***DRAFT -* SUMMARY**

**Joint Stakeholder Science Committee and Stakeholder Community Committee Meeting**

**Lake Tahoe West Restoration Partnership**

Tuesday, December 5, 10:00 am to 3:30 pm

Lake Tahoe Basin Management Unit, 35 College Drive, South Lake Tahoe, CA 96150

*All meeting materials are publicly available on the Lake Tahoe West website* [*http://nationalforests.org/laketahoewest*](http://nationalforests.org/laketahoewest)*. For questions please contact the program manager/facilitator Sarah Di Vittorio at* *sdivittorio@nationalforests.org* *or (530) 902-8281.*

## Meeting Synopsis

The Stakeholder Science Committee (SSC) and Stakeholder Community Committee (SCC) met jointly on December 5, 2017 from 10am to 4pm at the Lake Tahoe Basin Management Unit, 35 College Drive, South Lake Tahoe, CA 96150 as the group transitions from Phase I to Phase II of the Lake Tahoe West collaborative project process. The main objectives of the meeting were to: (1) Learn about and discuss key findings of the Landscape Resilience Assessment (LRA), Version 1; (2) Consider what LRA findings mean for the goals of Lake Tahoe West; (3) Seek the SSC’s recommendation to Executive Team on approval of the LRA, Version 1; and (4) Provide general updates on Lake Tahoe West project. Additionally, the meeting sought to advance the development of general goals for the Landscape Restoration Strategy (Phase II). The next Stakeholder Science Committee meeting will be on January 9, 2018 from 1pm to 5pm at the Mountain Lab, 3079 Harrison Ave, South Lake Tahoe, CA 96150.

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## Welcome, Agenda Review, and Introductions

Sarah Di Vittorio began the meeting with welcoming remarks and provided time for introductions.

Afterwards, Teresa McClung provided opening comments, and reflected back on passing the one year milestone for the Lake Tahoe West Collaborative.

Ms. Di Vittorio set the agenda for the meeting and reviewed meeting objectives (listed in the Meeting Synopsis, above).

Randy Striplin announced that he will be moving to work for the Regional Office, and will be reducing his role in the Lake Tahoe West initiative.

There were no interested party comments.

## Refresher on Phase 1, Phase 2, and LTW Process

Ms. Di Vittorio began the first agenda item of the meeting with providing context for where the group is in the LTW project process. The project is at a transition point between wrapping up Phase I (The LRA) and beginning work on Phase II (Landscape Restoration Strategy). The next phases will be: Phase III (Restoration Project Planning and Documentation), Phase IV (Permitting), and Phase V (Implementation, Monitoring, Performance Measurement and Improvement).

Ms. Di Vittorio emphasized that the modeling process is complex, and there will be multiple iterations - the process is not perfect, but the group used the best data available to them. The LRA is a powerful framework, as it integrates across resource areas, and social and ecological development values. However, it is important to note that the LRA is a data driven assessment tool, and not a prioritization tool. The group is cognizant that this assessment may be used by other groups, and refinements are planned.

The LRA to be shared is Version 1, and the group plans to have a Version 2 ready by the end of Phase II. The Science Team (ST) and Interagency Design Team (IADT) are working together on developing Landscape Restoration Strategies to be ready to present to the Stakeholder Science Committee (SSC) at the upcoming January 9th meeting.

## Landscape Resilience Assessment: Key Findings

Jen Greenberg presented the details and process of the LRA. The LRA process worked to: (1) define resilience, (2) determine the disturbances to resilience, (3) determine the indicators of these disturbances, and (4) analyze the landscape for the least resilient areas. The assessment used 31 indicators: 16 ranked, 3 proportional (over- or under- represented), 2 visual overlays, and 10 composite indicators (rollups of original 19 indicators – 16 ranked and 3 proportional). A large scale was used to observe impact and implications for management actions across the landscape. See attached slides for further detail.

Brian Garrett presented the results of the LRA, Version 1, which may be found in the Executive Summary. Numerous changes are being considered for Version 2, including the addition of “removed” or new indicators (dependent on data availability), the weighting of indicators, and the development of new composite indicators. See attached slides for further detail.

Forest Schafer reviewed the main takeaways from the Ms. Greenberg’s and Mr. Garrett’s presentations, and proposed next steps for the LRA. One of the main next steps will be developing the “Landscape Restoration Strategies,” but landscape restoration objectives must be identified first. Eventually, LANDIS will be used to assess the viability of different landscape restoration strategies in the context of a changing climate. The process will require continuity between phases, use of new data, and iterations of assessments. This needs to be done carefully, as Lake Tahoe West will form the foundation of a landscape scale collaborative restoration approach for future work in the LTB and potentially across the rest of the Sierra Nevada. See attached slides for further detail.

Ms. Di Vittorio opened up conversation to the group, prefaced with the following questions: (1) What stands out to you as major findings? (2) New insights for LTW landscape? (3) Refinements for Version 2?

Discussion followed:

Q: How did you develop classes for CWD?

* CWD classes were based on research (draft paper), and partitioned where data showed spikes in mortality.
* ACTION ITEM: Shana Gross to follow up with Sue Britting to deliver draft paper.

Q: Was species composition considered (white fir, etc.)?

* Species composition can be view as an overlay, but the layer only identifies the dominant species type. This made it difficult to use this as an indicator in the LRA. If better LiDAR data can be obtained, it will be integrated into LRA.
* The group recognized the importance of species composition. If up-to-date, accurate data cannot be obtained, species composition will be examined at the project level.

Q: Any surprises from the results?

* The human access indicator was surprising. With 75% of land within a ¼ mile of trials, roads, etc., it seemed to indicate that we may not need to open new roads or reopen ghost roads.
* The aquatic findings were startling: 80% of streams are impassable, 50% of streams have more non-native than native species.
* Horizontal/vertical structural diversity was higher than expected.
* Diversity may have been lost in categorizing seral stages - the landscape is more than just a homogeneous forest.
	+ There is a lot of possible diversity within seral classes. Most of these areas are places that were cut at the same time, but came back at different rates.
	+ This is an inherited landscape. Though it has had a lot of time to recover, there is plenty of opportunity to move the landscape in a different direction.
	+ The group recognized that seral stage data may need more thinking/interpretation.
* Meadow refugia status did not appear to take into account connectivity status.
	+ Connectivity was not a factor in determining which meadows were refugia.
	+ Connectivity is still a beneficial feature for meadows, as it could help facilitate movement to a refugia.
* Q: Are barriers to implementation/constraints being considered?
	+ Yes, those that can be changed are being considered.

The group recommended edits for the LRA Version 1, and suggested improvements for the LRA Version 2, detailed below:

**Version 1 Edits:**

* Include a paragraph about who the IADT is, and describe the collaborative effort involved in the LRA in the Executive Summary/Preamble/About.
* Include web links in the document that direct readers towards project website (and/or supplementary documentation).
* Add a sentence to Executive Summary stating the LRA “highlights points the group feels may have a management implication.”
* Include Mike Vollmer in citation.
* ACTION ITEM: Ms. Britting will deliver edits to Ms. Di Vittorio for incorporation into future versions of the Executive Summary.

**Version 2 Edits:**

* Include thematic composites (ex. PACs).
* If possible, integrate thematic composites/LRA locations/treatment prioritization into LANDIS modeling.
	+ The foundation is currently being laid for this in Science Team meetings.
* Consider more opportunities for aquatic restoration.
* Q: Call out composite indicators more in Executive Summary?
	+ Lack of emphasis on composite indicators in Executive Summary is a reflection of the role of composites in the LRA.
	+ The last bullet has conclusions about composites.

## SSC Recommendation on Landscape Resilience Assessment Approval

Ms. Di Vittorio performed a formal query to seek approval from the SSC to finalize the Version 1 of the LRA.

Representing a majority, the 5 SSC members present at the meeting agreed to recommend the document as a finalized account of the LRA, Version 1.

* ACTION ITEM: Ms. Di Vittorio to follow up SSC members not present at the meeting to seek comments and approval.

Ms. Di Vittorio wrapped up the conversation for a lunch break and recognized the group for their hard work in putting together the LRA, Version 1.

## Small Group Discussion: Lake Tahoe West Goals

Ms. Di Vittorio welcomed everyone back from lunch and set the agenda for the afternoon session of the meeting. The main focus for the afternoon was to think about the LTW general landscape restoration goals.

* DRAFT General Goals were derived from the Essential Management Questions (EMQs)
* DRAFT General Goals are a starting point in flushing out restoration goals, and need to encompass EMQs
* DRAFT General Goals need to be refined into more accurate, data driven accurate restoration goals.
* Terminology (goals, objectives, etc.) is important. There is a need to standardize terms (Forest Service: goals, objectives, desired conditions).

Meeting attendees separated themselves into small groups and were asked to think about the following 3 questions:

1. How well do the DRAFT General Goals translate the Essential Management Questions? What additions or revisions would you suggest?
2. Based on the LRA findings, would you change or further refine any of the DRAFT General Goals
3. In Phase II, we will aim to develop a consensus Landscape Restoration Strategy. What do you expect to be key tensions or trade-offs among the General Goals?

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| **Group #** | **Question 1: How well to DGGs translate the EMQs?**  |
| 1 | \* DGGs captured EMQs fairly well. \* Thinking has changed - we are thinking about the landscape differently (socioecological vs. purely ecological).\* Water quality needs more.\* Goal specifically for recreation - "maintain/restore rec benefits."\* Cultural landscapes need representation. |
| 2 | \* Missing some of the intricacies of the EMQs\* DGGs need to be more explicit.\* Missing meadows, culturally/tribally significant areas, and aquatic habitat.\*Goal 3: Needs more specificity on species composition. \* Goal 4: Include more reference to reinforcing native species.\* Goal 6: Carbon dynamics needs specificity.   |
| 3 | \* Goals lacked depth and texture of EMQs.\* Take each of the EMQs, decompose them into goals, refine to reduce repetition.\* Missing riparian, recreation. |
| 4 | \* Innovative tools and tradeoffs missing. \* Need specificity (only included fire).\* Timing of treatments? (short vs. long term).\* Goal 1: When *a disturbance* (not just fire) occurs on a landscape, we want the landscape to be resilient.\* Goals 5 & 6: Don't relate well to EMQs. Too nebulous, need more specificity.\* Goal 7: "Recreation and community" should talk about community and cultural significance.\* Need to address invasive species. |
| 5 | \* DGGs and EMQs translated fairly well.\* Water quality wasn’t emphasized enough.\* Include “native” species in species composition and wildlife goals.\* Include “upland” and “aquatic” species where necessary.\* Streamlined, innovative, adaptive process is an important goal. |

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| **Group** | **Question 2: Based on LRA, changes or refinements to DGGs?** |
| 1 | \* Key point - we don’t have all the data to assess goals. |
| 2 |   |
| 3 | \* Some goal statements were not in the LRA (ex. use innovative tools). Had to figure out ways to include and identify usable metrics. |
| 4 | \* “Improve,” rather than “restore” heterogeneity.\* Missing: aquatic, SEZ, meadows, soil health.\* Human access result – what does that mean for our goals?\* Soil health (tied into C dynamics, could be more specific). |
| 5 | \* Need to determine how we track success into the future. |

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| 5 | \* DGGs and EMQs translated fairly well.\* Water quality wasn’t emphasized enough.\* Include “native” species in species composition and wildlife goals.\* Include “upland” and “aquatic” species where necessary.\* Streamlined, innovative, adaptive process is an important goal. |

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| **Group** | **Question 3: Key tensions or tradeoffs among General Goals?** |
| 1 | \* Smoke/air quality vs. prescribed fire.\* Recreation vs. restoration.\* Only 25% of landscape isn’t within a ¼ mile of a road/trail. Perhaps these areas need to be protected.\* Build in future recreation. |
| 2 | \* Smoke/Carbon/fire regimes |
| 3 | \* Treatments vs. recreation.\* Air quality vs. recreation.\* Innovative tools vs. comfort in implementation.\* Restoring fire vs. species management |
| 4 | \* Fire resilience and other treatments vs. wildlife habitat.\* Treatments vs. water quality. |
| 5 | \* Fire vs. air quality.\* Restoring vegetative structure vs. habitat, species, & carbon dynamics. |

Discussion followed:

* Q: It is interesting that recreation is being brought up – the Executive Team opposed including recreation as a main goal – how should this be reconciled?
	+ The group agreed that trail access and trail improvements should not be included in the restoration strategies, but that the strategies need to be considering the impact of treatments to recreation, and specifically how to minimize the impact.
* Q: How many goals are too many?
	+ The group needs to consider how the goals will be input into EMDS.
	+ Are there some goals that should move to the forefront? Are some goals that should be documented elsewhere?
* The goals should consider the temporal impacts (short term vs. long term).
* The group needs to be careful about framing air quality in the goals. If prescribed fire is used, it will affect air quality. Goal to “minimize impacts to/from air quality?”
* The group needs to acknowledge that there will be tensions out front.
* Modeling should be used to help resolve some of the tensions.
* The goals need to be measurable and interpretable, so that LTW can show that it is accomplishing what it set out to do.
* There may be discomfort in the lack of certainty in some of the data, especially in the context of public education.

## General Business

Ms. Di Vittorio reviewed the status of the 2018 LTW calendar and asked stakeholders if they would like access to the new calendar. To be responsive to modeling efforts and maximize the efficiency of the iteration process, Ms. Di Vittorio proposed the possibility of having more flexible SSC meeting dates in 2018. No objections were voiced.

Ms. Di Vittorio proposed the possibility of moving the upcoming 2018 Field Visit date. No stakeholder preference was identified.

## Action Items and Next Steps

* ACTION ITEM: Ms. Britting will deliver edits to Ms. Di Vittorio for incorporation into future versions of the Executive Summary.
* ACTION ITEM: Ms. Di Vittorio to follow up SSC members not present at the meeting to seek comments and approval.
* ACTION ITEM: Ms. Gross to follow up with Ms. Britting to deliver draft paper.
* ACTION ITEM: IADT to perform “Version 1 Edits” to the LRA, specified above.

## Closing Remarks

Ms. Di Vittorio thanked everyone for a productive meeting, calling attention to the engagement, commitment, hard work and focus of the group as a whole. The next Stakeholder Science Committee Meeting will be January 9, from 1pm to 5pm at the Mountain Lab, 3079 Harrison Ave, South Lake Tahoe, CA 96150.

There were no interested party comments.

## Meeting Attendees

Organizing and Participating Agencies

CTC – California Tahoe Conservancy

NFF – National Forest Foundation

State Parks – California State Parks

TFFT – Tahoe Fire and Fuels Team

USFS LTBMU – U.S. Forest Service Lake Tahoe Basin Management Unit

USFS PNW – U.S. Forest Service Pacific Northwest Research Station

USFS PSW – U.S. Forest Service Pacific Southwest Research Station

TRCD – Tahoe Resource Conservation District

SPF – Sugar Pine Foundation

LTCC – Lake Tahoe Community College

NTFPD – North Tahoe Fire Protection District

**Stakeholder Science Committee Members**

1. Jeff Brown
2. Jennifer Quashnick
3. Matt Freitas
4. Sue Britting
5. Roland Shaw

**Staff**

1. Beth Kenna, NTFPD
2. Doug Barr,
3. David Reichel, LTCC
4. Maria Mircheva, SPF
5. Savannah Rudroff, TRCD
6. Amy Jirka, TFFT
7. Kim Caringer, TRPA
8. Shana Gross, USFS LTBMU
9. Mason Bindl, TRPA
10. Pat Manley, USFS PSW
11. Kim Carr, NFF
12. John Warpeha, Washoe Tribe
13. Brian Garrett, USFS LTBMU
14. Daniel Shaw, State Parks
15. Forest Schafer, TFFT
16. Jason Vasques, CTC
17. Jen Greenberg, CTC
18. Randy Striplin, USFS LTBMU
19. Sarah DiVittorio, NFF
20. Evan Ritzinger, NFF
21. Stephanie Coppeto, USFS LTBMU
22. Whitney Brennan, CTC
23. Mike Vollmer, TRPA

**Interested Parties from the Public**

1. Meredith Cowart, CONCUR Inc.
2. Jonathon Jansen, Placer County