

Healthy Watersheds Assessment Project Meeting with the Clinch-Powell Clean Rivers Initiative

January 23 & 24, 2013

Attendees

Name	Organization
Allen Newman	VA Department of Environmental Quality
Angela Watland	The Nature Conservancy
Annette Poore	Corps of Engineers
Beverly Brown	Tennessee Department of Environment and Conservation
Bill Kitrell	VA Department of Game and Inland Fisheries
Bill Wolfe	USGS
Brad Kreps	The Nature Conservancy
Braven Beaty	The Nature Conservancy
Brian Evans	US Fish and Wildlife Service
Carl Zipper	VA Tech
Corey Godfrey	Cadmus Group
David Duhl (via webinar Day 1)	Tennessee Department of Environment and Conservation
Earl Bandy	Office of Surface Mining (TN)
Greg Johnson	USGS
Ian Dye	Office of Surface Mining (VA)
Jennifer Krstolic	USGS
Jess Jones (Day 1)	US Fish and Wildlife Service
Kelly Miller	Virginia Department of Conservation and Recreation
Laura Gabanski	Environmental Protection Agency (Office of Water)
Martha Chapman	VA Department of Environmental Quality
Martha Podren	Tennessee Valley Authority
Megan Bradley	VA Department of Game and Inland Fisheries
Mike Pinder	VA Department of Game and Inland Fisheries
Patrick Lizon	Virginia Department of Conservation and Recreation
Phil Mullins	Alpha Natural Resources
Richard Davis	VA Department of Mines, Minerals, and Energy
Rob Lindbom	Tennessee Wildlife Resources Agency
Roberta Hylton	US Fish and Wildlife Service
Ronald Lambert	The Nature Conservancy
Shannon O'Quinn	Tennessee Valley Authority
Sherry Wang (via webinar Day 1)	Tennessee Department of Environment and Conservation
Steve Alexander	US Fish and Wildlife Service
Teresa Frazier	VA Department of Environmental Quality
Trisha Johnson	The Nature Conservancy
Vivian Doyle	Environmental Protection Agency (R4)

Meeting Summary

After Brad Kreps (TNC) kicked off the meeting and everyone introduced themselves, Corey Godfrey (Cadmus) described the goals of the meeting, which were to 1) ensure that everyone has a firm understanding of EPA's Healthy Watersheds approach to conducting integrated assessments and 2) review, discuss, and obtain group consensus on the technical approach for the Clinch Powell Watershed Health Assessment and the specific indicators to be used. Laura Gabanski (EPA) then provided an overview of the Healthy Watersheds Initiative and Corey provided an example of a watershed health assessment that was conducted for the State of Vermont. The framework for the Clinch Powell Watershed Health Assessment was then presented, followed by a presentation of initial ideas for specific indicators to use for evaluating watershed health. A number of discussions took place throughout the two days and the following decisions were made:

- The NHDPlus catchments will be used as the spatial unit of analysis for the assessment. These catchments represent the direct drainage area for each stream reach in the medium resolution (1:100,000) National Hydrography Dataset. The advantage to using this spatial unit of analysis is that the catchments can be readily "rolled up" to any given reporting level, including HUC12, HUC8, etc.
- Insufficient data are available to evaluate geomorphic condition. Therefore, this category will be dropped from the assessment.
- Landscape Condition will be evaluated based on a landscape development intensity index that assigns different levels of disturbance to different land cover types. The connectivity of these different land cover types with the stream network and sinkholes/sinking streams will also be evaluated. Additional details will be provided in the revised technical approach document.
 - A land cover dataset from 2006 that USGS has refined to better identify mining areas will be used as the base layer and additional information regarding areas of mining land use and changes to connectivity will be evaluated.
- Hydrologic condition will be evaluated based on statistical models that have already been developed by USGS for estimating ecologically relevant streamflow statistics. Observed streamflow statistics at USGS streamflow gages and modeled flows available from the Virginia Ecological Limits of Hydrologic Alteration (ELOHA) project will also be considered. Additional details will be provided in the revised technical approach document.
- Habitat Condition will be evaluated based on land cover data within the Active River Area (the delineation is available from TNC) and embeddedness. Additional details will be provided in the revised technical approach document.
- Water Quality will be evaluated based on TN, TP, conductivity, and pH. Additional details will be provided in the revised technical approach document.
- Biological Condition will be evaluated based on an Index of Biotic Integrity (IBI) for fish, Virginia's Stream Condition Index (SCI) for macroinvertebrates, and a categorical mussel site scoring to be developed by members of the group. Additional details will be provided in the revised technical approach document.

- A multimetric Index of Watershed Health will be developed based on a combination of watershed characteristics that demonstrate statistically significant correlations with each of the above indicators. Additional details will be provided in the revised technical approach document.
- Watershed Vulnerability will be based on an evaluation of the following:
 - Potential hydrologic responses of different catchments to future climate change projections.
 - Future projections of urban land cover change.
 - Future water use change projections available from USGS/TVA.

Potential Uses

The last session on the second day of the meeting was used to brainstorm ideas for potential uses and applications of the Clinch Powell Watershed health Assessment. A list of those ideas is provided below:

- Identify data gaps and future directions for science strategies:
 - Geomorphic assessment
 - Developing a mussel “IBI” or other quantitative scoring
- Outreach and communication with non-technical audiences/public to encourage implementation and other activities. The positive message of the HWI can be powerful. The delivery (e.g., clarity) of this message is important. The 6 index maps will be the most key piece for communications. Color ramp of catchment scores within HUC12s will potentially be important.
- National and local dissemination will bring attention from national/regional decision-makers and citizens alike:
 - Emphasize important of CP to agency leadership to bring funding/attention
- Use to inform a cost/benefit analysis focused on communication of the economic importance for protecting the healthy areas of the Clinch Powell.
- Use to inform investment of moneys for in-lieu fee, mitigation, land acquisition, etc.
- Consider watershed health when deciding on mine reclamation projects.
- Increase public involvement/input in permitting decisions.
- Inform sustainability efforts of permittees.
- Inform comprehensive planning/zoning decisions.
- Develop a communications team and/or get a communications intern/Vista volunteer to develop:
 - Posters
 - Fact sheets
 - Communications plan
 - Pre-prepared PowerPoint slides for presentations

Follow-Up Assignments

The following assignments were made for specific individuals to follow up on data and information to inform the assessment. These items must be resolved by February 8 in order to consider them in the revised technical approach.

- Beverly Brown: Send water chemistry and biological assessment data from TDEC to Cadmus.
- Bill Wolfe: Facilitate acquisition of data and information for us to apply ecological flow statistical models to Clinch-Powell.
- Jennifer Krstolic: Send digital data for the updated land cover mapping and karst mapping to Cadmus.
- Mike and Braven: Coordinate effort to categorically rank mussel sites in terms of their relative health.
- Braven Beaty: Send Active River Area data.
- Bill Kitrell: Point Cadmus in the direction of the headwater chemistry data from USFS and water withdrawal data from Tammy Stephenson.
- Bill Kitrell and Tom Roberts: Follow up on point file of impoundments from DCR dam safety.
- Brad Kreps: Follow up with DOF on forestry areas. Follow up on TIN data for more recent topography.
- Braven Beaty, Angie Watland, and Richard Davis: Follow up on oil and gas point file.
- Carl: Send Cadmus information on nutrient reference ranges.
- Richard Davis: Follow up on permit boundaries and whether we can identify current versus reclaimed areas. Follow up on water quality data for total nitrogen, total phosphorus, pH, and conductivity. Follow up on a potential “coefficient” representing water management factor on mine lands through consultation with DMME engineers and hydrologists.
- Group: Think about how you would rate different land cover types in terms of their disturbance intensity or “naturalness”.
- Group: Consider the following prior to March conference call:
 - Displaying the final results in the report
 - Applications and uses of the assessment results

Schedule

A general schedule for completion of the Clinch Powell Watershed health Assessment is provided below. A more specific schedule with dates for conference calls will be developed over the next week or two and sent out with the revised technical approach.

Final Technical Approach	February 8
Conference Call	March
Draft Report with Assessment Results	April 22
Conference Call	May
Revised Final Report	June 2013