CFWI Hydrologic Analysis Team Status

May 18, 2012

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Model Assumptions and Inputs

Protection of non-MFL Wetlands/Surface Waters

Choice: Should the wetlands assessment criteria treat all wetlands equally or recognize that they may have different environmental values?

Approach:

- Treat all wetlands equally in analysis.
- Deviations from this are policy rather than technical decisions.

Approaches for Modeling of Groundwater Allocations

Choice: Permitted allocations represent a maximum volume "commitment" and often exceed actual water demand. Simulate allocation or probable maximum demand?

Approach:

- Scale withdrawals to projected monthly demands consistent with the authorized uses. Model only the portion of full allocation that is most likely to be used under the conditions of each simulation scenario.
- For actual demands, use a consistent demand basis, to be developed by HAT with FDACS & WMDs. Demand basis will relate demand to crop type and crop area.
- Model the full allocation / acreage as an upper bound assessment for comparison with the End of Permit (EOP) Scenario.

Approaches for Modeling of Groundwater Allocations (Permitted Allocation)

Choice: Permitted allocation needed for the End of Permit (EOP) Scenario is represented differently by each District, e.g. 1 in 10 dry year vs. 2 in 10 vs. 5 in 10.

Approach:

- As far as practicable for the EOP simulation, respect constraints of the existing CUP/WUP allocation basis.
- For actual demands, use a consistent demand basis, to be developed by HAT with FDACS & WMDs.

Protection of Rivers

Current CFWI project focus is limited to groundwater exchanges with major rivers:

- Kissimmee River and the chain of lakes.
- Upper Peace River.
- St. Johns River.

The WMDs have other more rigorous tools that are applied outside of the CFWI effort to ensure protection of the river systems.

Flow in spring-dominated rivers will be protected through constraints on modeled spring discharges.

Model Deliverables and Schedule

Status of USGS Modeling Deliverables

Delivered:

- Two technology transfer workshops
  - USGS Groundwater model (March 21 and 22, 2012).
  - USGS ANN Decision support tool (April 18, 2012).
- Initial Scenarios
  - Four scenarios for which water use data was prepared by the HAT.
- Access to draft Report of ECFT Model for HAT review

Delayed:

- Model Release
  - Delayed an additional month pending completion of USGS internal review. Revised release date May 31, 2012.

Current / Recently Completed HAT Activities

- WMDs contracted with USGS to complete several scenarios and deliver initial results by end of April.
- Developed water use model input file for four of six initial scenarios.
- Initiated several model-dependent tasks using provisional results from previous ECFT model.
- Initiated and completed post processing tool development using provisional results from USGS ECFT model.
- Completed post processing of the Initial Scenarios. Result posted to PM Viewer for use by technical teams.
- Developed statistical method to relate projected change of wetland water levels to risk of environmental stress in wetlands.

HAT Ongoing / Upcoming Activities

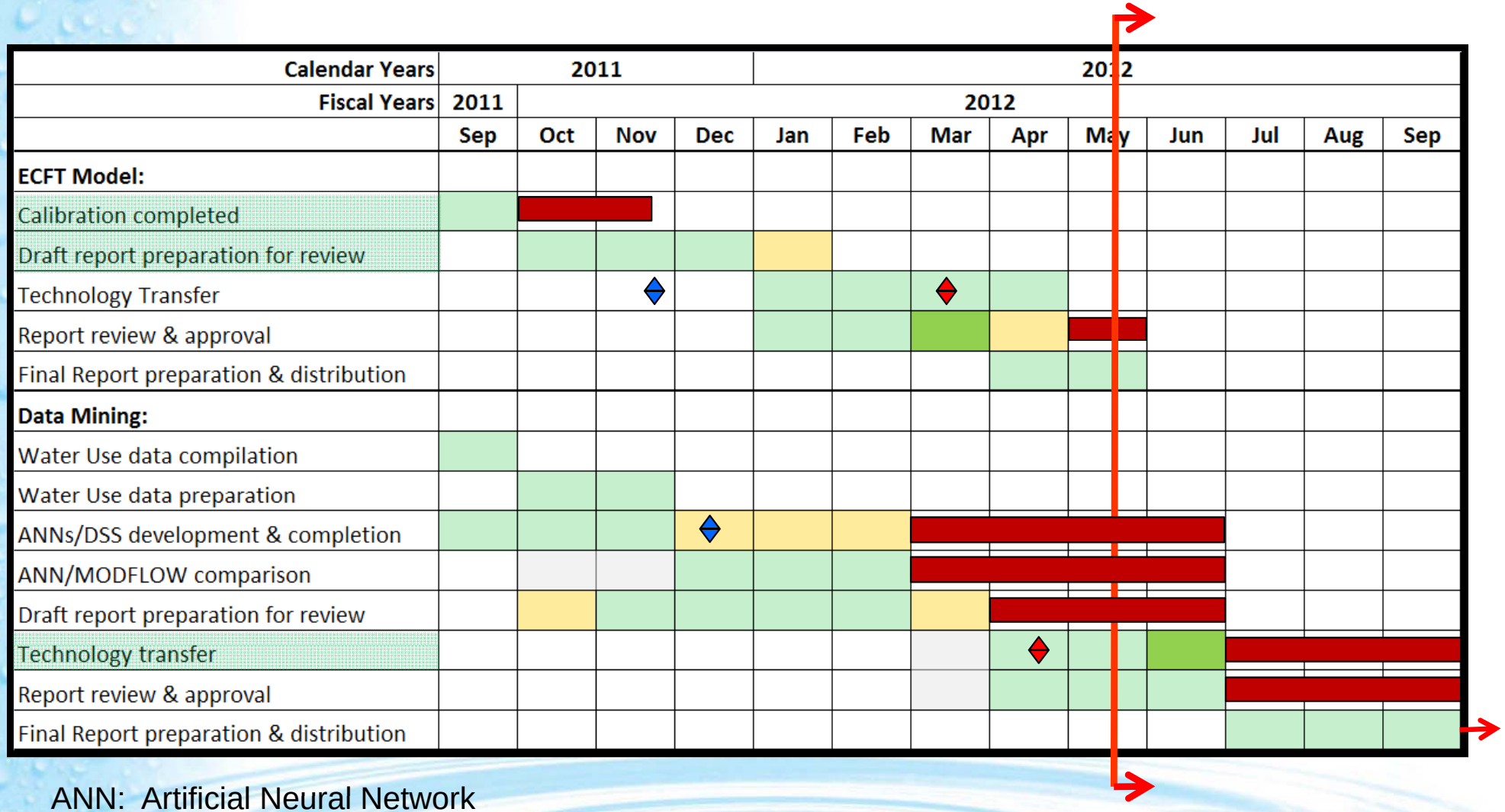
- Reviewing results of the four scenarios delivered in preparation for use by GAT
- Developing method to relate groundwater model results to projected changes in wetland water levels. Scheduled for completion in June. Cannot work on some aspects until we have access to the new ECFT model.

- Review and evaluation of ECFT model once it is delivered by the USGS.

- New HAT task: developing 2035 Water Use projections for model input in collaboration with the Water Supply Plan Team and FDACS.

Questions?

USGS Model Delivery Schedule



ANN: Artificial Neural Network

DSS: Decision Support System

HAT Schedule

Technical Collaborative Team	Key Components	Start	Planned End Date	Completion End Date	Comment
Hydrologic Analysis Team ---------- Modeling and Tools Support (A)	Key Components Model Calibration (A1)		9/30/11	11/23/11	Completed
	- Technology Transfer Protocol (A1B)	11/10/11	12/30/11	01/30/12	Workshop 3/21-22
	Statistical Trends in Hydrologic Data (A2)		2/28/12	2/28/12	Report in final revisions
	USGS Project to Quantify Factors Affecting Groundwater and Lake Levels in the Central Florida Area (A3)		6/30/12		6/30/12
	Initial Model Scenarios (A4)*	4/01/12	4/30/12	4/27/12*	Partial delivery 4 of 6 Planned Scenarios (All four for which data was ready and delivered to USGS)
	Documentation (A5)		5/30/12		

Four scenarios delivered

- Calibration,
- 1995 water use
- 2005 water use
- 2006 water use

Due in May and June

- Permitted water use (May)
- 2035 Projected water use (June)