchers to return their lands to the pre-WMA wetland conditions after contracts expired. Second, FRESP obtained a letter of concurrence on the Nationwide 27 Permit from the USFWS.
b. Water Resource Development/Restoration: This program helps fund wetland rehydration and water retention ponds that provide good habitat for wildlife in the Northern Everglades. It may also help reduce nutrients and flashes of water flowing into Lake Okeechobee, which will help the Lake and Everglades ecosystem at large

c. Legislative Intent: Derived from Northern Everglades and Estuaries Protection Program

“It is the intent of the Legislature that the coordinating agencies encourage and support the development of creative public-private partnerships and programs, including opportunities for water storage and quality improvement on private lands and water quality credit trading, to facilitate or further the restoration of the surface water resources of the Lake Okeechobee watershed, the Caloosahatchee River watershed, and the St. Lucie River watershed, consistent with s. [403.067](#).” 373.4595(1)(n), Florida Statutes.

“In the development and administration of the Lake Okeechobee Watershed Protection Program, the coordinating agencies shall maximize opportunities provided by federal cost-sharing programs and opportunities for partnerships with the private sector.” 373.4595(3), Florida Statutes.

“Projects that make use of private lands, or lands held in trust for Indian tribes, to reduce nutrient loadings or concentrations within a basin by one or more of the following methods: restoring the natural hydrology of the basin, restoring wildlife habitat or impacted wetlands, reducing peak flows after storm events, increasing aquifer recharge, or protecting range and timberland from conversion to development, are eligible for grants available under this section from the coordinating agencies. For projects of otherwise equal priority, special funding priority will be given to those projects that make best use of the methods outlined above that involve public-private partnerships or that obtain federal match money.” 373.4595(3)(c)(5), Florida Statutes.

d. Adaptive Management: As these projects are monitored, WMA may be tweaked to advance the most effective methods for storage and reduction of nutrients. Note that SFWMD is currently evaluating this program in an Inspector General’s report to be released this November, which will likely have some new recommendations for the program.

Project 6.

Tampa Bay Reasonable Assurance Plan (Nutrient Impairment) by the
Tampa Bay Nitrogen Management Consortium – Adopted September 22, 2010

1. Overall program description

a. Program Name:

Tampa Bay Reasonable Assurance Plan (Nutrient Impairment) by the Tampa Bay Nitrogen Management Consortium
Adopted September 22, 2010

b. Target Problem:

Maintain or restore designated uses of waterbody segments within the Tampa Bay Basin which are designated as potentially impaired or verified impaired for nutrients pursuant to Chapter 62-303, Florida Administrative Code (F.A.C.).

c. Program Goals:

- Restore seagrass in Tampa Bay to 95% of the areal extent estimated to have occurred in 1950.
- Achieve chlorophyll a targets for each major bay section
- Maintain nitrogen loadings to the bay at the 1992-1994 average annual loads,

d. Program Tools:

- Stormwater facilities and upgrades
- Land acquisition and protection
- Wastewater effluent reuse
- Air emissions reduction
- Habitat restoration
- Agricultural BMPs
- Education/public involvement
- Industrial treatment upgrades

- Consortium Action Plan and Data Base containing projects, schedules, load reductions, etc.
- All major nitrogen sources, permitted and unpermitted, receive nitrogen load allocations.
- Credit trading anticipated.

e. Performance Measures:

- A “decision matrix” process was developed to help determine if seagrass goals and water quality targets are remaining “within bounds,” or if management action is required to get back on track. If the matrix process indicates deviation from targets, recommended types of management actions are also identified. This process is applied on an annual basis to determine if water clarity and chlorophyll a concentrations are remaining at or near target levels.
- Annual reporting to DEP/EPA

f. Timetables/deadlines:

2. How does the program address existing legal user rights?
<p>a. Treatment of Existing & Proposed Uses:</p> <ul style="list-style-type: none"> • The Consortium participants developed a set of nitrogen wasteload allocations that attempts to equitably distribute the burden of nitrogen management across all sectors and sources of nitrogen loading within the basin, as well as the total maximum loading of nitrogen to each major bay segment. • All major nitrogen sources, permitted and unpermitted, receive nitrogen load allocations.
b. Recovery/Restoration/Prevention:
c. Relief Mechanisms:
d. Funding:
3. How does the program provide for future/new uses?
<p>a. Provision for New/Future Uses:</p> <p>Future new or expanded sources will be required to offset additional nitrogen loads through documented load reduction actions, projects, or transfers.</p>
b. Funding:
4. How does the program achieve resource sustainability?
a. Regulatory Components:
b. Water Resource Development/Restoration:
<p>c. Legislative Intent:</p> <p>Pursuant to s. 403.076(4), F.S., a Reasonable Assurance Plan may be submitted in lieu of the establishment of a TMDL if the plan is sufficient to result in attainment of applicable water quality standards.</p>
<p>d. Adaptive Management:</p> <ul style="list-style-type: none"> • A “decision matrix” process was developed to help determine if seagrass goals and

water quality targets are remaining “within bounds,” or if management action is required to get back on track. If the matrix process indicates deviation from targets, recommended types of management actions are also identified. This process is applied on an annual basis to determine if water clarity and chlorophyll a concentrations are remaining at or near target levels.

Project 7.

St. Johns River Water Management District (SJRWMD) Prevention/Recovery Strategy for Implementation of Minimum Flows and Levels for Volusia Blue Spring and Big, Daugharty, Helen, Hires, Indian, and Three Island Lakes (VSA Strategy)

1. Overall program description

a. Program Name:

St. Johns River Water Management District (SJRWMD) Prevention/Recovery Strategy for Implementation of Minimum Flows and Levels for Volusia Blue Spring and Big, Daugharty, Helen, Hires, Indian, and Three Island Lakes (VSA Strategy)

b. Target Problem:

Identifies measures needed to achieve the MFLs for these waterbodies.

c. Program Goals:

Establish and maintain actual and permitted groundwater withdrawals at or below the sustainable groundwater yield or mitigate the impact of withdrawals via recharge or other methods supported by the District that achieve equivalent water resource benefits.

d. Program Tools:

- Implement projects and measures that provide water resource benefits sufficient to achieve MFLs.
- Monitor trends in spring flow and aquifer levels at individual wells and across an appropriate regional network. Use this information to confirm benefits of implemented projects and adjust Strategy measures as necessary.
- Work with existing permittees to align permitted allocations with demonstrated need.
- If necessary, conduct rulemaking to address permitting of withdrawals, including new quantities of water, that affect waterbodies in recovery status.
- Establish standard permit condition and related language for integrating MFLs criteria with CUPs.
- Identify and obtain sufficient funding resources to facilitate Strategy implementation.
- Implement in a phased approach with a full Strategy revision at 5-year intervals.

e. Performance Measures:

The combination of spring flow, lake level, and aquifer level data will be used to evaluate progress toward achieving MFLs. Data assessments will include four primary components:

1. Volusia Blue Spring flow
2. Upper Floridan aquifer levels near each of the VSA lakes
3. Aquifer levels across a local Upper Floridan trend network
4. Quantitative relationship between lake levels and aquifer levels

f. Timetables/deadlines:

Strategy implementation will occur in 5-year phases. Actions to occur in subsequent phases will be determined during the Strategy revision process envisioned at the end of Phases 1 (years 1-5) and 2 (years 6-10), respectively. Phase 1 began upon Governing Board approval of the Strategy in November 2013.

2. How does the program address existing legal user rights?

a. Treatment of Existing & Proposed Uses:

When considering how to address impacts to MFLs, individual permittees may find that reducing their permitted allocation is preferable to implementing a capital project. Based on a comparison of maximum permitted allocations and 2030 projected demands for public supply utilities within Volusia County, the potential reduction in permitted allocations is relatively limited – approximately 1 mgd. Thus, the Strategy focuses on the following project types: conservation, reuse, aquifer recharge and water supply.

b. Recovery/Restoration/Prevention:

The purpose of calculating apportionment at the District is two-fold:

1. Focus the types of projects and measures that would be most appropriate and effective for individual waterbodies by clarifying the relative impact of user groups.
2. Provide a basis for quantifying the magnitude of responsibility for individual permittees through the combination of water resource impacts and permittee-specific apportionment values.

The approach relies on end-of-permit allocations for users that have a consumptive use permit and estimates of domestic self-supply withdrawals and other user groups that do not have permitted allocations. The apportionment methodology quantifies the proportional impact of users and user groups relative to each other for a specific waterbody.

For example, the apportionment by user group for Blue Spring is: public supply – 88%; agriculture - 5.3%; domestic self-supply – 3.1%; commercial/industrial – 1.7%; power generation – 1.2%; and recreation – 0.7%.

c. Relief Mechanisms:

No special relief mechanisms were provided.

d. Funding:

Projects implemented as part of this Strategy will likely be funded through cooperative cost-share among permittees and, in select cases, the District. Although not directly quantified, projects and measures funded by District ad valorem funds, either through District projects or via cost-share agreements with project partners, are intended to mitigate the water resource impact of domestic self-supply uses and uses authorized under a permit by rule. Under the assumption that permitted water users are only responsible for their proportion of the water resource impact, District cost-share may exceed the typical 40% threshold for projects if additional action is needed beyond mitigating the effect of permitted withdrawals in order to meet the MFLs.

3. How does the program provide for future/new uses?

a. Provision for New/Future Uses:

New/future uses were addressed by projects that can be divided into two categories: projects designed to avoid impacts from groundwater withdrawals on Blue Spring and the VSA lakes, and projects designed to meet future demand with alternative water supplies that minimize both water resource impacts and cost.

b. Funding:

See 2.d.

4. How does the program achieve resource sustainability?

a. Regulatory Components:

The only regulatory components which were included in Phase 1 of the Strategy were the incorporation of impact offsets and substitution credits into the District's CUP rules. This component of the Strategy was completed in August 2014. No further rulemaking is contemplated at this time.

b. Water Resource Development/Restoration:

No. As noted above, the Strategy focuses on the following project types: conservation, reuse, aquifer recharge and water supply.

c. Legislative Intent:

No.

d. Adaptive Management:

As noted above, Strategy implementation will occur in two phases. Annual status reports will be developed by the District. The status reports will contain an update on rule revisions, permit modifications, and projects implemented in the prior year. Upon the completion of each phase, a Five-Year Strategy Assessment report will be developed. The Assessment Report will likely include the following:

- Any newly adopted/re-evaluated MFLs
- Updated freeboard calculations (based on revised planning period)
- Updated assessment of prevention/recovery status
- Updated apportionment calculations
- Project implementation status, including alternative projects, if warranted
- Permit revisions
- Rule revision status
- Water resource data assessment
- Adjustment to sustainable groundwater yield, if needed

Based on findings in each Five-Year Assessment Report, the Strategy may be revised by the Governing Board.

Project 8

Lower East Coast Restricted Allocation Area (LEC RAA)

1. Overall program description

a. Program Name:

Lower East Coast Restricted Allocation Area (LEC RAA)

b. Target Problem:

Comprehensive Everglades Restoration Project (CERP):

- The Central and Southern Florida Flood Control Project was recognized as creating an unsustainable condition for the Greater Everglades system and future water supply. Consumptive water use, while not causing these problems, was anticipated to increase over the coming years such that supply sources needed to be identified.
- The U.S. Congress in the 1992 Water Resource Development Act authorized the 'Restudy' of the Chief's report published as House Document 643 in 1949, "...with a view to determining whether modifications to the existing project are advisable... due to significantly changed physical, biological, demographic, or economic conditions, with particular reference to modifying the project or its operation for improving the quality of the environment, improving protection of the aquifer, and improving the integrity, capability, and conservation of urban water supplies affected by the project or its operation." [Public Law 102-580, §309(1)].
- This effort, known as the reconnaissance phase, proceeded forward in conjunction with SFWMD's Lower East Coast regional water supply planning effort.
- After years of study, CERP was developed to restore the Greater Everglades Ecosystem and meet projected water supply needs; water to achieve the purposes defined in CERP needed to be set aside for these purposes.
- After CERP and the Lower East Coast Regional Water Supply Plan set the planning level framework, implementation followed, including project development and regulations.

Lower East Coast Restricted Allocation Area (LEC RAA):

- In 2007 LEC RAA was created to:
 - Assure water needed for CERP restoration projects was not allocated for consumptive use.
 - Serve as the regulatory component of the MFL recovery strategies for Everglades and Loxahatchee River.
 - Address changing circumstances that evolved between adoption of CERP (2000) and 2007; specifically, funding and construction of the CERP project components was delayed; urban water supply demands were rising beyond planned projections; and numerous permit applications, requesting substantial increases in allocation, were pending. Absent timely CERP projects, increasing consumptive use demands were coming from the Everglades ecosystem. (Many of the CERP project components stored water for both restoration and consumptive use purposes as projected over time. In this manner competition between water for restoration and future uses was to be avoided.)
 - To address these issues, the LEC RAA acted to "cap" withdrawals; additional explanation of the mechanisms used is explained below.
 - LEC RAA did not reduce actual use of existing legal users; however, existing infrastructure was "stranded" due to the LEC RAA.

c. Program Goals:

• **CERP:**

- CERP's purpose is to modify the Project to enhance ecologic values and enhance economic values and social well-being; plan for the water resource needs of the people of south Florida for the next 50 years. (Restudy Feasibility Report / Final EIS at:1-7, 5-20 to 5-38, and 6-1 to 6-5)
- Sustainability of water resource is the over-arching objective that is further translated into general planning objectives for the Restudy in 3 categories: ecologic, hydrologic, and socio-economic (Governor's Commission for a Sustainable South Florida Conceptual Plan, 14 and Restudy, 6-4) .
 - "Sustainable communities are those that believe today's growth must not be achieved at tomorrow's expense." (Excerpts from Initial Report – Preface)
 - The environment, people and economy often compete, but to be sustainable, the needs of all must be balanced. (Commission's Conceptual Plan, 13 - 14)
 - Five principles guided vision: (1) restore key ecosystems, (2) achieve a cleaner, healthy environment, (3) limit urban sprawl, (4) protect wild-life and natural areas, (5) create quality communities and jobs. (Initial Report, Preface)
 - A healthy natural system is the foundation from which South Floridians' quality of life stems. (p. 9 – Restudy)
 - As to water management, the Commission's objectives were to: (1) coordinate and integrate water management and restoration plans and ensure such plans incorporate principles of sustainability, full cost accounting, ecosystem management, and adaptive management; (2) to restore and enhance regional ground water storage; (3) to protect ground and surface water capacity through development of alternative sources of water and other operational and allocation schemes; (4) to integrate land use with water management; (5) to understand the limits of a 'managed system' and set realistic flood control goals. (Initial Report, p.2)
 - §373.1501 – Legislative intent mirrors sustainability and adds 'not diminish' supply language

• **LEC RAA:**

- Assures water needed for Everglades restoration is not allocated for consumptive use.
- Encourages use of CERP water supply project water (AWS) is used when it becomes available
- This rule was not intended to restore environmental performance. Environmental restoration is to occur via implementation of the CERP project components.
- The LEC RAA also satisfied the state and federal requirement to assure water for Everglades restoration would be protected. [State protection of CERP project water must occur prior to the SFWMD executing an agreement to construct these projects with the Army Corps of Engineers, consistent with 373.470 (3)(c), Florida Statutes, 33 CFR 385.27, and WRDA 2000, Pub. L No. 106-541, § 601(h)(4)(b)(ii), 114 Stat. 2572 (2000).]

d. Program Tools:

- State and Federal tools:

- CERP: Extensive modifications to C & SF Project - primarily water storage projects, water quality treatment projects, re-connection of ecosystems (e.g. 'de-comp' water conservation areas), including project design, construction, and O & M
- Land acquisition
- Funding
- Adaptive assessment
- Additional tools include:
 - Monitoring (RECOVER program)
 - Federal regulation schedules
 - State water allocation 'tools' including reservations of water for CERP projects
 - If excess water is available, certification for allocation
- State water supply management tools:
 - Consumptive use permitting criteria: LEC RAA
 - Water resource development projects
 - MFLs
 - Reservations
 - Water shortage
 - Water supply development projects
 - Alternative sources identified
 - Funding

e. Performance Measures:

- CERP Performance Measures and restoration targets were established and used during the plan formulation phase. Each performance measure was linked to one or more of the planning objectives and consisted of a measureable indicator and target. The performance measures were largely indicators of hydrologic characteristics capable of modelled assessment. (7-10)
 - Development and evaluation of CERP alternative plans occurred through a process known as plan formulation. Plan formulation began by developing a list of many different ideas to achieve the goals and objectives. The ideas were called components. The components were the building blocks that could be combined in various ways as alternative plans that were evaluated in terms of meeting identified restoration targets. The Governor's Commission Conceptual Plan provided 40 components ("preferred options") that were grouped into 13 concepts that eventually served as the Restudy's initial framework. (Restudy, 7-3 and Conceptual Plan, 15 – 17) Eventually, a list of 112 components were identified and then refined through a screening process that included modeling, land suitability, and cost effectiveness. Next, the components were assembled into alternative plans to meet plan goals and objectives. Multi-agency teams known as alternative development teams, designed specific arrays of components to be modelled and evaluated by the Alternative Evaluation Team. This AET was a multi-agency team of diverse expertise responsible for plan evaluation, including developing quantitative indicators of plan performance, aka performance measures; comparing model results against restoration targets to identify strengths and weaknesses of each alternative plan, etc. (Restudy, 7-8 to 7-9 and see Restudy Chapter 7)
 - SFER – annual reporting to state / federal entities by
- 2000 LEC Regional Water Supply Plan: Appendix D, Performance Measures. The performance measures were developed in conjunction with CERP effort, led to technical publications for MFL rules, and integrated with CUP criteria through the "B List" rule development.
- LEC RAA "cap" criteria:

- Program geared toward not increasing use of C & SF Project / regional system water that was targeted by CERP for Everglades restoration.
- Encouraged use of CERP project water (AWS) that was dedicated through the certification process for water supply, when that 'project water' became available.
- Applicants must demonstrate requested allocation: "...will not cause a net increase in the volume or cause a change in timing on a monthly basis of surface and ground water withdrawn from the LEC Everglades Waterbodies or the North Palm Beach County / Loxahatchee River Watershed Waterbodies over that resulting from the base condition water use." Withdrawals "capped" at the "base condition water use." BCWU calculation varies by use class, but in no case may the withdrawal exceed that permitted to the applicant as of April 1, 2006. Rule became effective 2/2007. (AH 3.2.1.E.2. and see below for additional details.)
- Limiting conditions require reporting, AWS development, milestones, and allow for conditional 'borrowing' from the regional system.

f. Timetables/deadlines:

- CERP and 2000 LEC Regional Water Supply Plan established project component sequencing in 5 year increments over a period of more than 20 years. Adaptive assessment of Plan implementation is also to occur due to the uncertainties inherent in ecosystem restoration. Incremental implementation of the plan allows for on-going assessment of the effectiveness of Plan component implementation by a diverse science and review panel coordinated by the RECOVER team.
- LEC RAA:
 - Applicable to new, modified, and renewal applications.
 - No rule sunset provision
 - No deadlines added to existing permits

2. How does the program address existing legal user rights?

a. Treatment of Existing & Proposed Uses:

- Federal level assurances: (Restudy 10-11 to 10-15, quoting Governor's Commission Restudy Plan Report, 1999)
 - "The concept of 'assurances' is key to the successful implementation of the [CERP]. Assurances can be defined in part as protecting, during the implementation phases of [CERP], the current level(s) of service for water supply and flood protection that exist within the current applicable Florida permitting statutes. Assurances also involve protection of the natural system." (Restudy 10-11)
 - U.S Congress' WRDA 2000 included an assurances clause. Section 601(h)(5) of WRDA 2000 states, in part: "(A) NO ELIMINATION OR TRANSFER. – Until a new source of water supply of comparable quantity and quality as that available on the date of enactment of this Act is available to replace the water to be lost as a result of implementation of the Plan, the Secretary and the non-Federal sponsor shall not eliminate or transfer existing legal sources of water, including those for – (i) an agricultural or urban water supply; (ii)... Seminole Indian Tribe of Florida...; (iii) Miccosukee Tribe of Indians of Florida; (iv) water supply for Everglades National Park; or (v) water supply for fish and wildlife...."
 - The Governor's Commission developed assurance recommendations in 1999

which are quoted in the Restudy at 10 – 11 to 10-15. For example:

- "...human users will not suffer from the environmental restoration provided by the Restudy. ...assurances are needed that, once restored, South Florida's natural environment will not again be negatively impacted by water management activities." (10-11)
 - "However, concerns have been expressed that a water user would be forced to rely on a new water storage technology before that technology is capable of fully providing a water supply source or that existing supplies would otherwise be transferred or limited, and that the user would thereby experience a loss of their current legal water supply level of service...." (10-12)
 - "Environmental benefits achieved by the Restudy must not be lost to future water demands." (10-13)
- State level assurances: 373.1501(5): In the development of project components, the District shall assure: ... "(d) Consistent with this chapter, the purposes for the restudy provided in the Water Resources Development Act of 1996, and other applicable federal law, **provide reasonable assurances that the quantity of water available to existing legal users shall not be diminished by implementation of project components so as to adversely impact existing legal users**, that existing levels of service for flood protection will not be diminished outside the geographic area of the project component, and that water management practices will continue to adapt to meet the needs of the restored natural environment. (e) **Ensure that implementation of project components is coordinated with existing utilities and public infrastructure and that impacts to and relocation of existing utility or public infrastructure are minimized.** ... (7) **Notwithstanding any provision of this section, nothing herein shall be construed to modify or supplant the authority of the district or the department to prevent harm to the water resources as provided in this chapter.**" (Emphasis added.)
 - LEC RAA:
 - LEC RAA criteria are applicable to applications for new, modified, or renewed uses.
 - Applicants must demonstrate requested allocation: "...will not cause a net increase in the volume or cause a change in timing on a monthly basis of surface and ground water withdrawn from the LEC Everglades Waterbodies or the North Palm Beach County / Loxahatchee River Watershed Waterbodies over that resulting from the base condition water use." (AH 3.2.1.E.2.)
 - Withdrawals "capped" at the "base condition water use." BCWU calculation varies by use class, but in no case may the withdrawal exceed that permitted to the applicant as of April 1, 2006. (e.g. PWS - maximum quantity of water withdrawn by the applicant from the permitted source during any consecutive 12 month period during the 5 years preceding April 1, 2006.)
 - Some variables accounted for when calculating BCWU include: adjustments for treatment system conversion, projects not constructed but are authorized by CUP and ERP, and adjustments due to timeframe not reflecting normal operations (e.g. climatic extremes or equipment failure) Also, BCWU includes water made available via offsets, AWS, or terminated / reduced BCWU, see last paragraph of 3.2.1.E.3.
 - Summary of LEC RAA Impact: In general, CERP's and the LEC Plan's intent was to restore the Greater Everglades Ecosystem and provide for future consumptive uses via projects. Thus, traditional water supplies were to be set aside and stored for restoration projects and alternative supplies, including certified CERP project water, were to be developed for future demands. How-

ever, project funding and construction did not timely occur and demands escalated beyond those anticipated. Uncertainties regarding continued allocation and use of water from the regional system thus existed, particularly as to whether consumptive uses would impact water available for storage in the CERP projects. Moreover, federal funding for CERP projects is dependent on state protection of water 'targeted' for Everglades restoration. The Board chose to restrict regional system allocations and transition to alternative sources. Hence, the LEC RAA rule was adopted and acted as a "cap" on water available for consumptive users, not merely setting water aside for CERP project storage.

b. Recovery/Restoration/Prevention:

- Permittees were "capped" at their BCWU, a volume calculated by use class and related to the permittees' historic withdrawals.

c. Relief Mechanisms:

- LEC RAA: Applicants may request a temporary allocation of water required to meet demands while implementing AWSW or an offset. Permit conditions will set dates and milestones for project development and will require the allocation be reduced when the AWS is available.

d. Funding:

- CERP: state and federal funding, potential for CERP projects to have water available for "certification" as allocable water.
- LEC RAA: funding for AWS and conservation projects (e.g. SB 444 state / SFWMD funding)

3. How does the program provide for future/new uses?

a. Provision for New/Future Uses:

- LEC RAA: Potential sources are identified and include:
 - Certified CERP project water
 - Reallocation of terminated / reduced BCWU
 - AWS, offsets
 - Available wet season water
 - Temporary allocation of water from restricted source (aka "borrowing")

b. Funding:

- State and federal funding for CERP programs
- Potential AWS and conservation funding, recognizing budgetary constraints

4. How does the program achieve resource sustainability?

a. Regulatory Components:

- Sustainability is achieved through the CERP project components. (i.e. water resource development projects)
- LEC RAA assures water to be stored in CERP projects is not allocated.

b. Water Resource Development/Restoration:

- Yes, see above description of CERP program and 2000 LEC regional water supply plan

c. Legislative Intent:

- Specific statutory direction concerning CERP and water supply is found in Section 373.1501, Fla. Stat.

d. Adaptive Management:

- CERP: RECOVER – joint state / federal monitoring, evaluation, and adaptation program to address uncertainties in modeling, anticipated project effects, and ecological response.