



Reviving

THE *river* OF *grass*

OPERATION & MAINTENANCE COST METHODOLOGY

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O&M Estimating Tool Overview

RESTORATION PLANNING

- Deliver a “tool” to estimate O&M costs of facilities for configurations developed during the Phase II Planning Process
- Estimate based upon dimensional description of feature type
- Utilize MS Access database for compatibility with the Capital Cost Estimating Tool
- Focus on major “Functional Activities” within the District

Project Methods

RESTORATION PLANNING

- Literature search for O&M cost guidelines and industry standards
- Review and analysis of District O&M cost data
- Metric development for forecasting O&M cost
- Testing and validation of O&M cost estimating tool

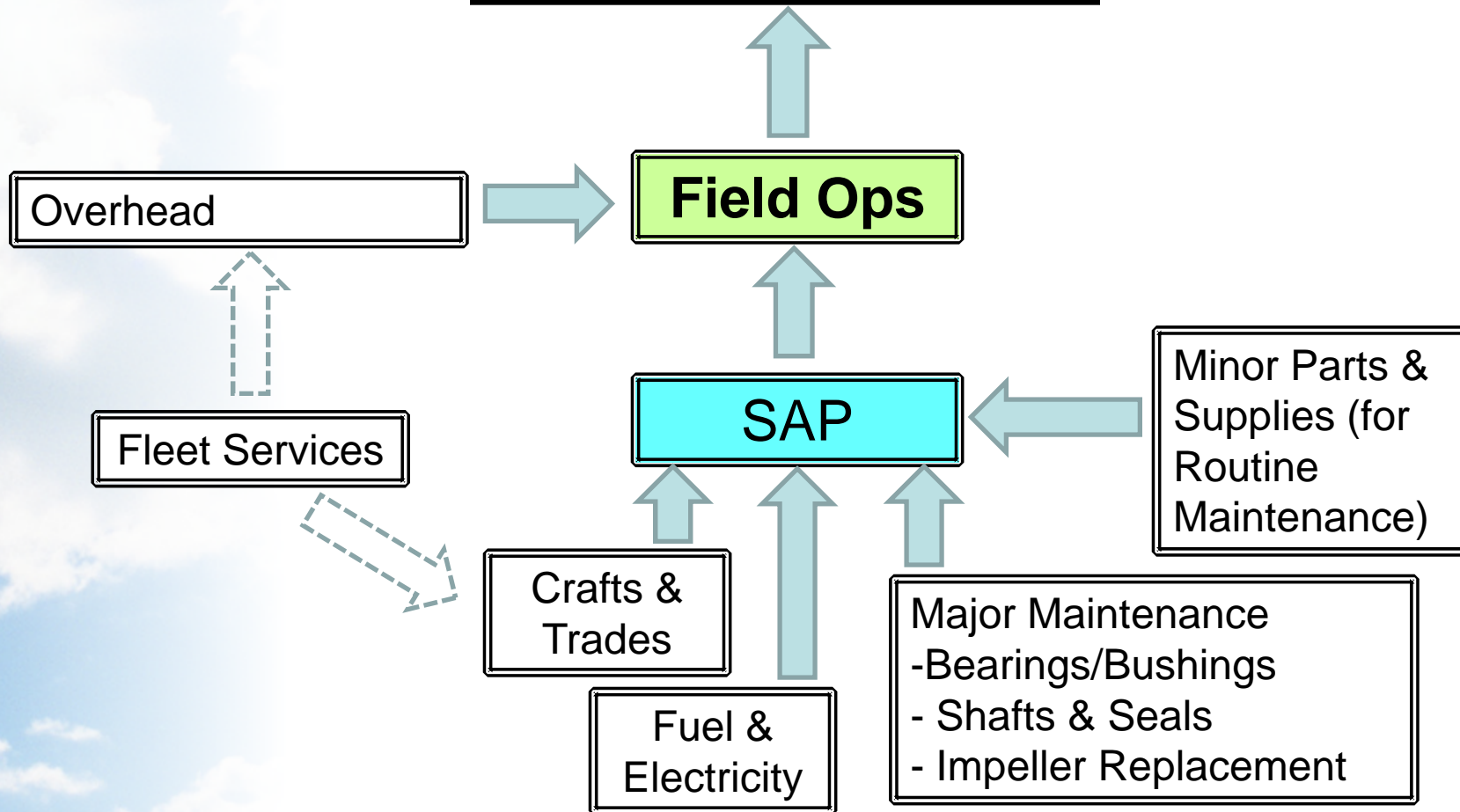
Major Functional Activities

RESTORATION PLANNING

- Field Operations
- SCADA and Hydro Data Management
- Exotics and Aquatic Vegetation Control
- Water Quality Data Acquisition and Management
- Dam Safety Requirements
- Information Technology
- Aquifer Storage and Recovery
- Recreation Areas

Operational Example

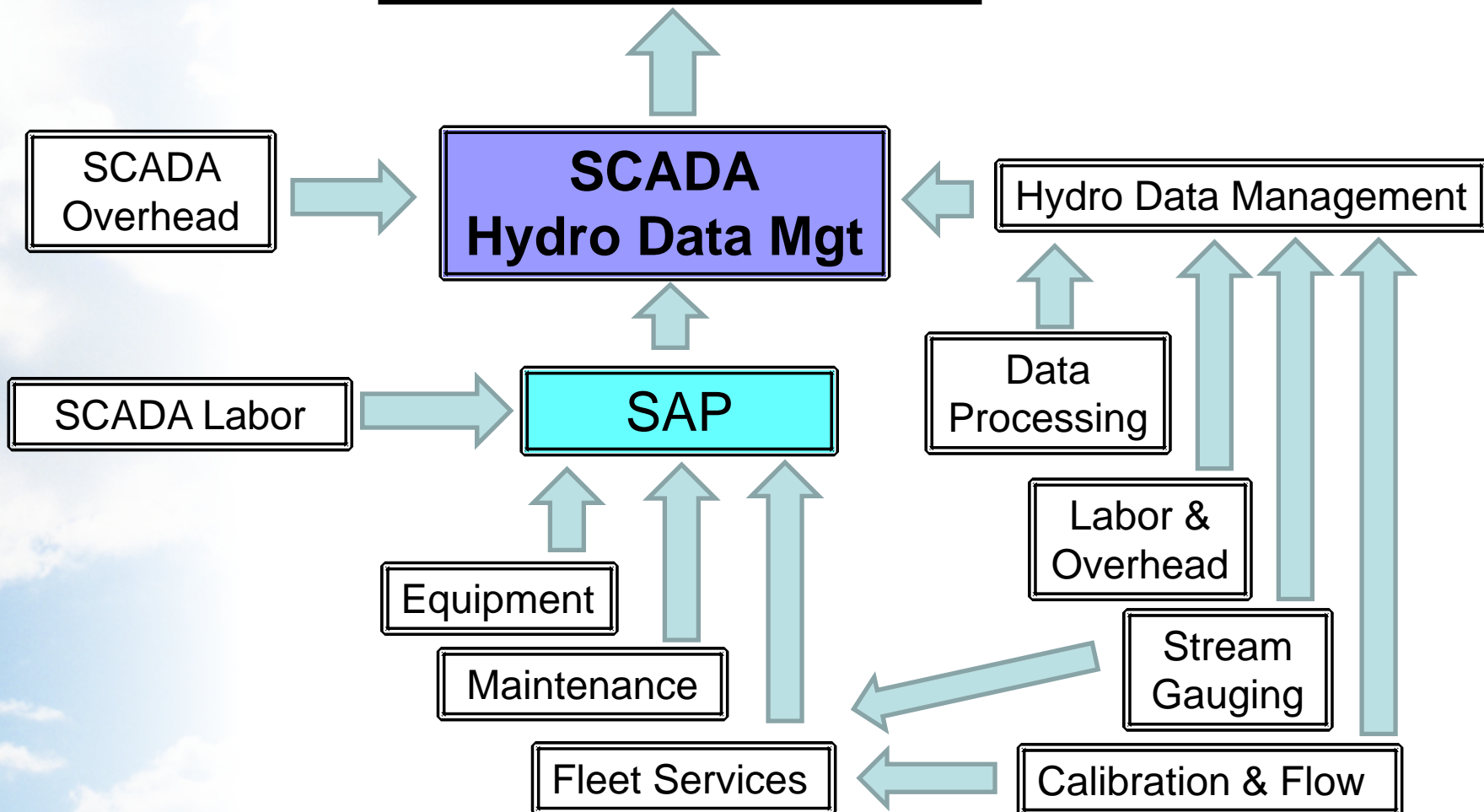
PUMP STATION O&M



Operational Example

RESTORATION PLANNING

PUMP STATION O&M



How Tool is Used

RESTORATION PLANNING

Internal Calculations

- Uses pre-set unit costs and cost modifiers to calculate major functional activity O&M costs based on data input values entered on estimating screen

Reports

- Listing of project description (data input fields) with data input values
- Project O&M cost: total O&M cost, cost by major functional activity and required staffing resources

O&M Tool Main Screen

RESTORATION PLANNING

Estimates

FILTER ESTIMATES

Configuration Estimate

Feature

Configuration	Feature	Estimate
Configuration #1	Stormwater Treatment Area (STA)	1 - WRAC demonstration example
Configuration #1	Reservoir	
Configuration #1	Flow-way Wet	
Configuration #1	Flow-way Dry	
Configuration #1	Wetlands Managed Area (WMA)	

Record: 1 of 6

O&M Tool Estimating Screen

RESTORATION PLANNING

ESTIMATE ENTRY SCREEN

Estimating Screen - EDIT

Configuration: Configuration #1
Feature: Stormwater Treatment Area (STA)
Estimate: 1 - WRAC demonstration example

Infrastructure | Conveyance | Other Impact

PUMP STATIONS	
Total CFS:	8255
STORM WATER TREATMENT AREAS	
Total # of STA's:	1
STA #1 Acreage:	5132
STA #2 Acreage:	
VEGETATIVE MANAGEMENT	
Feature Type:	Stormwater Treatment Ar
Feature Acreage:	5132

CONTROL STRUCTURES	
Total # of control structures:	27
Control Structure with 0 gates:	8
Control Structure with 1 gates:	15
Control Structure with 2 gates:	4
LEVEES	
# of Levee miles:	34 mi

SAVE **CANCEL** **ESTIMATE COST / FTE**

O&M Tool Report Screen

RESTORATION PLANNING

O&M Cost Estimating Total

O&M Cost Estimating Tool

Estimate #: 1 - WRAC demonstration example

Configuration: Configuration #1

Feature: Stormwater Treatment Area (STA)

Operational Area	# FTE	\$ FTE	\$ Contract	\$ Other	\$ Fleet/ Equip	Total \$\$
SCADA/Hydro Data Mgmt (control systems)	0.6	\$52,000	\$9,000	\$4,000	\$5,000	\$71,000
Field Operations	21.3	\$1,612,000	\$10,000	\$1,234,000	\$197,000	\$3,053,000
Exotic/Aquatic Veg Control	1.1	\$91,000	\$286,000	\$799,000	\$9,000	\$1,185,000
Total:	23	\$1,755,000	\$305,000	\$2,037,000	\$211,000	\$4,309,000

Tuesday, May 18, 2010

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* All dollars rounded to thousands

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Questions?

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