



Bingham, S. N., C. C. Young, J. L. Haack-Gaynor , L. W. Morrison, and G. A. Rowell. 2016. Wetland monitoring protocol for Cuyahoga Valley National Park: Narrative. Natural Resource Report NPS/HTLN/NRR—2016/ 1336. National Park Service, Fort Collins, Colorado.

Standard Operating Procedure 15: Annual Work Plan

Version 1.00 (12/27/2016)

Previous Version #	Revision Date	Author	Changes Made	Reason for Change	New Version #

Contents

	Page
Standard Operating Procedure 15: Annual Work Plan	3
Basic Annual Schedule.....	3
Documenting the Annual Work Plan	3

Figures and Tables

	Page
Table 15.1. Each panel is completed during a single year and sequentially such that all panels are completed over a 4-year period. The total number of sampling arrays (SAs) and the number of arrays completed as part of each panel are shown. Intensively-assessed sentinel sites and paidly-assessed sites are completed as part of panel 1 and 2. Survey sites are completed in panels 3 and 4. Ws = watershed.	4
Table 15.2. Comprehensive list of equipment and supplies for various wetland monitoring tasks. See individual standard operating procedures for more details. ORAM = Ohio Rapid Assessment Method, VIBI = Vegetation Index of Biological Integrity.....	5

Standard Operating Procedure 15: Annual Work Plan

Basic Annual Schedule

1. Seasonal Hiring: December – March
2. Prepare for Field Season: February – March
3. Volunteer Recruitment and Training: January – April
4. Water Level Monitoring: March 15 – October 30
5. Rapid Wetland Assessments: May 1 – October 15
6. Intensive Wetland Assessments: June 15 – September 15
7. Data Entry and Reporting: October 15 – March 15
8. Volunteer Appreciation Event: July/August, October

Documenting the Annual Work Plan

We segregated our sampling effort over a four-year period (Table 15.1). Rapidly-assessed wetlands (n = 250) are scheduled during the first year in Panel 1 (2016). Surveys of intensively-assessed wetlands (n=95) are divided into 3 rotating panels. Sentinel sites (n = 35) are surveyed in Panel 2, and survey sites (n = 60) are completed in Panels 3 and 4.

An annual work plan is submitted to supervisor at the beginning of each fiscal year. This plan should include:

1. **Major goals for the year.** These goals should be reflected in the EPAP work elements.
2. **Staffing.** Include employee number, length of service, estimated personnel costs with overhead, tasks to be assigned required to execute the annual work plan.
3. **Volunteers.** Describe recruitment and training timeline and planned workshops to be offered.
4. **Proposed monitoring schedule.** Include a brief summary of known commitments / tasks planned during the season.
5. **Equipment Needs.** A list of equipment, quantities and condition for each task is provided (see Table 15.2). Identify items in need of preparation, repair, or purchase. Compile a list of needs for budget planning.

Table 15.1. Each panel is completed during a single year and sequentially such that all panels are completed over a 4-year period. The total number of sampling arrays (SAs) and the number of arrays completed as part of each panel are shown. Intensively-assessed sentinel sites and paidly-assessed sites are completed as part of panel 1 and 2. Survey sites are completed in panels 3 and 4. Ws = watershed.

	Wetland Location	# SAs	Panel 1	Panel 2	Panel 3	Panel 4
Sentinel Site: Wetland of Management Concern	Pleasant Valley	5+		5+		
	Fawn Pond	5		5		
	Stumpy Basin	3		3		
	Kendall Lake	3		3		
	Beaver Marsh	5		5		
	Rockside Mitigation	+		+		
	Krejci Remediation	2		2		
	Stanford Rd	4		4		
Sentinel Site: Reference	Fitzwater Bridge	1		1		
	Snowville Rd	1		1		
	Columbia Rd	1		1		
	Boston Mills Rd	1		1		
	Stumpy Basin	1		1		
	Kendall Lake	1		1		
	Langes Run	1		1		
	Bath Rd	1		1		
Survey Site: Intensive	Stanford Run Ws	7			4	3
	Railroad Creek Ws	7			3	4
	Ira Creek Ws	4			3	1
	100-yr Floodplain	7			4	3
	CMA Creek Ws	7			3	4
	Chippewa Creek Ws	7			3	4
	Brandywine Creek Ws	7			3	4
	Tinker's Creek Ws	7			3	4
	Unnamed 7 Ws	3			1	2
	Unnamed 15 Ws	4			3	1
Total Intensive Sites (VIBI)		95		35	30	30
Total Extensive Sites (ORAM)		250	250			

+Wetland is included in the probabilistic sample.

Ws= watershed

Table 15.2. Comprehensive list of equipment and supplies for various wetland monitoring tasks. See individual standard operating procedures for more details. ORAM = Ohio Rapid Assessment Method, VIBI = Vegetation Index of Biological Integrity.

	item	wetland delineations	groundwater well installation / soil analysis	ORAM survey	Vascular Plant Survey	water level and chemistry monitoring	voucher management
<i>equipment</i>	backpacks		2		2		
	green utility bags	1	1		1	1	
	GPS	1	1		1		
	camera	1	1		1	1	
	Munsell soil chart	1	1		1		
	hand lens (10x & 20x)	1			1		1
	dissecting microscope						1
	observation wells		1				
	19" soil probe	1			1		
	soil auger (3-part)		1				
	plastic tarp (6 x 8)		1		1		
	field press backpack	1		1	1		
	small field press	1		1	1		x
	large field press	1		1	1		x
	nalgene bottles - large		5				
	nalgene bottles - small		2				
	0.1 m ² PVC quadrats				2		
	1.0 m ² PVC quadrats				2		
	NPS hydrolite materials		1		1	1	
	clip boards	1	1	1	2	1	
	field notebook	1	1	1	1	1	
	DBH tape				1		
	water bailer		1			1	
	Eureka multiprobe					1	
	10 ft PVC pipes (corner stakes)		4				
	PVC stakes with drive points		4		11		
	PVC cutter		1				
	50 m fiberglass reel		1		3		
	15 m fiberglass reel		2		3		
	rubber mallet		1		1		
	machete		1	1	2		
	bucket (sand)		1				
	plant press dryer						x
	drying oven (biomass samples)				x		
	felco pruners				1		
	6 in (mm) rulers	1		1	1		
	inflatable boat - life jackets & paddles		x			x	
	plant ID books	x		x	x		
	voucher cooler				x		
<i>protective</i>							
	Igloo water cooler	1	1	1	1	1	
	radio (park-issued)	1	1	1	1	1	

	hip waders	1	1	1	1	1	
	muck boots	1	1	1	1	1	
	compass	1	1	1	2	1	
	watch	1	1	1	1	1	
	Ivydry towelettes	2	2	2	2	2	
	diposable gloves	x	x	x	x	x	
	first aid kit	x	x	x	x	x	
	insect repellent / mosquito net	x	1	1	1	1	
	hand sanitizer	x	x	x	x	x	
<i>supplies</i>							
	pencils	2	2	2	2	2	
	sharpies (fine, extra fine)	2	2	2	2		
	insect repellent	1	1	1	1	1	
	voucher bags (Ziploc)	2	2	2	4	4	
	paper clips						x
	plant mounting supplies (paper, paint brushes, seed envelopes, indelible pens, glue, wax paper, weights)						x
	flagging tape (Pins)	50	10	0	10		
	flagging tape (Rolls)	1	1	1	1	1	
	large paper grocery bags				8		
	ecotone maintenance supplies					1	
	extra 9-volt battery (+screwdriver)		1			1	
	sand		x				
	bentonite clay		x				
	150 watt bulbs						x
	well caps					2	
	arrowhead decal stickers		x			2	