



North Pacific Landscape Conservation Cooperative

DRAFT S-TEK Subcommittee Meeting Summary

February 14, 2016

Attendees: Steve Brockman (USFWS), Eliza Ghitis (NWIFC), Betsy Glenn (NW CSC), Jill Hardiman (USGS), Debbie Hart (SE AK Fish Habitat Partnership), Keith Hatch (BIA), Jennie Hoffman (Adaptation Insights), Peter Kiffney (NOAA), Linda Kruger (USFS), Frank Lake (USFS), Chris Lauver (NPS), Kathy Lynn (Univ. OR), Eric Mielbrecht (EcoAdapt), Steve Morey (USFWS), Tory Stevens (BC Parks), Jen Watkins (Conservation NW), Thomas White (B.C. Climate Action Secretariat), Andrea Woodward (USGS), Tom Miewald (NPLCC), Meghan Kearney (NPLCC), Mary Mahaffy (NPLCC)

S-TEK meeting presentation ([link](#))

New 2017-2021 S-TEK Strategy

Mary will work with Tribal partners to define if it will be the S-TEK Strategy or S-TKs Strategy.

The Strategy will include conservation targets identified at two levels – regional multi-partner efforts and LCC-wide. Regional multi-partner efforts include the Pacific Northwest Coast Landscape Conservation Design (LCD) ([link](#)), Cascadia Partner Forum ([link](#)), Willamette Valley ([link](#)), Klamath Basin LCD, and Kenai Peninsula Blueprint (see map in presentation).

Steve Brockman noted that the Tongass National Forest (which covers 80% of SE Alaska) should also be on the map because of the Tongass NF Conservation Strategy ([link](#)). The Conservation Strategy created a large network of old-growth forest reserves and is a significant LCD with a connectivity framework.

It is important to consider the following framing questions when we consider what to focus on for the next 5 years ([link](#) for a detailed description of the framing questions):

- What are the most immediate conservation needs across the NPLCC landscape?
- How valuable is this information for managers and other decision-makers?
- How critical is it for the NPLCC to focus on work of this type?
- Is there relevant work of this type already being done by others?

Prior to the in-person meeting (1/18 &19/2017), a poll was conducted within S-TEK to identify potential conservation targets to include in the new 5-year Strategy. Everyone selected up to two of the following targets or had the option to add additional targets. The results were as follows:

- Ecological connectivity – 74%
- Healthy biological communities – 32%
- Physical & biological integrity of rivers, streams, & riparian corridors – 32%
- Coastal resilience – 21%
- Sustainable anadromous fish populations – 16%

- Sustainable forests – 16%
- Biological diversity – 11%
- Functioning coastal resources – 0%
- Healthy lakes and wetlands – 0%
- Functioning alpine & sub-alpine ecosystems – 0%

It was noted that the Steering Committee might have questions about the definitions of these different conservation targets so it is important to be prepared for that. During the January Seattle meeting, three conservation targets were selected for further discussion and definition (see below).

Conservation Targets discussed at January S-TEK Meeting:

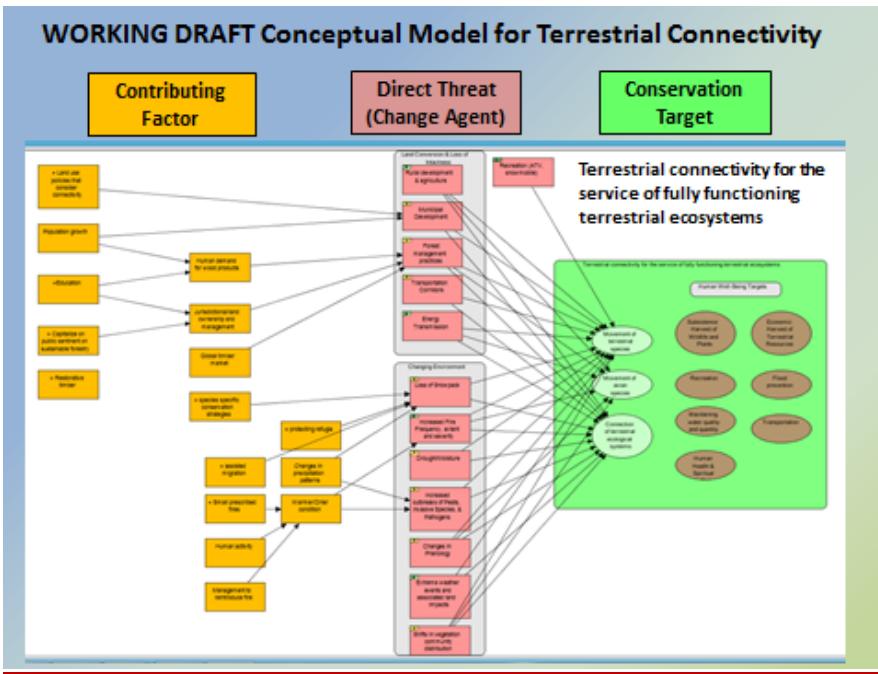
- Terrestrial connectivity for the service of fully functioning terrestrial ecosystems
 - Movement of terrestrial species
 - Connection of terrestrial ecological systems
 - Movement of avian species
- Aquatic Connectivity for the service of fully functional aquatic and riparian ecosystems
 - Movement of water, sediment, wood, and nutrients
 - Movement of species
- Healthy and resilient coastal communities (natural, working, built, and cultural)

Open Standards for Conservation Practice process

Using the Open Standards for Conservation Practice process and Miradi software, conceptual models were developed during the January meeting and in follow-up work group calls. Direct threats (or better called Change Agents), along with Contributing Factors to the Change Agents, were identified for each of the Conservation Targets.

The conceptual models and threat ratings presented are still rough working drafts. Each example provided has only been worked on by small work groups formed within S-TEK during the Seattle meeting. Feedback on the Change Agents and threat ratings is needed by additional S-TEK members (and other experts they work with) prior to the Steering Committee meeting (March 1-3). Mary will send the links to target-threat evaluations for each conservation target for S-TEK members to use to provide their additional feedback.

Example below is the Terrestrial Connectivity working draft version 1.0 – see meeting presentation for the conceptual models developed to date for the other two conservation targets.



Summary Threat Ratings:

Miradi software is used for creating the conceptual models and evaluation of the threats/change agents. The factors evaluated related to the target-threat ratings are the following with scores of low, medium, high, or very high given:

- ❖ Scope: Most commonly defined spatially as the proportion of the target that can reasonably be expected to be affected by the threat within ten years given the continuation of current circumstances and trends. For ecosystems and ecological communities, measured as the proportion of the target's occurrence. For species, measured as the proportion of the target's population.
- ❖ Severity: Within the scope, the level of damage to the target from the threat that can reasonably be expected given the continuation of current circumstances and trends. For ecosystems and ecological communities, typically measured as the degree of destruction or degradation of the target within the scope. For species, usually measured as the degree of reduction of the target population within the scope.
- ❖ Irreversibility: The degree to which the effects of a threat can be reversed and the target affected by the threat restored.

[Link](#) for more details on the definitions and scoring.

How Target-Threat ratings are calculated:

Step 1) Threat Magnitude rating:

		Scope			
		Very High	High	Medium	Low
Severity	Very High	Very High	High	Medium	Low
	High	High	High	Medium	Low
	Medium	Medium	Medium	Medium	Low
	Low	Low	Low	Low	Low

Step 2) Target-Threat rating

		Irreversibility			
		4-Very High	3-High	2-Medium	1-Low
Magnitude	4-Very High	4-Very High	4-Very High	4-Very High	3-High
	3-High	4-Very High	3-High	3-High	2-Medium
	2-Medium	3-High	2-Medium	2-Medium	1-Low
	1-Low	2-Medium	1-Low	1-Low	1-Low

Working draft ratings for all three Conservation Targets and their nested targets were included in the meeting presentation. It is recognized that the ratings included are very draft and will likely change as more evaluations are completed. Direct Change Agents identified to date (also referred to as direct threats but change agent is more representative of what they are) are listed below. More input is needed to ensure all key change agents are being considered. Definitions for all the Direct Change Agents included will be developed to facilitate consistent understanding.

➤ **Terrestrial connectivity for the service of fully functioning terrestrial ecosystems**

- Movement of terrestrial species
 - Transportation corridors
 - Increased outbreaks of pests, invasive species, and pathogens
 - Forest management practices
 - Drought/Moisture
 - Municipal development
 - Rural development and agriculture
 - Shifts in vegetation community distribution
 - Changes in phenology
 - Loss of snowpack
 - Increased fire frequency, extent and severity
 - Recreation (hiking trails, ATVs, snowmobiles, etc)
 - Energy transmission
 - Extreme weather events and associated land impacts
- Connection of terrestrial ecological systems
 - Transportation corridors
 - Increased outbreaks of pests, invasive species, and pathogens
 - Forest management practices
 - Drought/Moisture
 - Municipal development
 - Rural development and agriculture
 - Changes in phenology
 - Loss of snowpack
 - Increased fire frequency, extent and severity
 - Energy transmission
 - Extreme weather events and associated land impacts
- Movement of avian species
 - Shifts in vegetation community distribution
 - Forest management practices
 - Increased fire frequency, extent and severity
 - Changes in phenology
 - Energy transmission
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➤ **Aquatic connectivity for the service of fully functional aquatic and riparian ecosystems**

- Movement of water, sediment, wood, and nutrients
 - Infrastructure (dams, culverts, dikes)
 - Low flows
 - Changes in flow timing
 - Removal of riparian cover
 - Higher flows
 - Sedimentation
 - Channelization
 - Low dissolved oxygen
 - Point source and non-point source pollution
- Movement of species
 - Infrastructure (dams, culverts, dikes)
 - Low flows
 - Changes in flow timing
 - Removal of riparian cover
 - Higher flows
 - Sedimentation
 - Channelization

➤ **Healthy and resilient coastal communities (natural, working, built, and cultural)**

- Temperature means extremes
- Ocean acidification
- Invasive species (direct or indirect mode of action)
- Heavy precipitation and surge
- Upwelling
- Relative sea level rise (subsidence and uplifting)
- Water quality and runoff
- Land conversion and habitat loss
- Hypoxia

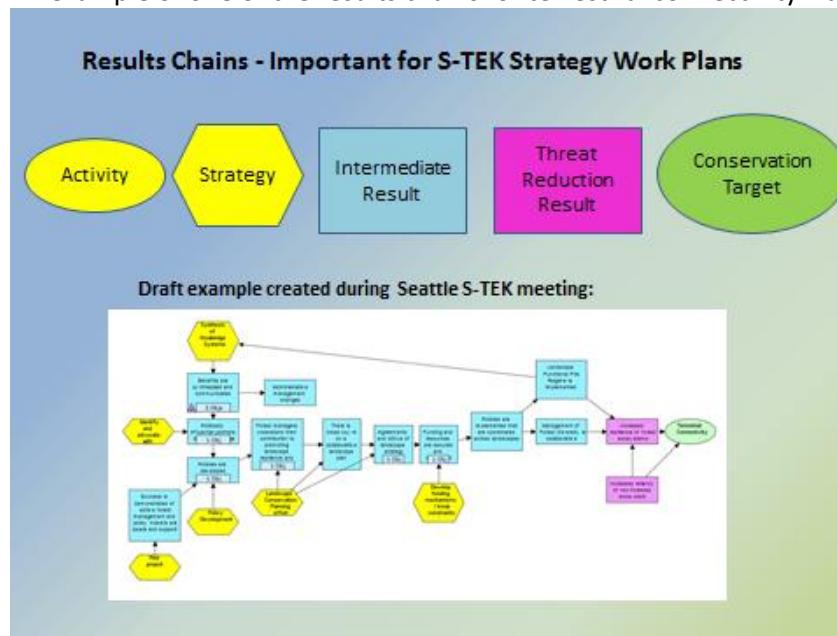
Discussion:

- Mary and several other participants expressed their thanks to everyone for their hard work and thought that went into developing the conceptual models. Overall people were pleased with the conceptual models that were developed.
- Concern was expressed about asking the Steering Committee to technically assess the direct change agents when they were presented this information at their March Steering Committee meeting. Mary replied that they would during their meeting they will have a short time to identify any additional direct change agents that were missed by S-TEK that they are aware of based on management actions and other decisions that they are involved with. They will have the opportunity to identify direct change agents that have management relevance to them.
- Eric noted that there are a number of groups looking at large-scale conservation planning and it is important to get feedback from them if possible. Mary replied that we do want to get feedback from others involved in large-scale conservation planning and other experts as well as having public forums similar to what the Great Basin LCC held.
- Frank noted that some of the direct change agents are things that policy or management can have influence on and some we will have to respond to/be aware of. We don't know with certainty how it could play out in the future.

- The target-threat rating for infrastructure included in the presentation showed it to be “high” versus “very high” (it was based on a very limited number of evaluations). Peter said that he would categorize infrastructure as very high for movement of materials and species. They are major threats to coastal fish populations and structure of river ecosystems. Andrea noted that the definition for a very high rating said there is almost nothing you can do about it so it is hard to come up with a very high for most evaluations. We need to look at the definitions and possibly clarify them in cases like this.
- Jill noted that she was surprised not to see drought, fire regimes, loss of snowpack included. Peter agreed about the need to include changes in disturbance regimes.
- Tom noted that typically people use open standards for brain storming and they later articulate in a separate document details that captures the thinking. Open Standards offers a short executive summary that is easy to read.
- Frank shared the importance of keeping a record of resources we’ve used during this process as documentation. Meghan will help set up a shared document that anyone can access to add to it.
- Jennie commented that she was on the Aquatic Connectivity work group and there are pieces missing because they didn’t have time to flush out everything when they narrowed their focus on certain change agents and started the next process of developing results chains. The facilitator helped them move forward and make up their minds on what to focus on but that may have also caused them to miss some things.

Results Chain:

An example of one of the results chains for terrestrial connectivity was shown.



Discussion:

- Steve M. found the process we went through to be promising as long as it is viewed as a “first round”. We did the work very fast and including a few rounds of peer review will make it more solid.
- It was recognized that what we have created is very draft and only includes a small number of evaluations by members of the separate work groups. The 2017-2021 S-TEK Strategy will not be

finalized until much later this year so there is plenty of time for refinement. Further refinement of the conceptual models and evaluations by experts and others are needed for the target-threat ratings. The purpose of showing what we have now was just to show what we could come up with knowing the ratings will change. Mary said she would add "draft" to the slides shown so it is clear to others.

- Peter commented that there seems to be a lot of opportunity with using this software and we need to refine it to come up with a plan.
- Debbie said that she recently started using this tool and she thinks it is a really good process, especially as people start to get more comfortable with it. She saw one of the largest values of this tool is that people are spread across a large geography and it is hard to have face to face meetings. This tool brings us together on specific topics and lets us focus in. Bring together diverse expertise.
- Linda appreciated being able to attend the in-person meeting and have time to interact and use the visuals. It was her first time with the process and felt it was very helpful.
- Eric noted that the results chains will be useful to help show where we should focus in RFPs. He said we may want to focus on developing strategies sometimes versus just on actions.
- Jennie said she liked the results chains because you have intermediate results to see early on if this is really working. She said we should avoid fixating too early on one choice. We want to have a number of different hypotheses. This process will get people to lay out their thinking and come up with different alternatives.
- A question was asked as to how many results chains we should develop. It was recommended that we only chose 1 or 2 for each focus area.
- The transparency of this process is important and developing the results chains is a niche the NPLCC can play.
- Tom noted that we can get traction on a strategy from the results chain. For example it will be clear that a LCD should be developed or a workshop held. We will be able to see where we can fill in gaps where we will find the highest value.

Steering Committee Meeting:

- They will be shown the conservation target list developed to date and the conceptual models completed for each one.
- They will have an opportunity to provide feedback on the conservation targets and the direct change agents identified so far.
- They will have the opportunity for a brief sticky note exercise using Open Standards for the Practice of Conservation to see what S-TEK did (info will be filled in already though so they won't be starting with a blank state). They will have the opportunity to review what is there and to add new ideas.
- They will be given dots to show where they (or others they work closely with) are making management decisions.