Elements of an Effective Watershed Plan

A. Kitchell
Center for Watershed Protection
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Session Agenda

- What is a watershed plan
- Why watershed plans fail
- Tips on implementation
- Case study: Salt River Bay

Phases of Watershed Management

Assessment

(get to know your watershed)

Mapping/GIS/modeling

Local needs/capacity audits

Stakeholders

Boots on-the-ground

Planning

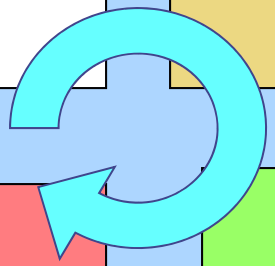
(preliminary roadmap)

Consensus on goals/objectives

Comprehensive projects/actions

Priorities

Phasing, budgets, strategies



Implementation

(just do it)

Adopt regs

Build local programs

Secure $

Install restoration projects

Education programs

Evaluation

(is it working?)

Trend & performance monitoring

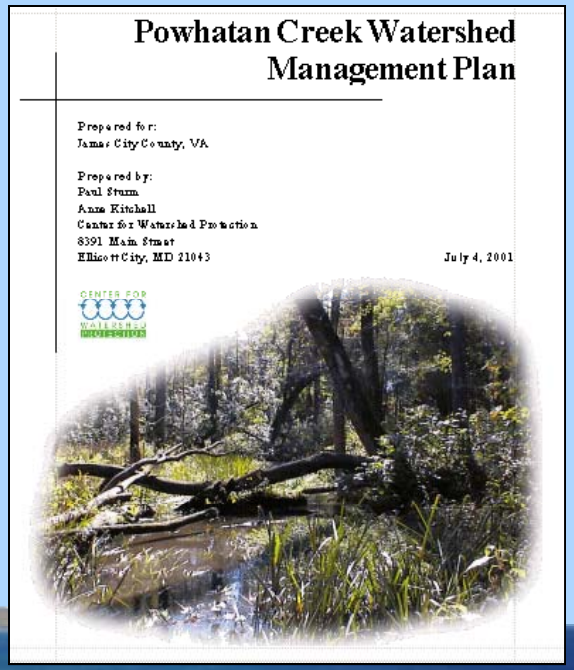
Tracking system

Annual progress reports

Adjust strategy

What is a watershed plan?

- Road map for protecting or restoring local water resources by applying each of the 8 tools (discussed Monday)
- List of priority actions and projects that will help meet water quality goals and resource objectives
- Implementation strategy
  (who, what, when, where, and how $...)
- A community vision
- Cheap, short, and sweet
- Out-dated in 5 years



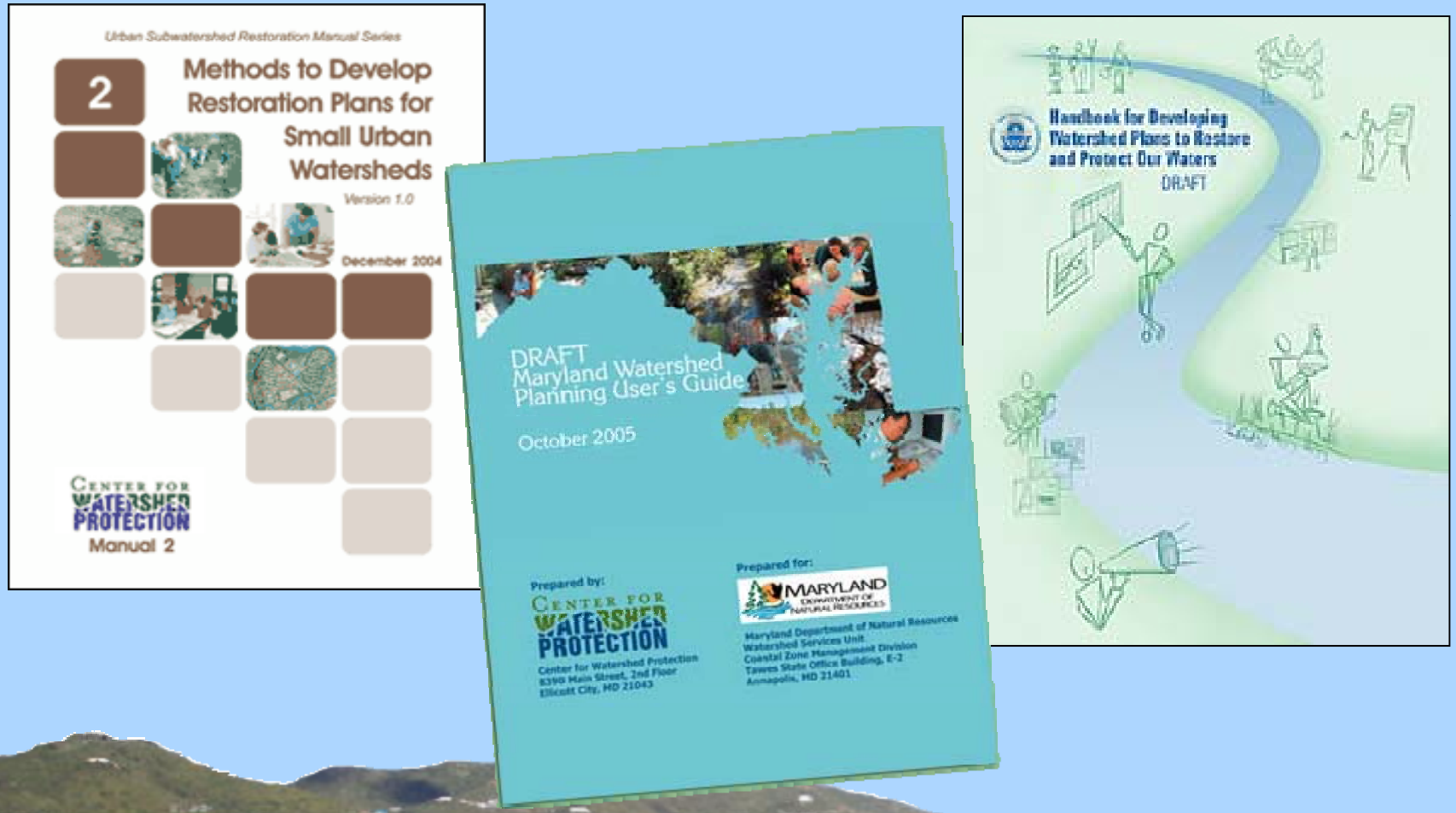
Key Watershed Planning Elements

- Goals and objectives (stakeholder input)
- Local program audits
- Mapping and field assessments
  - Current land use and future buildout
  - Project opportunities
- Baseline and special studies (tech memos)
- Draft ordinances and project concepts
- Final management plan
  - Goals and specific recommendations (who, what, when...)
  - Restoration and protection priorities
  - Implementation budget/schedule
  - Watershed management maps

Common Outcomes of Watershed Planning

- **Adopt/update** development regulations
- **Conserve** or acquire critical lands
- **Install** early restoration projects
- **Improve** watershed awareness and stewardship
- **Integrate** efforts into daily municipal operations
- **Create** a watershed organization
- **Enhance** local capacity to manage watershed development
- **Improve** or **maintain** quality of water resource (hopefully)

There is a ton of “how to” guidance available…

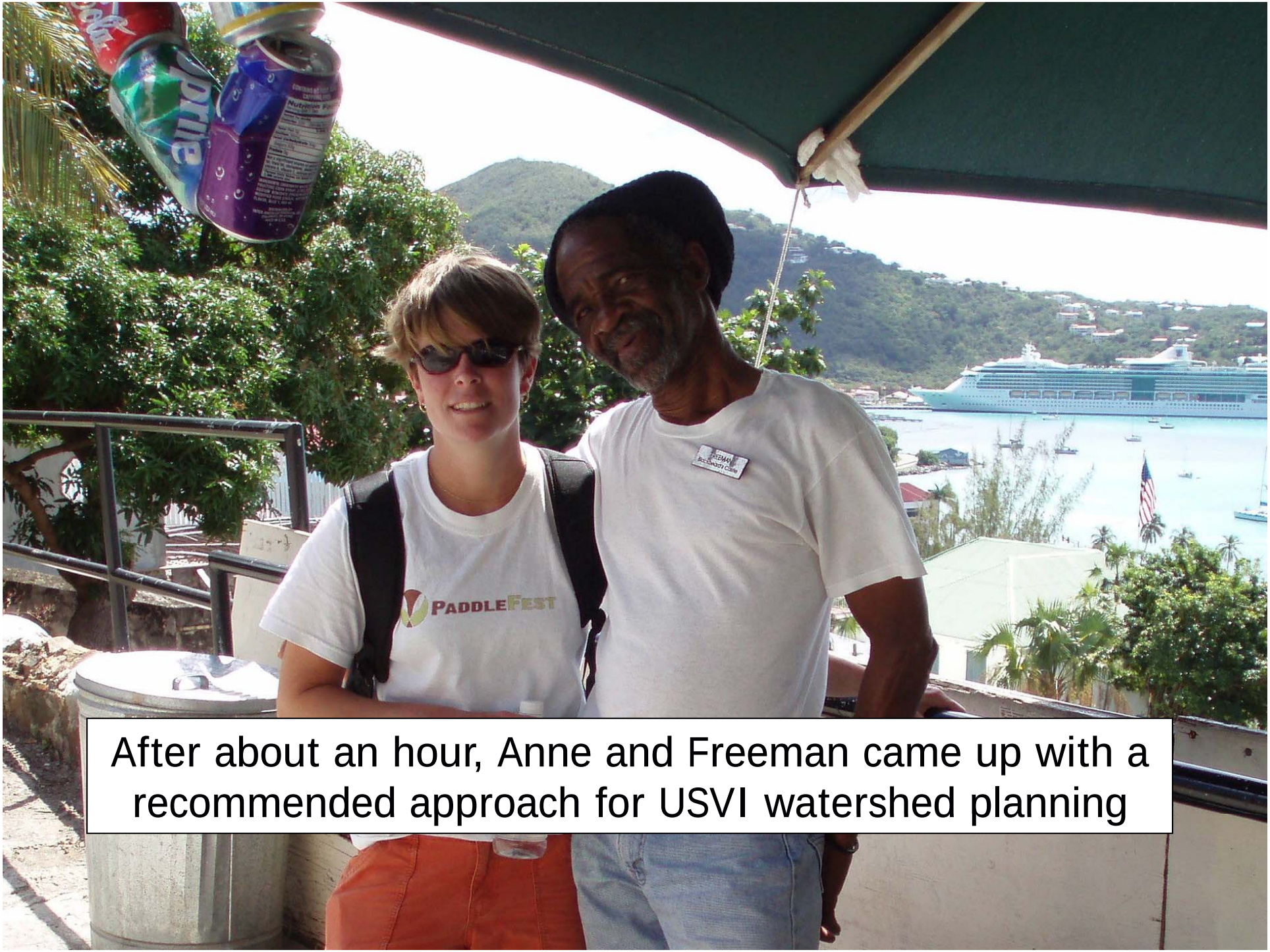


Steps of Local Watershed Planning

1. Assess needs and set goals
2. Characterize (sub)watersheds
3. Identify opportunities on the ground
4. Adapt protection tools
5. Apply early action projects
6. Adopt and implement plan
7. Develop long-term capacity

Considerations for USVI

- Small watersheds
- Previous planning efforts completed
- 3 different islands
- Rapid development, limited land
- Staff stretched thin
- Do you have $ or not?
- Really need simple solutions from the community
- Needs to be relatively easy to administer



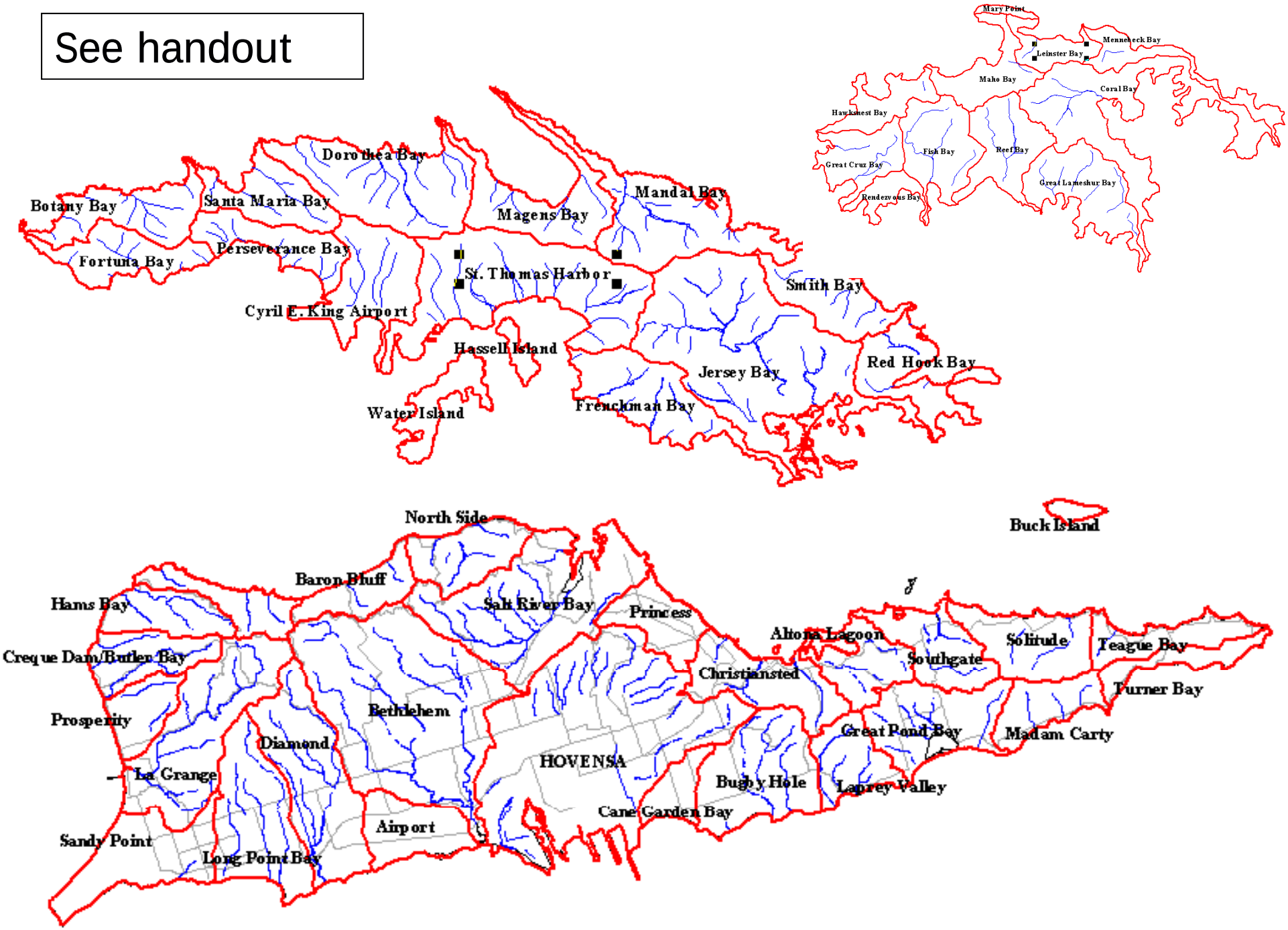
After about an hour, Anne and Freeman came up with a recommended approach for USVI watershed planning

Proposed Watershed Planning for USVI

1. Complete island-wide characterization of needs and capabilities
   - Regulatory drivers (TMDL, TPDES)
   - 8 tools audit
   - Territorial capacity (GIS, stakeholders, staff, etc)

2. Classify watersheds as restoration/ protection priorities (vulnerability)*
   - Impairments
   - Land use analysis (current and future)
   - Impervious cover, Forest cover, Erosion potential, coral, community support

See handout


Mary Point
Menneck Bay
Leinster Bay
Mahe Bay
Coral Bay
Hawksnest Bay
Fish Bay
Reef Bay
Great Cruz Bay
Great Lameshur Bay
Rendezvous Bay
Dorothea Bay
Botany Bay
Santa Maria Bay
Mandal Bay
Magens Bay
Perseverance Bay
Fortuna Bay
St. Thomas Harbor
Smith Bay
Cyril E. King Airport
Hassell Island
Red Hook Bay
Jersey Bay
Water Island
Frenchman Bay
North Side
Buck Island
Baron Bluff
Hams Bay
Salt River Bay
Princess
Altona Lagoon
Solitude
Teague Bay
Southgate
Creque Dam/Butler Bay
Christiansted
Turner Bay
Bethlehem
Prosperity
Great Pond Bay
Madam Carty
Diamond
HOVENSA
La Grange
Bugby Hole
Laprey Valley
Cane Garden Bay
Airport
Sandy Point
Long Point Bay


Restore


Prevent


Protect


Treat

Proposed Watershed Planning for USVI

3. Draft a USVI watershed baseline characterization
   - Summarize all you know for each watershed (WQ, biology, public lands, community groups, etc)
   - Summarize previous reports/plans
   - Watershed baseline maps
4. Create phased schedule for planning and implementation efforts
5. Agency commitment to process and long term oversight
6. Pick 2-3 watersheds to start...

So for each watershed...

7. Hold series of public meetings
   - Review baseline characterization
   - Set preliminary watershed goals
   - Identify community priorities/issues
   - Build a watershed coalition...
8. Walk every road and gut
   - Verify known inventories and conditions
   - Identify restoration/protection opportunities
   - Meet and greet

Look specifically for

- Cool wetlands and sensitive areas
- Sources of sediment or other pollutants of concern
- Gut repair
- Infrastructure maintenance
- Stormwater retrofits
- Enforcement actions
  - Suspicious discharges
  - Failing ESC
  - Dumping

So for each watershed...

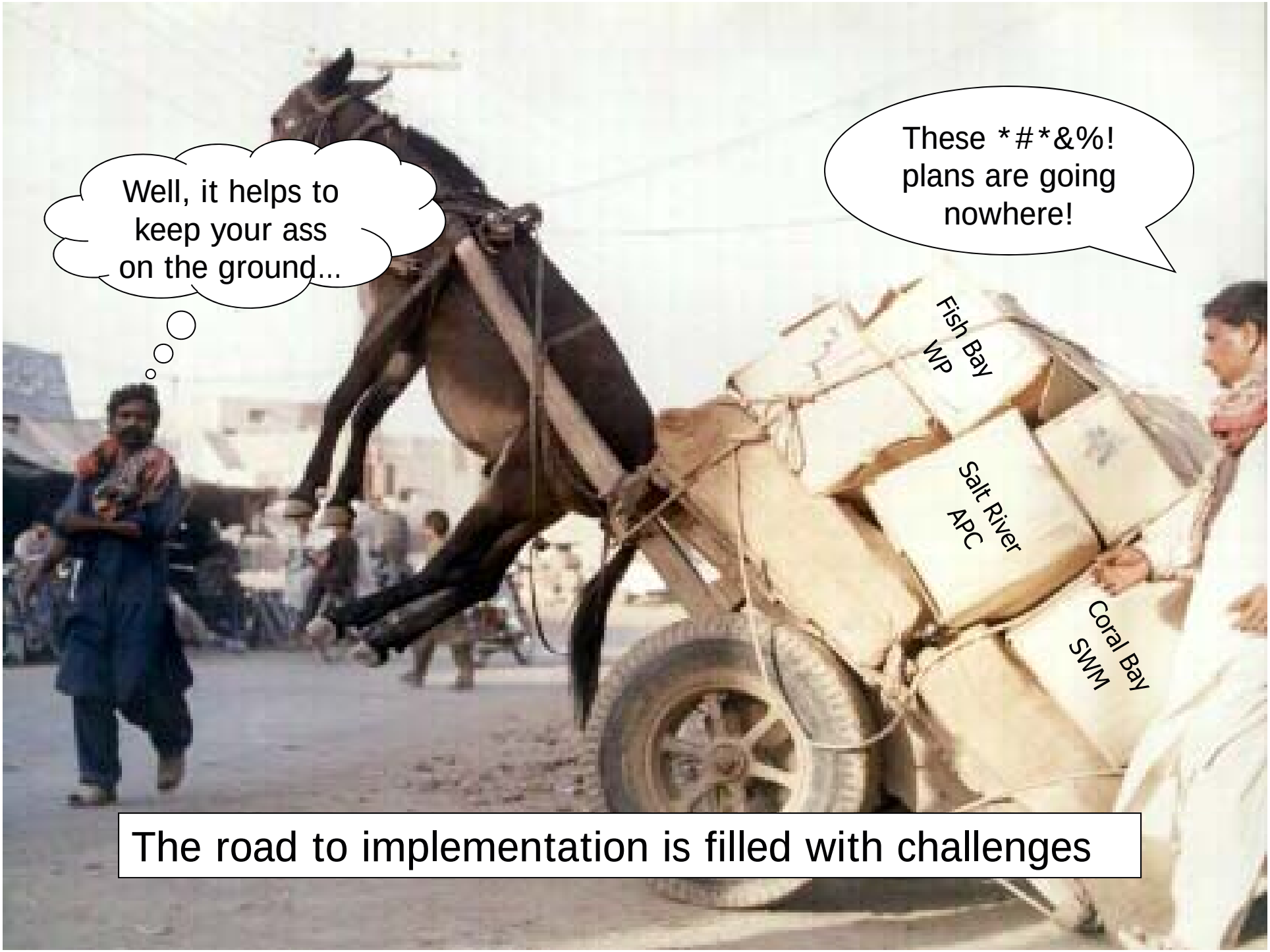
9. Report Findings
   - Technical memo with maps and photos
   - Public meetings
10. Prioritize recommended actions and projects
    - Based on feedback from community and key implementation partners
    - To meet refined watershed goals
11. Clean up concepts for priority projects and start getting easy projects in the ground

So for each watershed...

12. Create an implementation strategy
    (budget, schedule, responsible party)
13. Get plan recommendations formally adopted or integrated
14. Establish long-term management structure
    - To start securing implementation $
    - To administer monitoring and project tracking
    - To report progress annually
    - To involve community

Table E3. Draft Recommendations for Big Rock Creek

Recommendation	Goal	Management Area (subwatersheds)	Responsible Party/Partner	Planning Level Costs		
				Phase 1 (year 1)	Phase 2 (years 2-4)	Phase 3* (year 5+)
Establish watershed council or organization	--	Watershed-wide	TNC to organize	$15,000	$15,000 ($5,000/yr)	unknown
Hire watershed planner	--	Watershed-wide	TNC to fund	$50,000	$150,000	unknown
Develop farmer outreach and technical assistance program	5	Upper & Lower Big Rock Management Areas (New Lake, Big Rock Direct, & Upper Big Rock)	TNC/NRCS	$15,000 integrate with NRCS	--	--
Develop urban /pollution prevention campaign and residential outreach program	1, 4	Lewisburg Management Area (Hospital Trib & Loyd Branch)	TNC/ Marshall County Solid Waste Department	$5,000 public attitude survey	$10,000 stakeholder involvement program	--
Exclude 25% of unmanaged cattle from streams	1, 2, 5	Upper Big Rock Management Area (Upper Big Rock & New Lake)	TNC/NRCS	$62,500 exclusionary fencing; $9000 stabilized crossing; $30,000 off-stream water supply (UT-1, NL-1, UBR-1)	$46,400 exclusionary fencing; $9000 stabilized crossing; $20,000 off-stream water supply (secondary projects)	$19,500 exclusionary fencing; $42,000 stabilized crossing; $75,000 off-stream water supply (unspecified projects)
Adopt floodplain ordinance	2, 6	Watershed-wide	Marshall County & City of Lewisburg	$10,000 - $20,000	--	--
Reforest 30 miles of impacted riparian buffer	1, 2, 3, 5	Watershed-wide (Big Rock Direct, Old Lake, Upper Big Rock)	TNC, NRCS	$8800 (UT-1, NL-1, CC-2, BRC-1, HT-2, and CB-2)	$15,360 (secondary projects)	$56,000 (unspecified projects)
Sinkhole protection and steep slope reforestation (250 total acres)	1, 5, 7	Lewisburg & Snake/Dry Branch Management Areas (Lower Big Rock & Dry Branch)	TNC, NRCS	$2250 (UBR-1)	$100 (secondary projects)	$54,400 (unspecified projects)
Stabilize 10,000 ft of eroding stream banks	1, 2	Watershed-wide (Collins Creek)	TNC/power company/NRCS	$90,000 (UT-1, NL-1, UBR-1, CC-2)	$48,000 (secondary projects)	$12,000 (unspecified projects)
Revitalize green infrastructure	8, 4	Lewisburg and Lower Big Rock Management Areas	TNC/ City of Lewisburg	$50,000 greenway design (BRC-1 cost under buffer reforestation)	$4800 (secondary project)	unknown



The road to implementation is filled with challenges

Implementation Traps

1. Lack of political will and community support
2. Programmatic inertia and agency “turf” battles
3. Empty piggy banks
4. Non-targeted education and training
5. Inability to show success (i.e. local demo, monitoring, missed windows of opportunity)
6. Too many sticks and not enough carrots
7. Undiscovered watershed champion
8. Loss of momentum and evolving community concerns

What are some others you have experienced?

Implementation Tips

1. Involve key implementation partners early; encourage formal agreements
2. ID programmatic overlaps and gaps; integrate into daily municipal operations
3. Be creative in securing long-term funding (i.e. federal, territorial, private, local cost-sharing)
4. Choose appropriate messages; target pollutants/ behaviors
5. Get easy projects in the ground fast, starting at home
6. Find a balance between regulated and voluntary stewardship
7. Designate person/group to coordinate implementation efforts
8. Track progress and re-evaluate strategy over time


What are your suggestions?

Summary

- Keep watershed plans simple
- Remember planning:implementation ration is 15:85
- Build on existing planning efforts with a more practical eye on implementation
- Lets take Salt River Bay as an example…