Joint LUWG and FWG Meeting Minutes
Wednesday, December 4, 2019

USFWS Main Conference Room
177 Admiral Cochrane Dr, Annapolis, MD 21401
Meeting Materials: Posted here when available

Summary of Actions & Decisions

- **Decision:** LUWG will keep their monthly conference calls and quarterly meetings on the first Wednesday of the month but change the time of conference calls to 1 pm - 3 pm.
- **Action:** Jurisdictions should send their urban tree canopy data analysis "wish list" items to Jake Lezier of Chesapeake Conservancy (jleizear@chesapeakeconservancy.org)
- **Action:** Peter and Renee's presentation on Land Use Workgroup and Healthy Watershed Goal Team Outcomes and Land Analysis Needs rescheduled for next FWG meeting.
- **Action:** FWG will establish definition/parameters for measuring forest fragmentation.
- **Action:** LUWG will distribute a production date schedule for new data to the group.
- **Action:** The group proposed a potential joint LUWG/FWG meeting in June at which the tree canopy and riparian buffer technical teams will report their recommendations.
- **Action:** PA-DCNR will lead effort to assess impact of high-res hydrography and land cover on riparian forest buffer extent in the Lower Susquehanna as a pilot project
- **Action:** MD-DNR will lead effort to investigate how to interpret changes in urban tree canopy detected in the high-res land cover change data. MD-DNR will coordinate their investigation with Lara Johnson in Virginia.

Introductions – R. Hanmer, K. Berger, and KC Filippino

Forestry Workgroup Goals, Outcomes, and Land Analysis Needs – S. Claggett and J. Mawhorter

- Tree Canopy Outcome
    - Peter Claggett noted that when land use is remapped for 2017-18, they will also remap 2013-14 to ensure consistency across the entire watershed including VA.
    - Renee Thompson: Small rural communities could be missing from the tree canopy data, using population density data instead of urban census areas could capture those communities.
    - **Action:** Send urban tree canopy data analysis "wish list" items to Jake Lezier of Chesapeake Conservancy (jleizear@chesapeakeconservancy.org)
- Riparian Forest Buffer Restoration Tracking and Targeting
    - The WIP goals were based on 30m data which overestimated forest cover, and the high-resolution data is much more accurate. There will be discrepancies initially, but these situations will become less common as we transition to the new data.

    - Frank Rodgers: How much of the land use can we compare to land cover, how much detail is there on land use- is it coming from the parcels, or zoning? A: The data is available, from zoning, which will be included in the land change model.
- Forest Restoration Strategy
    - Forest fragmentation (old stuff using 2005 #'s based on 2000 data)
        - There are multiple methods of measuring forest fragmentation, a definition needs to be created before updating the analysis. Joe Winters is working on a project with the Critical Area Commission and fragmentation, could help inform our definition.
        - The LUWG may be helpful with updating data, figures, and tools for prioritizing restoration projects.
        - Peter Claggett asked that the FWG describe exactly what criteria define a fragmented forest, and the LUWG could help with that.
        - **Action:** Establish definition/parameters for measuring forest fragmentation.
    - Size class distribution
    - Updated land use statistics by county (forest, mixed-open, developed, turf-grass)
- Forest Conservation (targeting high-value forest)
    - Where will future old growth forests be? Looking at early successional growth to build an understanding of age and class diversity, and what areas are trending towards large growth.

LUWG and Healthy Watershed Goal Team Outcomes and Land Analysis Needs - P. Claggett and R. Thompson

- Land Use Methods and Metrics Outcome (Claggett)
- Healthy Watersheds Outcome (Thompson)
    - This agenda item was rescheduled due to time constraints.
    - Renee Thompson asked the group to review the materials on the calendar page.
    - **Action:** Peter and Renee's presentation on Land Use Workgroup and Healthy Watershed Goal Team Outcomes and Land Analysis Needs rescheduled for next FWG meeting.

New and Emerging Land Data and Applications – J. O'Neil-Dunne, D. Saavedra, and P. Claggett

- Developing 2017 land cover data and change from 2013 – 2017 (O'Neil-Dunne)
    - Production methods and schedule
    - Accuracy and minimum mapping units
        - Jarlith O'Neil-Dunne noted that consistency of lidar across the watershed is an issue since it can be acquired at the county or state level.
        - Making comparisons between 2013/14 and 2017/18 is challenging since less than 50% of watershed has similar data to compare due to availability of lidar.

        - A map can be made that shows which data was used to compare across time frames (lidar vs NAIP, etc), knowing how and why data changed is important when setting goals and assessing metrics.
        - Jarlith O'Neil-Dunne noted that accuracy is extraordinarily high (usually 95%, more often 99%)
- Developing high-resolution hydrography data (Saavedra)
    - Discuss relevance to stream miles, bufferable extent, variable efficiencies, and targeting (incised stream reaches).
        - Implications include stream density increase and stream length increase.
        - As stream resolution increases, buffer width decreases, and buffer gap frequency increased.
        - Variable buffer efficiencies
            - Retentive buffers: Not many nutrients get through, so the frequency of gaps between buffers controls nutrient loss
            - Leaky buffers: More nutrients get through, so the width of the buffer controls nutrient loss
        - Anne Hairston Strang: Of the new identified areas, how many are field verified as a stream with a bottom and aquatic community? These are the areas where we want to target buffers.
            - The analysis is still in progress.
- Interpreting High-resolution Tree Canopy Change (Claggett)
- Improving the CBP's Land Use Classification (Claggett)
    - Discuss rationale and applications, categorical land use vs overlays, and conversion vs transition
        - Claggett: Wetlands should be removed from land cover and added as an overlay. Many wetlands occur in forests and are covered by tree canopy.
            - We need to be careful when we calculate fragmentation metrics that we aren't allowing wetlands to count as fragmenting forests
        - Peter Claggett noted that this information will not change loading in the watershed model, it will be used for habitat, landscape change, and climate change.
        - Peter Claggett noted that dividing tree classes deciduous versus evergreen creates too many classes to be useful. Those will be given as overlays to accompany land use.
        - Alana Hartman asked why construction is being included as a category after it was removed due to issues last time.
            - Peter Claggett: Last time we were very focused on the TMDL, this time we want the most accurate data.
            - Karl Berger noted that it will not affect loading, progress, or anything at this point.

        - Sally Claggett mentioned that some of the forests in the mixed open category that are 8-15 years old would show as tree canopy and should be distinguished.
        - Peter Claggett requested the FWG to recommend a time frame or age to distinguish between open/full forests.
        - Anne Hairston-Strang noted that state forest records could help inform this recommendation.
- Facilitated Discussion
    - How can/should new data be used for assessing progress towards outcomes and/or for redefining "success"?
        - Karl Berger noted that it makes sense for actions based on tree canopy and forestry to be addressed by the FWG, not the LUWG. USWG may have some input as well.
    - Should we establish small technical teams to review and analyze the new data as it is developed relative to the outcomes? Who wants to participate?
        - Joe Winters: Many data sets I work on are in the context of MD Forestry, not the LUWG mission. However, I would be happy to collaborate.
            - Peter Claggett: MD is the first to get tree canopy data, followed by VA. It makes sense for MD and VA to help.
            - Lara Johnson noted she has a GIS background and a potential GIS staffer and volunteered to help with the urban pieces and quality control.
            - **Action:** MD-DNR will lead effort to investigate how to interpret changes in urban tree canopy detected in the high-res land cover change data. MD-DNR will coordinate their investigation with Lara Johnson in Virginia.
        - Peter Claggett: PA will be the first to have land cover, land use, and land use change with hydrography in the Lower Susquehanna. It would be helpful to have someone from PA Forestry involved with the review.
            - Matt Keefer: We have the capability to help but it is a time issue. It would be beneficial to have PA involved.
            - **Action:** PA-DCNR will lead effort to assess impact of high-res hydrography and land cover on riparian forest buffer extent in the Lower Susquehanna as a pilot project
        - Julie Mawhorter recommended Jimmy Kroon as a great staff person to review tree canopy data.
        - Peter Claggett noted the following order for upcoming new datasets
            - 10 counties in MD for tree canopy change
            - Lower Susquehanna, PA
            - Shenandoah or Rappahannock, VA

        - Following best Lidar as it's available
        - Summer 2021 full draft to inform the next milestone period
    - **Action:** A production date schedule for new data will be distributed to the group.

Admin and Logistics

- Announcements
    - **Action:** The group proposed a potential joint LUWG/FWG meeting in June at which the tree canopy and riparian buffer technical teams will report their recommendations.
- Change meeting dates for either the LUWG or FWG in 2020 so meetings are offset (currently we meet the same day each month)
    - **Decision:** The LUWG will keep their meetings on the first Wednesday of the month but change the time to 1 pm - 3 pm.

<u>Meeting Participants</u>

Allie Wagner, CRC
Nora Jackson, CRC
Renee Thompson, USGS
Karl Berger, MWCOG
KC Filippino, HRPDC
Sarah McDonald, USGS
Peter Claggett, USGS
Labeeb Ahmed, Attain
Shannon Mckenrick, MDP
Lee Epstein, CBF
Katie Brownson, USFS
Chad Thompson, WV DEP
Alana Hartman, WV DEP
Dave Montali, WV DEP
Cassandra Davis, NY DEC
Travis Stoe, PA DEP
Julie Mawhorter, USFS
Matt Keefer, PA DCNR Forestry
David Saveedra, CIC
John Griffin, CCP
Frank Rodgers, CI
Matt Poirot, VA Dept of Forestry
Norm Goulet, NVRC
Lara Johnson, VA DOF

Peter Hoagland, NRCS
Rebecca Hanmer, FWG Chair
Jeff Sweeney, EPA CBPO
Mark Symborski, MDP
Deb Sward, MDP
Lori Brown, DNREC
Jarlith O'Neil-Dunne, University of VT
Jacob Czawlyto, CIC
Fred Irani, USGS
Cassandra Davis, NY DEC
Arianna Johns, VA DEQ
David Goerman, PA DEP
Greg Evans, VA
Anne Hairston-Strang, MD DNR