

CHAPTER 15. FIELD EQUIPMENT CHECKLIST

Personal Equipment		
	Waders	Essential...our signature piece of equipment
	Rain Gear	Stay Dry...or mostly Dry
	Personal Gear	Luggage, etc.
	Water Bottle	Stay Hydrated!
	Personal First Aid Kit	Small Red Fanny Bags
	Polarized sunglasses	Especially helpful to reduce glare and see under water surface
Paperwork and Clipboard Stuff		
	Stream List	Get Assignment from Janice
	Maps	Topographic, WV Gazetteer, WV County Roads
	Habitat Forms	Main WAB Form, Write-In the Rain Version, Front Page only version (for Dry or Access denied sites), Flow Appendix Sheet, Glide/Pool RBP Appendix Sheet, TMDL Forms, Fish Hobo Form; all on the Network
	Analysis Request Form with Chain-of-Custody	In the Water Lab Cabinets; Extras in Janice's Office
	WQ Sample Labels	10 Unique WQ Sample Lab IDs per sheet; In the Water Lab Cabinets
	SOP	Get a copy from Internet or the Network
	Personal Field Books/Notepads	For the biomorph to write notes on while the Geomorph is away. Extras in Water Lab
	WAB Brochures/Pamphlets	To give to interested parties while in the field
	Data Request Forms	To give to interested parties while in the field; Get from Karen Light
	Clipboards	Assigned to each person
	Pencils and Pens	Get out of our Cabinet in the Mail Room or See Karen Light for Office Supplies
	Compass	To get your North Bearing
	Laptop	Update w/ Maps, WCMS Projects, Shapefiles, DOH County Maps and Database as needed
	Scientific Collection Permit	Obtained yearly by Watershed Assessment Branch from the WVDNR. Janice has original copy.
	Invasive Plant Guide	Keep a copy in clipboard.
Electronic Devices		
	GPS Units	Various Garmin Models assigned per jeep (Keep in Camera Bag, Backpack, or Jeep)
	Water Quality Sonde	Various models assigned per jeep; Take inside at end of week; Calibrate at beginning of week or day; Cross-checked Monthly; Keep in Water Lab Jeep Stalls or Sonde Cabinet
	Camera	Various Models assigned per jeep; Take inside at end of week and Keep in Water Lab Jeep Stalls
	Laptop Computer	Useful for GIS navigation and site confirmation
Daily/Weekly Needs		
	Wet Ice	From Ice Machine in the general garage area or buy at store

Jeep Maintenance		
	Fix-A-Flat	Action Packer or under backseat.
	Come-Along	Often stored under backseat.
	Tow Straps	Often stored under backseat.
	Collapsible Shovel	Often stored under backseat.
	Axe	Often stored under backseat.
	Tools	Screwdrivers, wrenches, ratchets, <i>etc.</i>
	Power Inverter	12 Volt DC to AC used to charge Laptops, Drill, <i>etc.</i>
	Flashlight	MANDATORY! In Action Packer?
	Car Phone	Hide in vehicle in console or glove box.
	Lab & Vehicle Phone Number Sheet	Should always stay in vehicle in glove box, middle console, or under sun visor.

Safety and Backup Supplies		
	Action Packer	To store seldom used equipment
	First Aid Kit	MANDATORY! Should be checked regularly
	Fire Extinguisher	MANDATORY! Should be checked regularly. Must be ABC type.
	Latex Gloves	To protect hands in nasty looking streams or keep contamination out of samples; Refills kept in Water Lab
	Handi-Wipes	To approximate cleaning of the hands. Refills in Water Lab
	Insect Repellent	DEET works the best; spray clothing only and keep off skin and out of eyes and mouth
	Blaze Orange Vest	Extras in Water Lab
	Life Vest/PFD	Must be worn if working in water over knee depth or on a boat.
	Machete	To help clear a path thru brush and briars
	Toilet Paper	"Acquire" from bathroom or hotel ☺
	AA Batteries	For GPS and Sonde Units; New ones in Water Lab
	C Cell Batteries	For Sondes; New ones in Water Lab
	D cell Batteries	For Flow Meters; New ones in Water Lab
	pH Standards	To recalibrate or check pH Sensor in field; In Water Lab
	Conductivity Standards	To recalibrate or check Conductivity Sensor in field; In Water Lab
	DO Maintenance Kits	To replace a DO membrane in field; Kept with YSI/Hydrolab; Extras In Water Lab
	pH Strips	To test sample fixation; Refills in Water Lab
	Flagging	To mark Transects and sites for easy identification; Extras in Water Lab

Water Quality Sampling (TMDL and WAB)		
	Fecal Coliform Bottles	Stored in Cage #1 in room 1193; provided by Analytical Lab as part of Contract
	Sample Containers	Stored in Cage #1 in room 1193; provided by Analytical Lab as part of Contract
	Lids for Containers	Used if Containers do not come with lids; Stored in Cage #1 in room 1193; provided by Analytical Lab as part of Contract
	HNO ₃	Refills in Water Lab under sinks; provided by Analytical Lab as part of Contract; Be sure to store one extra in Action packer.
	H ₂ SO ₄	Refills in Water Lab under sinks; provided by Analytical Lab as part of Contract; Be sure to store one extra in Action packer.
	New Filter Apparatus (Primary)	Drill (w/Rechargeable Batteries and Recharger), Peristaltic Pump Board, Tubing, Disc and/or Cartridge Filters; Replacement Tubing and Filters are in the Water Lab
	Plastic File Case	To keep the filter apparatus or supplies clean and dry
	Sharpie	New ones in Water Lab drawers
	Small Zip-Lock Bags	To store individual fecal samples; Refills in Water Lab cabinets; One extra in Action packer?
	Large Zip-Lock Bags	To store multiple fecal samples; Refills in Water Lab cabinets; One extra in Action packer?
	Paper towels	To dab away excess water; "acquire" from janitor's closet ☺.
	Stainless Steel Bucket or Sample Tube	To sample from bridges
	Rope	To sample from bridges; Also part of Jeep Maintenance
	Large Ice Chest	To store samples in field; In Water's Garage Area
	Field Blanks (DI/distilled Water)	Get from sealed laboratory boxes, put into 1 gallon cubitainer, and mark with a check

Flow Measurement (TMDL and WAB)		
	Measuring Tape	Marked in tenths of a foot; Do not use metric; New ones in Water Lab
	Wading rod w/Vector Ribbon	Marked in tenths of a foot; Do not use metric.
	Flow Meter	Numbered per unit

Secchi Depth & Chlorophyll-a (Lakes)		
	Secchi Disk	
	Chlorophyll-a transfer bottle	This can be the amber plastic 2L Nalgene bottle or simply a 1 L cubitainer surrounded by foil. In either case, the container should not be transparent as chlorophyll-a is light-sensitive. This transfer container may be reused from site to site, but should always be rinsed thoroughly with DI (deionized) or distilled water before sampling
	Van Dorn sampler	For retrieving top and bottom samples from lake (should be pre-rinsed before leaving the vehicle).
	Glass fiber filters	These are GF/F filters (glass fiber – fine) from manufacturers such as Whatman.
	Filtration Apparatus (Vacuum type)	Funnel, Filter Sieve, Flask, Hand Pump, DI/distilled Water Bottle; store in large Zip-Lock; Old extra ones in Water Lab; Make sure DI/distilled Water Bottle is not contaminated-Wash regularly
	Aluminum foil	for wrapping chlorophyll filter samples

Benthic Macroinvertebrate Sampling (Mainly Summer WAB)		
	95% EtOH	In Cylinder Room
	Bug Jar Labels	Inner (on waterproof paper) and Outer; on the Network
	Surber-on-a-Stick (Modified Dip Net)	Remember to check for holes; handle marked with depth increments. Mesh Size should be <u>(595-600 µm)</u> .
	D-Net	Remember to check for holes; handle marked with depth increments. Mesh Size should be <u>(595-600 µm)</u> .
	Brush	To scrape at cobble and boulders; One extra in Action Packer would be a good idea
	Forceps	To pick macroinvertebrates off nets; One extra in Action packer?
	# 30 (600 µm) Sieve	To sift through benthic material; Extras in Water Lab; Keep an extra in Action packer?
	Plastic tray or container	To temporarily store organic material until sand is put in bottom of bug jar first
	Wash Bottle	To rinse benthic material; doesn't need to be sterile; also used for Periphyton Sampling; new ones in Water Lab
	Plastic Bucket	To temporarily store benthic material during kicks
	Bug Jars	Large sizes for more permanent storage; In Cylinder Room off main garage
	Old Ice Chest or Box	To store Bug Jars
	Clear Packing Tape & Dispenser	To adhere a label on sample jars; Also used for Periphyton labels; Refills in Storage Cabinet in Water Lab
	Macroinvertebrate Book	Keep in the jeep for field bug reference
	100 m Measuring Tape	Extras stored in Water Lab
	Thalweg Pole with centimeter increments	To measure stream depths for stream reach characterization; also used for Pebble Count Measurement

Fish Sampling (Mainly Summer WAB)		
	Fish Jar Labels	Inner (on waterproof paper) and Outer; on the Network
	Backpack Electrofisher	Smith-Root Model 24LR or Model 12 backpack electrofisher; includes the cathode and anode
	Tow barge Electrofisher	Includes a generator, anode pole and cable, GPP electrofisher, and cooler.
	Electrofisher batteries and chargers	Spare batteries should be handy and available to ensure that a site can be electrofished quickly
	Dipnets	1/4" mesh; assorted frame sizes
	Seines/blocknets	1/4 in. mesh; 4'x20' or 4'x30' dimensions
	1 gal. Nalgene jars	
	37% Formaldehyde	
	Assorted plastic buckets with lids	Used to hold fish between capture and field processing.
	Rubber Gloves	To be worn at all times by electrofishers and netters.
	Measuring board and digital scales	
	Hearing protection	Used when using the tow barge/generator.

Periphyton Sampling (Special Sampling Occasions)		
	Periphyton Labels	Same label for inside and out; on the Network
	Scraping Tool	To scrape at the rocks; A microspatula or spoon-type instrument; Extras in Water Lab drawer; One extra in Action Packer?
	Small Brush (Toothbrush)	To brush at the rocks; One extra in Action Packer? Change once a week; Refills in Water Lab drawers
	Sample Container	4 oz. "specimen jar"; Refills in Water Lab cabinets
	10 % Formalin	In a labeled dropper style bottle: WATCH YOUR EYES! Stored under hooded sink in Water Lab; Recommend double sealing this in a larger container
	Electrical Tape	To seal the periphyton container; Refills in Water Lab drawer
	PVC Ring	To delineate the periphyton sample area on a rock
	Small Ice Chest	To separate periphyton samples (nasty formalin) from the other water samples.

Golden Algae Sampling (Special Sampling Occasions)		
	1-liter cubitainer	Used as a sample container.
	Filtering Equipment	Filter Flask, Filter Funnel, Vacuum Pump, and Vacuum Tubing
	Filters	<i>Whatman</i> Glass microfiber filters GF/F 47 mm diameter with 0.45 μm pore size
	10% Bleach Solution	Stored in lab- for sterilization
	Distilled drinking water or industrial grade deionized (DI) water.	Stored in lab.
	Sterilized stainless steel forceps or sterile plastic forceps	
	4" squares of clean aluminum foil	1 square of foil per sample
	Golden Algae Sample Labels	
	Golden Algae Analysis Request forms with Chain-of-Custody	Can be obtained from Janice Smithson
	Dry Ice in cooler	Used only if filtering away from lab.
	Black or Dark plastic trash bags	To place cubitainers inside of after filtering to keep light from getting to sample