

Everglades West Coast Basin BMAPS

Technical Meeting

Wednesday, September 23, 2009, 1:30 – 4:30 pm.
South Florida Water Management District
2301 McGregor Blvd, Fort Myers, FL 33901

Agenda

1. Welcome and Opening Remarks
2. Basin Group Formation
3. Approaching Allocations
4. Projects
5. Next Steps

Review: Adopted TMDLs

Waterbody (WBID)	Impairment / TMDL Parameter	TMDL Method	Percent Reduction	BMAP Consideration
Hendry Creek (3258B & 3258B1)	Dissolved Oxygen	Percent Reduction (Regional Reference)	44% TN	BMAP
Imperial River (3258E)	Dissolved Oxygen	Percent Reduction (Regional Reference) and WMM	25% TN	BMAP
Hendry Creek Marine (3258B1)	Fecal Coliform	Percent Reduction	57% TN	BMAP

Basin Working Group

● The “Ideal” Representative – Qualifications

- Understands the intent and big picture issues of Florida’s TMDL program
- Has hands-on experience with water quality issues in the watershed
- Has meaningful experience in similar collaborative group decision making processes
- Willing to consider the watershed’s best interests
- Has the ability to make decisions or influence the decision making process

Basin Working Group

● The “Ideal” Representative – Position

- Serves in a senior/executive role in the stakeholder organization
- Able to commit to attend and participate in all of the BWG meetings
- Can take the time to review background materials prior to meetings
- Previous experience with the stakeholder group's technical members
- Prior working experience with other stakeholders' designated representatives

Basin Working Group

- The “Ideal” Representative – Other Thoughts
 - Open minded and willing to consider different points of view
 - Accepts the issues on the table as being his/her issues
 - Comfortable with expressing a “minority” opinion
 - Proven ability to be diplomatic in difficult situations
 - Has an even temper

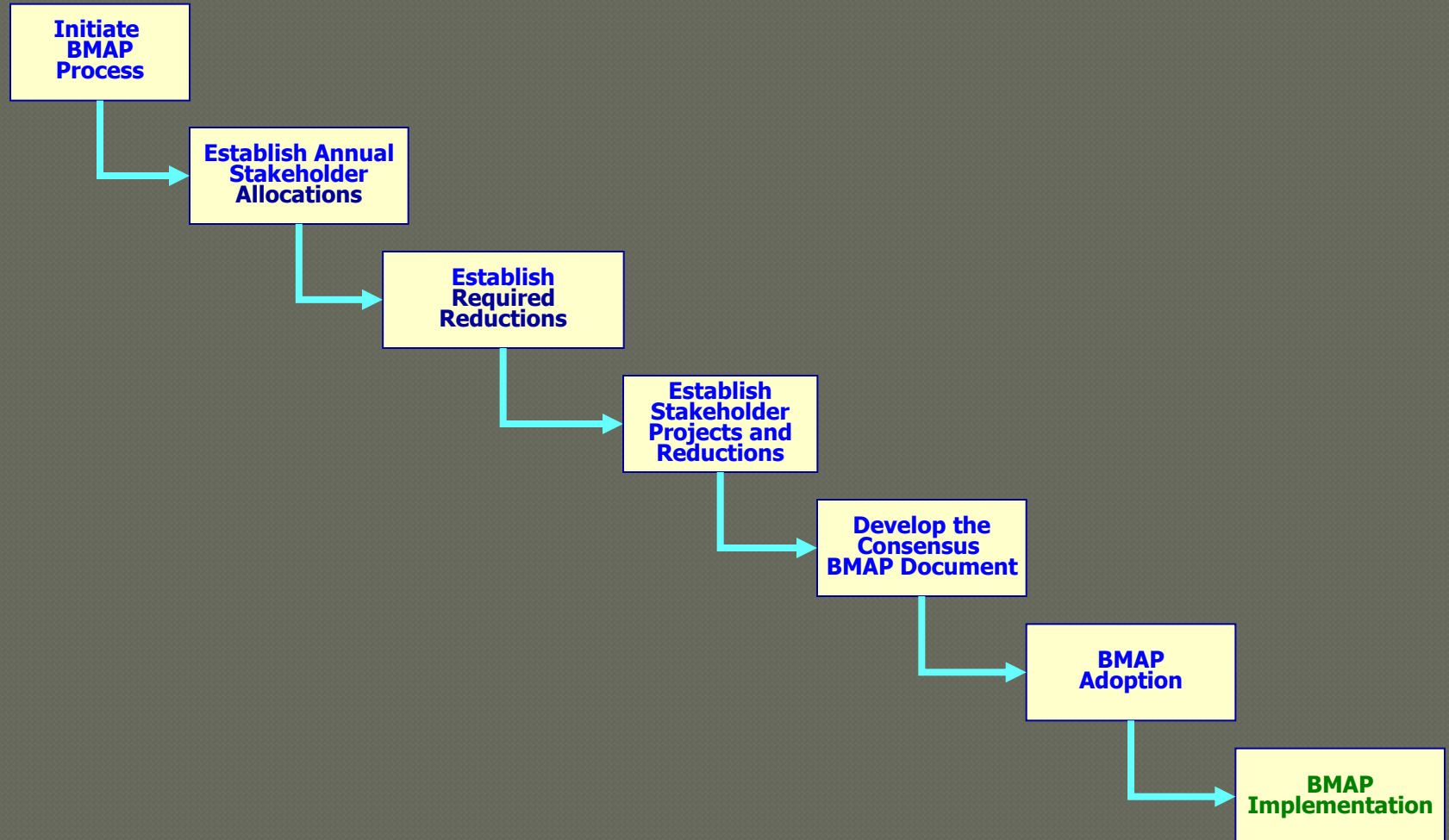
Basin Working Group

- ◉ Designated Stakeholder Representatives
 - Lee County – Comm. Ray Judah
 - Environmental Organizations – Jennifer Hecker
- ◉ Agency Representatives
 - FDACS – Rebecca Elliott
- ◉ Contact Information Needed

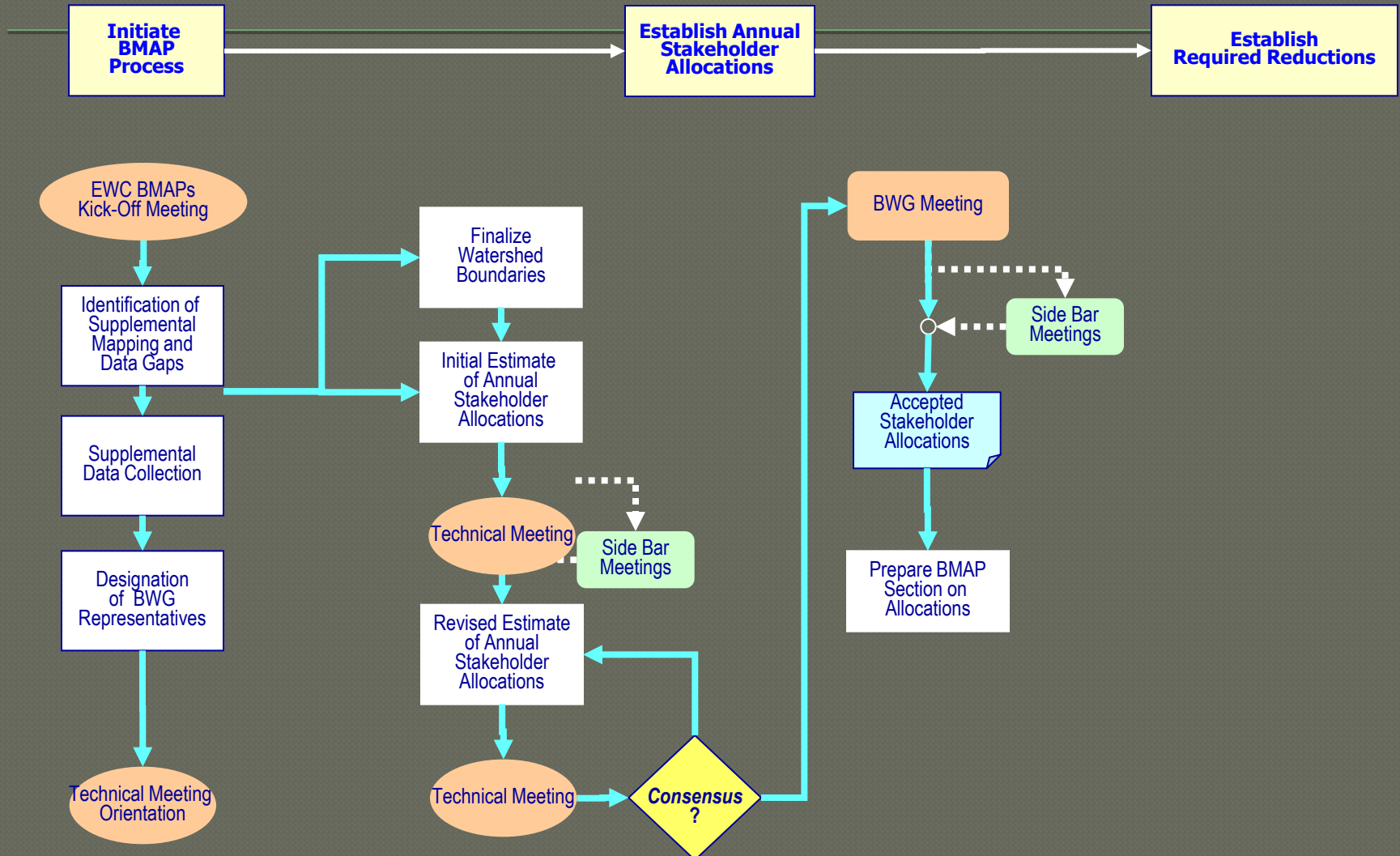
Technical Meetings

- Focus: Technical Issues and Concerns
- Tech Meeting Representatives
- Technical Meeting Objectives
 - Fact Finding
 - Refined Definition of Watersheds
 - Water Quality Monitoring and Data
 - Filling in Gaps
 - Expanding Scientific Understanding of Receiving Waters
 - Identification of Technical Issues
 - Resolution of Technical Issues
 - Surfacing of Stakeholder Concerns
- Intent: Continue Technical Meetings For As Long As Possible/Necessary

BMAP Development Stages



Current BMAP Focus



Key BMAP Milestones

1. Consensus Watershed Boundary
2. Designation of BWG Members
3. Adjusted Stakeholder Allocations
4. Stakeholder Required Reductions
5. List of Projects and Management Actions
6. “Standardized” Estimate of Load Reductions
7. Draft BMAP Documents
8. BMAP Commitments

BMAPs

- Define What Is *Known* and *Unknown* Up-front
- Directly Address Only That Which Is Both *Knowable* and *Necessary* To Support Decision-making
- Knowns and Unknowns Directly Affect Allocations and the Overall Implementation Approach

We can make smart decisions and move forward even if we don't have all the answers.

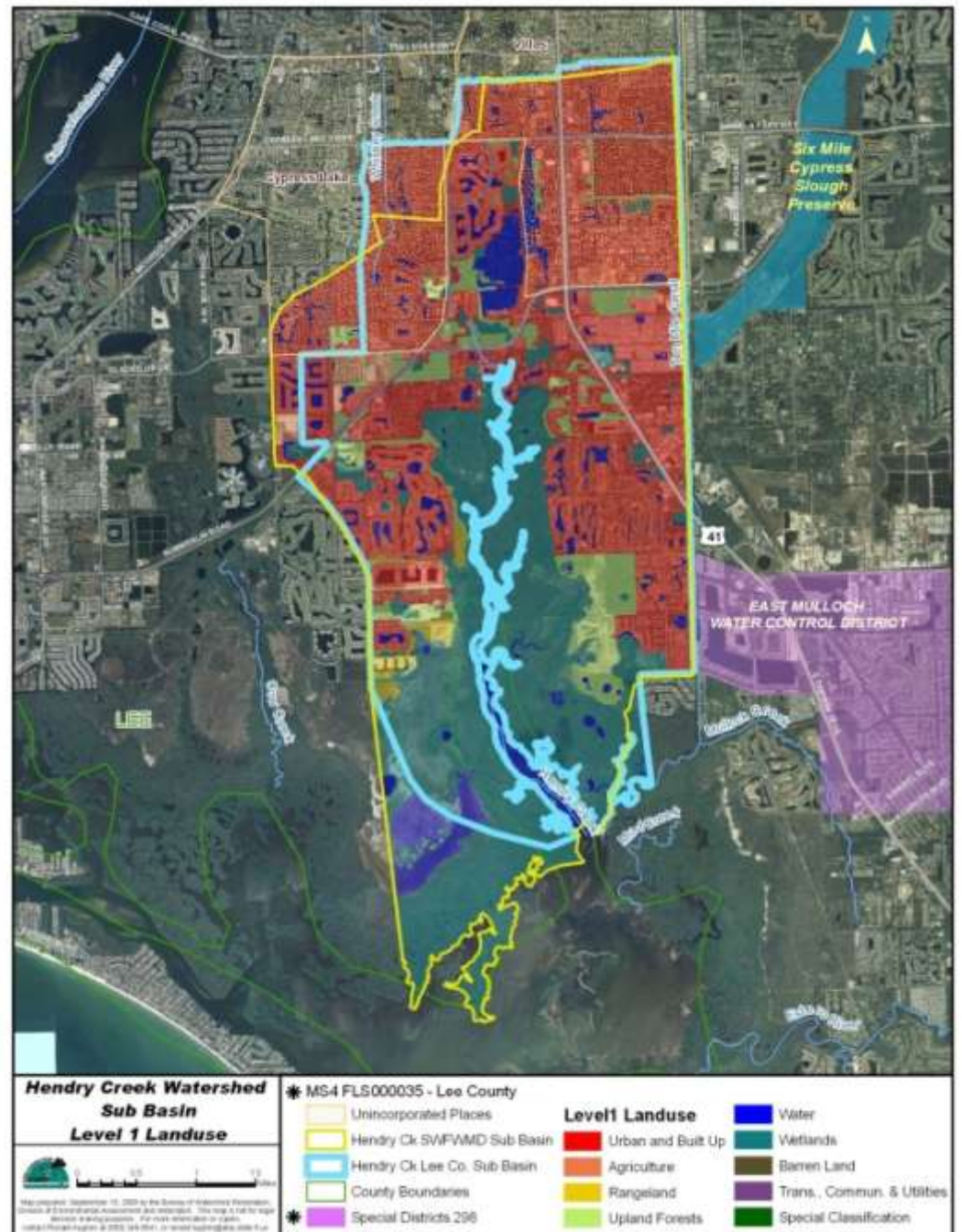
BMAPs

- ◉ Identify Implementation Entities
- ◉ Identify Implementation Priorities
- ◉ Calculate Allocations
- ◉ Calculate Required Reductions
- ◉ Identify Projects and Quantify Benefits
- ◉ Develop Research and Monitoring Strategy

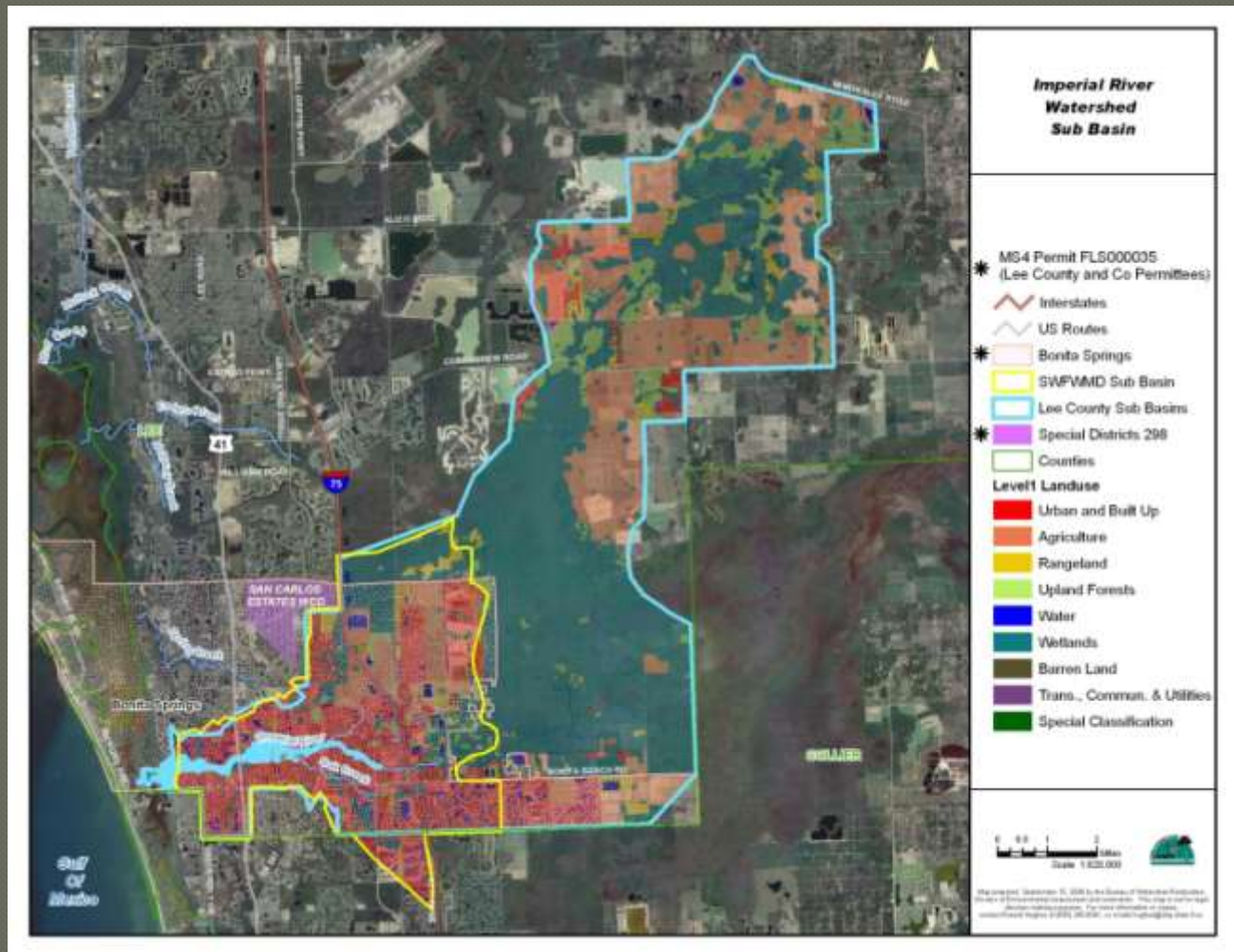
“Knowns and Unknowns” affect each of these steps”

Refining Watershed Boundaries

Hendry Creek Watershed



Imperial River Watershed



Ad Valorem Districts

- Parklands West CDD
- Pinecrest\Riverview Road MSBU
- Imperial Harbor SLD
- San Carlos Estates Drainage
- Brooks of Bonita Springs CDC
- Mediterra N CDD
- Habitat CDD
- Cocohatchee CDD
- Vasari CDD
- Parklands Lee CDD
- Villagewalk of Bonita Springs CDD
- Bonita Village CDD
- Bonita Village CDD Pt 2

BMAP Issues

- Allocations
- Required Reductions
- Sufficiency of Effort

Allocations

Defining Fair Share/Responsibilities

- Who Receives an Allocation?
- How is an Allocation to be Derived?
- What is the Role of Cities/Stakeholders?
- Are the baseline conditions clearly defined?
 - Land-Use
 - Jurisdictions,
 - Loading Model

Detailed Allocation Details

● Allocation

- Identify Entities & Geographic Areas of Responsibility
- Modify TMDL Loading Calculations to Resolve Critical Unknowns
- Water/Wetland/Conservation Areas

Allocation = relative proportion of loads

Required reduction = implementation obligation

Required Reductions and Implementation Obligations

- How Are They Achieved?
- Phasing of Reduction
- Are Costs vs. Benefits Being Considered?

Sufficiency of Effort: SOE

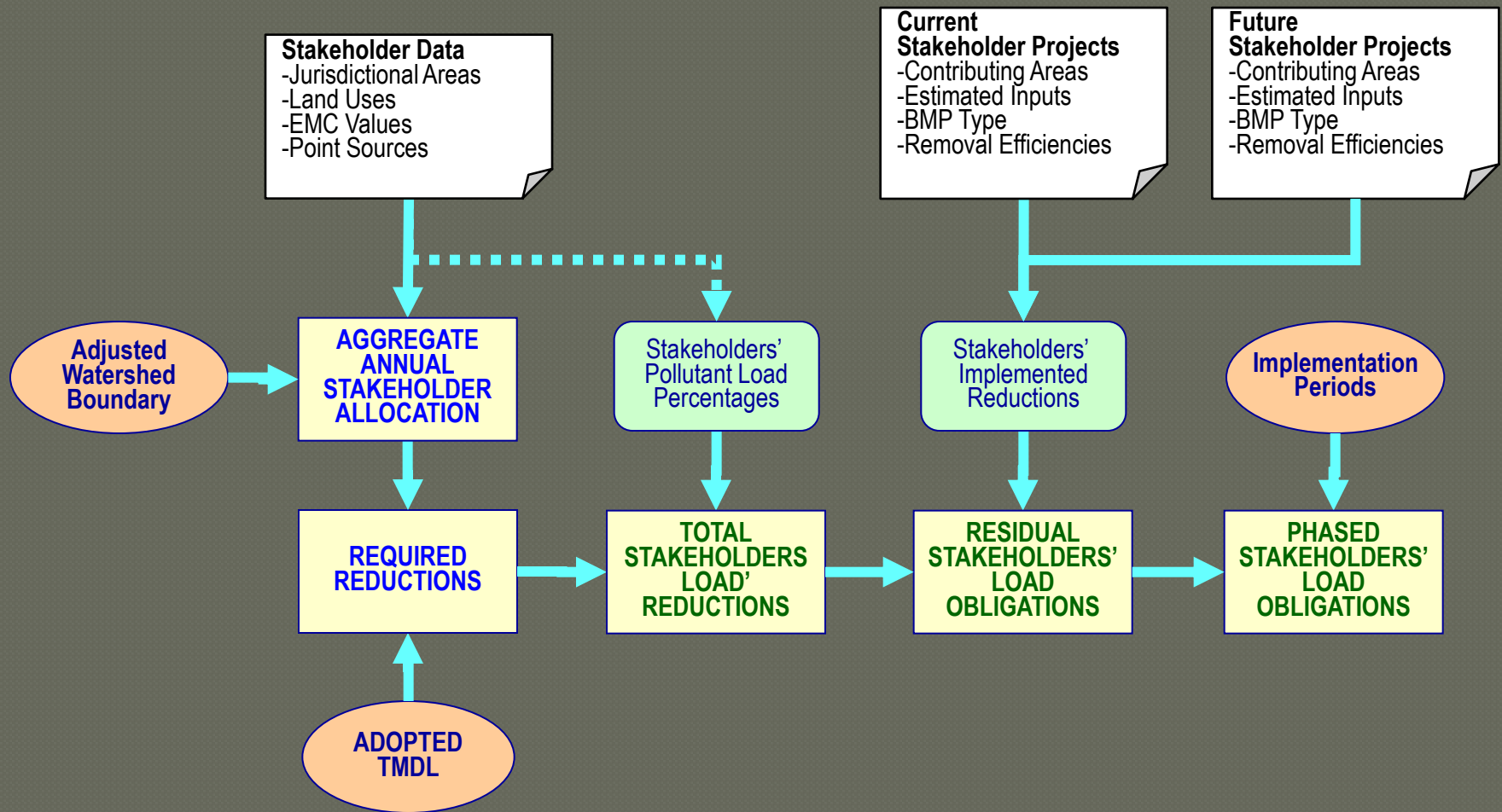
- Options For Allocations:

- Quantitative Detailed Allocations
 - Technology or BMP Based Allocations
- SOE

- Example: Wekiva BMAP

- Insufficient Scientific Basis for Quantitative Allocations
 - Defined SOE for Each Local Government in Terms of Implementation Responsibilities for Specific BMPs
 - Provided Certainty to Stakeholders Regarding Milestones, Timelines and Obligations
 - Enforceable Provisions

Allocation Calculations



Allocation Calculations

- Determine the latest and most exact contributing watershed areas for Hendry Creek and Imperial River Watershed.
- These areas are input into the computer model and are a major determining factor of the modeled watershed runoff (flow).

Allocation Calculations

● Using the WMM Model

- Input Parameters
 - Rainfall
 - Landuse Areas
 - Corresponding Loading Factors
- Model Estimates the Annual Load

Allocation Calculations

- ◉ WMM provides annual dated output
- ◉ Annual loads of DO and TN supplied on annual basis

Allocation Calculations

- Describe Hendry Creek and Imperial River with HSPF Watershed Parameters for designated years of simulation.
- For designated years of simulation obtain (for model input) climatological data
- Utilize any available flow data from these or nearby areas to check and possibly calibrate the model.
- Introduce scenarios to check response of model to make sure model is sensitive to various input in the expected way.

Allocation Calculations

- Accounting for Multiple Sources
 - Anthropogenic Inputs
 - Stormwater Runoff for Developed Land Uses
 - OSTDS Loads
 - Legacy Loads
 - Natural Systems Inputs

BMAP Projects

BMAP Projects

- To achieve the TN reductions, each responsible party will provide projects and programs that reduce nutrient loads.
- Pounds reduced will be subtracted from the total allocation for those projects completed **January 1, 2006** and later.
- Credit only counts for treatment above and beyond any permitted requirements.

BMAP Projects

- Projects Must be Operated and Properly Maintained as Permitted.
- Operation and Maintenance records may be Requested as part of the Project Review process.
- Projects not operated as permitted, including older projects not included for specific credit, could result in additional reduction requirements by the responsible entity.

BMAP Projects

◉ Required Project Information

- Project Name
- Current Status
- Cooperators and Other Participants
- Facility Location
- Service Area and Annual Loadings
- Treatment Method and Removal Rates
- Monitoring Program
- Operational Date
- Costs

BMAP Projects

- Structural BMPs
 - Quantifiable Load Reductions
 - Reductions Not Currently Quantified
- Agricultural BMPs
- Restoration and Water Quality Improvement Projects
- Regulations, Ordinances, and Guidelines
- Special Studies and Planning Efforts
- Education and Outreach Efforts
- Basic Stormwater Management Program Implementation

BMAP Projects



Everglades West Coast BMAPs

BMAP Projects



Everglades West Coast BMAPs

Projects and Practices Matrix

Everglades West Coast Basin BMAPs

Projects and Practices Matrix

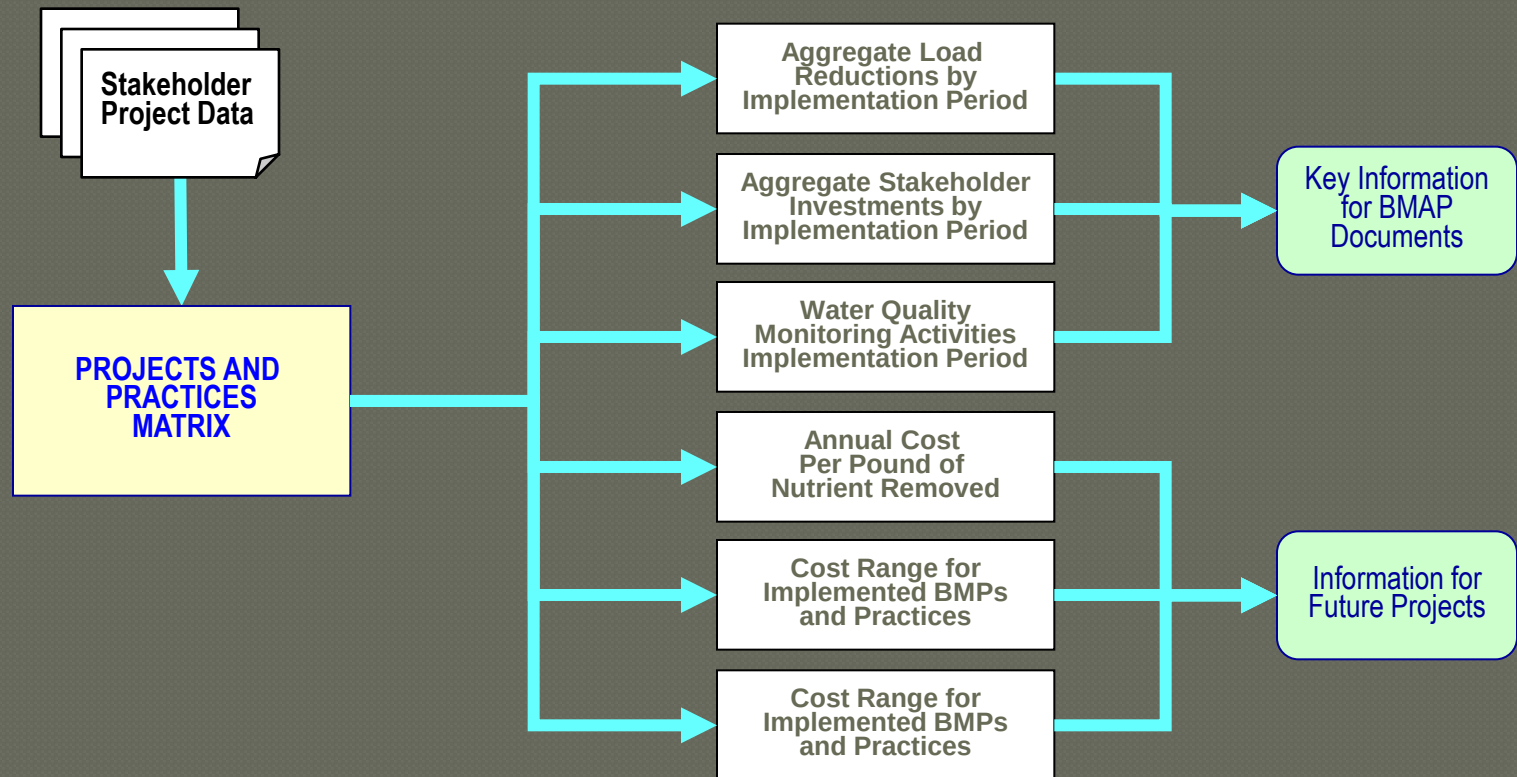
Version 0 - September 1, 2009

Stakeholder	Project Name	Current Status	Information Source	Cooperators	WBID	R-T-S
Sunshine Acres WCD	Northwest Regional Stormwater Treatment Facility	Operational	Stormwater Steve	FDEP (319 Grant) SFWMD	Hendry Creek (3258B)	

Drainage Area Served (sq. mi.)	Pond Surface Area (acres)	Facility Site Area (acres)	Annual TN Loading Rate (lbs TN/year)	Annual TP Loading Rate (lbs TP/year)	TN Removal Efficiency (percent)	TP Removal Efficiency (percent)	Annual TP Reduction (lbs TP/year)	Annual TN Reduction (lbs TN/year)
35.2	25	15.3	3,000	480	45% (estimated)	30% (estimated)	1,350 (estimated)	600 (estimated)

Monitoring?	Anticipated Operational Date	Estimated Cost
Continuous Flow, Monthly 24-hour composites	3/3/08	\$ 12,500,000

Projects and Practices Matrix



Example Detailed Allocation

Lake Jesup BMAP Surface Runoff Allocation Table

September 17, 2009

All values are gross loads of total phosphorus in pounds/year.

Column:	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Allocation Entity	TP Loading		Reductions Required						Projects				Projects for 2015-2019 Reductions	Projects for 2020-2024 Reductions	Final 2009-2014 Load Reduction Remaining
			Total			Distributed Across BMAP Implementation Periods			Completed/Funded		Future				
	Total Load from TMDL	Total Load for BMAP Allocation	Total Nonpoint Source Reduction Required	Noncontributing Areas Load	Total Reduction Required	2009-2014 Required Reduction*	2015-2019 Required Reduction*	2020-2024 Required Reduction *	TMDL BMPs	Completed/ Funded Projects	Planned Projects	Interagency Project Participation			
Agriculture	1,185	1,149	772	8	764	254.7	254.7	254.7	32.9		206.0	15.8			0.0
Altamonte Springs	151	116	78	21	57	19.0	19.0	19.0	19.0				19.0	1.2	0.0
Casselberry	1,907	1,557	1,029	1	1,028	342.7	342.7	342.7	0.0	342.7			131.1		0.0
DOT District 5	690	646	434	37	397	132.3	132.3	132.3	36.0	96.3			132.3	40.0	0.0
Eatonville	191	194	130	60	70	23.4	23.4	23.4	9.6		0.3	13.5			0.0
Lake Mary	1,555	1,229	797	4	793	264.3	264.3	264.3	0.0	176.0	70.3	18.0			0.0
Longwood	1,475	1,122	731	115	616	205.3	205.3	205.3	67.1	23.0	45.5	69.7			0.0
Maitland	1,053	906	586	212	374	124.8	124.8	124.8	0.9	49.6	74.3		7.4		0.0
OOCEA	24	23	16	0	16	5.2	5.2	5.2	0.0	5.2			5.2	3.5	0.0
Orange Co (unincorporated)	1,433	2,746	1,708	1	1,707	569.0	569.0	569.0	31.5	160.0	178.4	199.1			0.0
Orlando	1,518	1,570	1,052	73	979	326.3	326.3	326.3	326.3				326.3	304.1	0.0
Oviedo	1,280	1,156	776	0	776	258.7	258.7	258.7	258.7				258.7	274.9	0.0
Sanford	3,662	2,722	1,829	22	1,807	602.2	602.2	602.2	461.4	16.5	112.5	11.8			0.0
Seminole Co (unincorporated)	11,386	10,151	6,650	239	6,411	2137.0	2137.0	2137.0	1803.6	333.4			1122.8		0.0
Turnpike Authority	440	451	303	0	303	101.1	101.1	101.1	0.0	101.1			101.1	71.3	0.0
Winter Park	1,662	1,771	1,183	72	1,111	370.5	370.5	370.5	0.1	346.1	24.3		95.6		0.0
Winter Springs	2,639	2,301	1,545	6	1,539	513.0	513.0	513.0	513.0				513.0	418.1	0.0
Water/Wetland/ Conservation Areas	7,764	7,758	0	164	0	0.0	0.0	0.0	-	-	-	-	-	-	-
TOTAL (lbs)	40,015	37,568	19,620	1,035	18,748	6,249.5	6,249.5	6,249.5	3,560.1	1,649.9	711.6	327.9	2712.5	1113.1	0.2
TOTAL (MT)	18.2	17.0	8.9	0.47	8.5	2.83	2.83	2.83	1.61	0.75	0.32	0.15	1.23	0.50	0.00

Prototype EWC Allocation

Hendry Creek (3258B & 3258B1) Allocation Table

September 1, 2009

All values are gross loads of Total Nitrogen in pounds/year.

Column: A B C D E F G H I J K L M N O

Allocation Entity	TN Loading		Reductions Required						Projects				Projects for 2015-2019 Reductions	Projects for 2020-2024 Reductions	Final 2009-2014 Load Reduction Remaining
			Total			Distributed Across BMAP Implementation Periods			Completed/Funded		Future				
	Total Input Load	Total Load for BMAP Allocation	Total Nonpoint Source Reduction Required	Noncontributing Areas Load	Total Reduction Required	2009-2014 Required Reduction*	2015-2019 Required Reduction*	2020-2024 Required Reduction *	TMDL BMPs	Completed/ Funded Projects	Planned Projects	Interagency Project Participation			
Agriculture															
City of Ft. Myers															
FDOT															
Lee County (unincorporated area)															
Water/Wetland/ Conservation Areas															
TOTAL (lbs)															
TOTAL (MT)															

* Reductions in future years are subject to change as new information on the noncontributing areas, natural attenuation, and lake assimilation become available.

Next Steps

● **Data Needs**

- Watershed Boundary Adjustments
- Water Quality Data
- GIS Needs
- Initial Identification of Projects

● **Missing Stakeholders**

- Identification of Missing Stakeholders
- Initial Contacts
- Updating Stakeholders Listing

Data Needs

- GIS layers we need now
 - Jurisdictions
 - Watershed boundaries
- Changes in jurisdictional boundaries
- MS4s

Data Needs

- Projects implemented after the period of record in area of responsibility
- Areas within jurisdictions that are NOT controlled by jurisdiction
 - CDDs
 - 298 Districts

Data Needs

- Information for Other Projects That May/Will Be Implemented
 - Anticipated Cost
 - Contact Person
 - Status of Project

Next Meetings

● **Technical Meeting No. 2**

- Resolution of Boundaries
- Watershed Loads and Stakeholder Allocations

October 27, 2009 (*Tentative*)

● **First Basin Working Group**

- Orientation
- BMAP Process
- Discussion of Loads and Allocations

TBD

ACTION ITEMS

- ✓ Designate Your BWG Member
- ✓ Help Develop Watershed Information
 - Fill Data Gaps
 - Provide GIS Coverages and Information
 - Identify Missing Stakeholders
- ✓ Start Identifying Projects and Management Actions