



Healthy Watersheds Partnership Technical Advisory Committee October 20, 2021 Meeting

1:00 pm – 2:30 pm



Meeting Notes

[Link to Meeting Slides](#)

Attendees

Healthy Watersheds Partnership (HWP) Team in attendance

- Ali Dunn, HWP Co-Chair
- Corey Clatterbuck, HWP Technical Lead
- Anna Holder, HWP Technical Support

Technical Advisory Committee (TAC) Members in attendance

- Jeannette Howard, The Nature Conservancy (TNC)
- Peter Ode, California Department of Fish and Wildlife (CDFW)
- Eric Stein, Southern California Coastal Water Research Project (SCCWRP)
- Josh Westfall, Los Angeles County Sanitation Districts (LACSD)

TAC Members not in attendance

- Ted Grantham, University of California, Berkeley (UCB)
- Lance Le, North Coast Regional Water Quality Control Board
- Raphael Mazor, SCCWRP
- Loretta Moreno, California Natural Resources Agency (CNRA)
- Kevin O'Connor, Moss Landing Marine Laboratories (MLML)
- Molly Oshun, UCB
- Andy Rehn, CDFW

Side Discussion: Fire Monitoring Strategy

- Recent and consistent fires warrant development of strategy for post-fire monitoring and impact assessments
- CalFire interested in this work; potential partner
- 2007/2008 workshop with USGS and resultant strategy/products - could be used as a starting point for developing a new strategy
- 2022 San Gabriel River Regional Monitoring Program Report - in development; will contain results of second fire impact study in the region
- **Action Item:** Josh Westfall to share the 2022 San Gabriel River Regional Monitoring Program Report with the TAC once it is complete
- **Action Item:** Ali Dunn to add "Post-Fire Monitoring Strategy" to a future Bioassessment Workgroup Meeting

Topic 1: HWP methodology

[Slides 3 - 9](#)

- Refresher on assessment methodology and process thus far
- Assessment contains three areas of watershed health:
 - Watershed Condition
 - Stream Health
 - Watershed vulnerability
- Watershed condition identified as area of immediate focus/priority during past TAC discussions
- Corey has gathered indicator datasets, rank-normalized, and visualized three of six watershed condition indicators:
 - Percent natural land cover
 - Sedimentation risk
 - Road crossing density
- Discussion regarding sedimentation risk
 - How do NHD+ catchments match spatial resolution from R and K factors? Are there differences that might result in artificial spatial resolution in maps?
 - [Southern California Stormwater Monitoring Coalition](#) (SMC) Hydromodification Effort could be used to help with spot checking/ground truthing process
 - Areas with high sedimentation risk should align with areas with high hydromodification effects based on bioassessment surveys
 - 2010 Hydromodification Screening Tools
 - [Field Manual for Assessing Channel Susceptibility](#) (basis of the hydromodification assessment)
 - [GIS-based Catchment Analyses of Potential Changes in Runoff and Sediment Discharge](#) (report with attempt to estimate critical coarse sediment yield areas)
 - [2013 Technical Report](#): Framework for Developing Hydromodification Monitoring Programs
 - [2016 EPA Manual to Identify Sources of Fluvial Sediment](#)
 - Original assessment did not include ground truthing of indicators - so we would like to invest the time to do some ground truthing this go around.
 - Observations on current map (slide 8) appear to be skewed toward the “more soil loss” side of the spectrum - interest to see if there is enough variability at most watersheds to make the sedimentation risk data an actual valuable contributor to the Watershed condition index.
 - **Action Item**: Corey to spot check to see if results make sense, look into regional variations.
- Discussion regarding use/replacement of original datasets
 - Potential datasets / datasets of interest by HWP members has been a topic of discussion since December 2019
 - [HWP Datasets Recommendations](#)

- From the biological/ecological perspective, it is difficult to get at meaningful impacts/effects of sedimentation risk using existing datasets.
 - Original sedimentation risk data derived from agricultural needs with respect to sediment loss risk (rather than impact risk as needed for biological contexts)
 - Potential alternatives:
 - Slope stability models - predict sedimentation risk based on potential for slope failure/debris flows
 - Joel Kaufman exo-sediment work - interest in knowing how much sedimentation relative to what would be expected in the environment's natural state
 - Look at sedimentation risk on a regional rather than statewide scales
 - Look at fluvial sediment yield from the positive perspective - which portions of the watershed are producing the sediment necessary to maintain channel stability and fluvial processes. See [GIS-based Catchment Analyses of Potential Changes in Runoff and Sediment Discharge](#) for more info.
- Original assessment did not include analysis of relationships between structural factors and biological condition - could be something to investigate now.
 - What components of composite indicators are drivers of or closely related to biological integrity?

Topic 2: Watershed condition review

[Slides 10 - 15](#)

- Challenges in calculating indicators include:
 - Discrepancies between datasets (e.g. NHDPlusV2 NLCD vs StreamCat NLCD)
 - Dataset age
 - Need for updated datasets
- Discussion regarding discrepancies between datasets
 - Very common issue; could be a result of one data source not updating data as regularly, timing of data pulls or version updates, artifact of different scales/resolutions of datasets, etc.
 - Choose the dataset that makes the most sense for the analysis, or is the most reasonable representation of reality
- Discussion regarding dataset age
 - Dataset ages range multiple years/decades; some close to 30 years old
 - More recent
 - Action Item:
- Discussion regarding data update process and general approach
 - Generally using the same datasets and approaches so we can ground truth assessment update with original results
 - TNC assessment of condition factors for climate resilience are considering connectivity, flow, and water quality (see table below)

Physical factors of climate resilience	
1. Setting the stage	1a. Length of connected network
	1b. Stream and lake size class diversity
2. Adding complexity	2a. Temperature diversity
	2b. Topographic diversity
	2c. Geochemical diversity
	2d. Groundwater diversity
Condition factors of climate resilience	
1. Connectivity	1a. Floodplain naturalness
	1b. Longitudinal fragmentation
2. Flow	2a. Risk of hydrologic alteration
	2b. Groundwater alteration
3. Water quality	3a. Catchment permeability
	3b. Sediment regime alteration

- Want to use the TAC to have conversations as they come up and decide what updates need to be made in this assessment.
 - In past conversations, TAC decided to do what we can to move assessment updates forward given limited resources. Goal is to get started and make progress on low hanging fruit datasets/analyses
 - Current assessment structure and process is meant to be iterative to allow for updates, improvements, and conversations around updating data and process, as needed.
 - We want to use data that represents drivers of watershed condition/biological condition/health.
 - We are not committed to only using past datasets/types; we're open to using new/better datasets as recommended by the TAC
 - We are open to reconsidering the utility of existing indicators and replacing them with better ones, or removing them altogether if appropriate
- Discussion regarding need for updated datasets
 - Some datasets that were available when the original assessment was being developed were patchy but the best available datasets at the time. Interest in updating/replacing with better quality datasets wherever possible.

- Need to find balance of using datasets that we can link to directly from data source/steward via APIs to reduce need for updating & calculating our own datasets to reduce processing and data management needs
 - Road density: Look at CalFire or US Forest Service datasets?
 - NLCD: 2019 update was released in 2020
 - [USGS NLDC Webpage](#)
 - [2019 NLCD Release Announcement](#) (July 2020)
 - Would like to use datasets that are consistent with other efforts (TNC, CNRA, etc.)
- **Action Item:** Corey to recalculate all 6 indicators using existing datasets before next TAC meeting so TAC can review and discuss whether we want to continue using them as they are or replace them with updated versions or something else altogether
- **Action Item:** Corey to share document outlining initial dataset availability analysis with TAC
- **Action Item:** TAC to review dataset document and recommend alternative/replacement datasets by end of Feb 2022

Topic 3: Challenges

[Slides 16 - 17](#)

- Need to calculate indicators for:
 - % Active River Area
 - % Artificial Drainage Area
 - Dam Storage Ratio
- **Action Item:** Corey to follow-up with Jeannette Howard to see if TNC is able to share the data they have for % Active River Area in California
- **Action Item:** Jeannette to share California % Active River Area dataset with Corey
- Discussion regarding % Artificial Drainage Area
 - Could we draw from channels and modified landscapes work that was completed for the Biointegrity Program?
 - Approach for mapping channels and modified landscapes in agricultural and urban areas.
 - Analysis was relatively simple; but unsure of actual feasibility/usability for larger scale of assessment.
 - **Action Item:** Corey to follow-up with TBD to get access to % Artificial Drainage Area data...
- Discussion regarding Dam Storage Ratio
 - Indicator was meant to be a proxy for flow alteration potential
 - Might have other, and better datasets to represent flow alteration potential now, and should use those instead of dam storage ratio
 - Potential alternatives:
 - Sam's analysis of hydrologic alteration classes
 - [USGS Report on Flow Modification in the Nation's Streams and Rivers](#)

- **Action Item:** Corey to follow-up with Jeanette Howard to see if TNC is able to share California flow modification results

Topic 4: Wrap-up & Action Items

[Slide 18](#)

Next Steps

- Continue finding or developing indicator datasets
- Include other indicators in watershed condition
- Think about tradeoff of creating new datasets & layers vs. goal of using APIs
- Next TAC meeting will be scheduled in early 2022, specific date TBD

Action Items Summary

- **ALL TAC MEMBERS:** review dataset document and recommend alternative/replacement datasets by end of Feb 2022
- **Corey Clatterbuck:**
 - Recalculate all 6 indicators using existing datasets before next TAC meeting so TAC can review and discuss whether we want to continue using them as they are or replace them with updated versions or something else altogether
 - Share document outlining initial dataset availability analysis with TAC
 - Follow-up with Jeannette Howard to see if TNC is able to share the data they have for % Active River Area in California
 - Follow-up with TAC members to get access to % Artificial Drainage Area data
 - Follow-up with Jeanette Howard to see if TNC is able to share California flow modification results
- **Ali Dunn:**
 - Add “Post-Fire Monitoring Strategy” to a future Bioassessment Workgroup Meeting
 - Send out meeting availability poll and meeting invitation for next TAC meeting
- **Anna Holder:**
 - Type up notes for TAC meeting
- **Jeannette Howard:**
 - Share TNC’s California % Active River Area dataset with Corey
 - Share California flow modification results with Corey
- **Josh Westfall:**
 - Share the 2022 San Gabriel River Regional Monitoring Program Report with the TAC once it is complete

Adjourned at 2:20 pm