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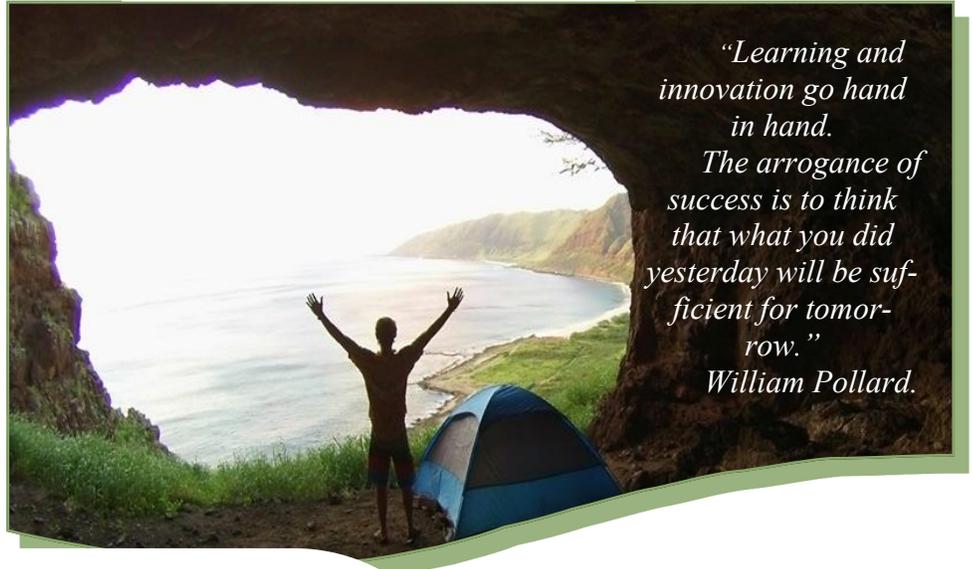
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For the greater good.



*“Learning and innovation go hand in hand. The arrogance of success is to think that what you did yesterday will be sufficient for tomorrow.”*  
*William Pollard.*

# Blackfoot-Swan Landscape Restoration Project (BSLRP)

USDA Forest Service

September 2016

## TEAM UPDATES

### BSLRP PERSONNEL CHANGES

Nick Oscheneek joined our Team in June. As a Project Specialist, which is a new type of position in Region 1, Nick is responsible for Team logistics, public information, and writer-editor duties. Nick comes to us as a Presidential Management Fellow and we are extremely fortunate he has chosen to work with our Team!

In April Sandy Mack became the Team lead after Katie Van-Alystyne took an assignment with Region 1 Ecosystem Assessment and Planning. Also in March Tera Little, was hired as the Farm Bill Strike Team Interdisciplinary Team Leader. We were fortunate that Kari Cobb, hired through express services, picked up the reins and did an excellent job in supporting the Team until Nick came on board.

#### SWCC LINE OFFICERS:

Flathead National Forest:  
Chip Weber, Rick Kehr

Lolo National Forest:  
Timothy Garcia, Rachael Feigley

Helena-Lewis & Clark National Forests:  
William Avey, Robin Strathy  
Michael Stansberry

Hello,

The Blackfoot Swan Landscape Restoration Project (BSLRP) is a pilot effort in Region 1 that is experimenting with new ways to expand the great work being accomplished in the area. The project is pushing the boundaries of how we traditionally think of both management and planning, and the interdisciplinary team is eager to continue working with our internal and external partners. Throughout the Agency there are a number of efforts underway to accelerate restoration and improve planning efficiencies. We are learning from those efforts, yet there is no blueprint for what we are doing.

**We are learning with humility and urgency with every step we take.**

Somebody said that it couldn't be done  
But he with a chuckle replied  
That "maybe it couldn't, but he would be one  
Who wouldn't say so till he'd tried.  
So he buckled right in with the trace of a grin  
On his face. If he worried he hid it.  
He started to sing as he tackled the thing  
That couldn't be done and he did it!  
Edgar Albert Guest

The BSLRP effort has its roots in the Southwestern Crown Collaborative (SWCC) Collaborative Forest Landscape Restoration Program. Since 2010, the SWCC has worked with dozens of dedicated partners to accomplish a remarkable amount of fuel reduction, aquatic and terrestrial restoration work, and contributed to local economies. In June the SWCC established a BSLRP working group and I am thrilled for their interest and support. The rich history of collaboration within the Southwestern Crown landscape bodes well for the success of BSLRP.

In April I started as the BSLRP team lead. I'm very fortunate to work with such an outstanding group of professionals. Like most ambitious projects, we've been caught in a few eddies and paddled down some braided channels. The Forest Service has had experience planning projects with the purpose of reducing risks from uncharacteristic wildfire; but never at this scale in Region 1! And, no one, to my knowledge, has ever had a 1.3 million acre site-specific project with one of its purposes to contribute to the long-term persistence of biodiversity, including not only our threatened and endangered species, but by moving the landscape composition, structure and disturbance and successional patterns toward resiliency for all species. .... Some say it can't be done.

I'm excited for the voyage and can't wait to finish the trip by 'implementing' work on the ground.

P.S. Our team has been working with the SWCC, Northern Rockies Fire Science Network and the National Forest Foundation on a **Workshop to be held in December**: Putting the Seven Core principals of Restoration into Practice in the Northern Rockies. More information forthcoming.

With Warm Regards,

Sandy Mack

Team Lead

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## COMPOSITION, STRUCTURE AND SPATIAL PATTERNS

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### EMRI\*:

In 2014 the Forest Service entered into a partnership with the Ecosystems Management Research Institute (EMRI) to complete a Landscape Assessment for Terrestrial Forest Ecosystems. EMRI completed their report in June of this year and we sincerely thank them! EMRI conducted an extensive amount of work calibrating the Simulating Patterns and Processes at Landscape Scales (SIMPPLLE) model to simulate successional transitions for a Natural Range of Variation (NRV). Like all models, SIMPPLLE requires expert opinions and assumptions for model inputs.

NRV is one important part of our project's analysis. NRV does not define a management target or desired condition; it provides context for understanding ecological integrity. The Future Range of Variation (FRV) is as important as

NRV, if not more important in light of climate change, in determining a desired condition for resiliency. EMRI agreed the Team would work with the Rocky Mountain Research Station to complete the FRV analysis.

\* The Landscape Assessment is the product of EMRI and does not necessarily represent U.S. Forest Service, BSLRP or Forest Plan Revision Interdisciplinary Teams' analysis, review or public input.

## *FIRE REGIMES*

In 2015 the Team considered using Fire Regimes as a 'proxy' for biodiversity, a management scenario where landscapes would be restored to mimic natural and future predicted fire regimes as a proxy for the conservation of biodiversity. In January, 2016 Regional Office staff advised the team that fire regimes may not meet the projects biodiversity objective.

Team members have worked closely with Chris Stalling from the Rocky Mountain Research Station. Since last winter they have worked through iterations to calibrate the SIMPPLLE model to reflect current science and professional fire managers' experience for NRV and FRV reference condition comparisons. Their report will be completed this fall.

*A key component of biodiversity is landscape disturbance and successional patterns under current and future conditions. But ... how do we apply these concepts to actual treatments on the ground?*

## *AERIAL PHOTO INTERPRETATION OR NEW OPENSIMPPLLE 1.3*

### **Aerial Photo Interpretation**

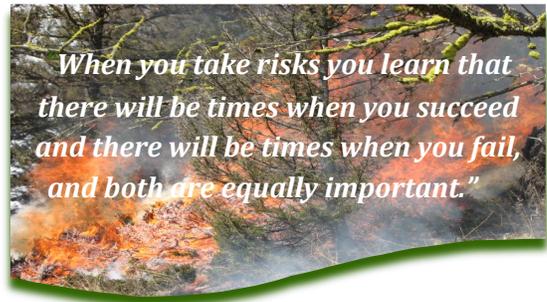
In early 2016 the team started looking for an approach to address landscape patterns, patch size, abundance and distribution, which are important factors when assessing biodiversity across landscapes. We found that the Okanogan-Wenatchee National Forest is currently implementing restoration work using methodology from their Restoration Strategy (2012). Their approach uses 1930 aerial photos as an empirical point-in-time to measure reference spatial attributes across the landscape. By using aerial photos they are able to make direct comparisons to the same metrics on current aerial photos and future projections in light of climate change. Landscape prescriptions are then written, and implemented through specific actions to move toward more functionally resilient systems using both mechanical and non-mechanical vegetation treatments. The process is now used for all vegetation projects on their Forest.

The team explored ways to learn from the experiences of the Okanogan-Wenatchee and 'scale up' their process to use across the entire 1.3 million acre BSLRP landscape. Based on our research, and a meeting with Dr. Bob Keane, Research Ecologist, Northern Rocky Mountain Research Station and Dr. Paul Hessburg, Research Ecologist, Pacific Northwest Research Station in late May, we provided the SWCC Line Officers' with a decision paper outlining pros and cons of approaches forward, including costs, timeframes and risks. In June, we made the recommendation to pursue the aerial photo interpretation approach.

### **OpenSIMPPLLE 1.3**

In late May, before our recommendation to the Forest Supervisors, Dr. Keane and Dr. Paul Hessburg, Research Ecologist met with Team members to consider approaches to address biodiversity metrics. Dr. Keane believed the SIMPPLLE model could be improved by adding a fire spread algorithm. They both concurred that using the process already developed on the Okanogan-Wenatchee would be strongly supported in the scientific community.

In June, Dr. Keane provided Regional 1 with a fire spread logic algorithm he developed. Two interns from the University of Montana, Michael Kinsey and Greg McMann, under the supervision and guidance of Eric Henderson, R1 Program Analyst, incorporated the fire spread algorithm and created OpenSIMPPLLE 1.3. This improvement allows the model to simulate fire spread in a more realistic manner.



Members of our Team met with Dr. Keane and Eric Henderson in early August to further consider the OpenSIMPPLLE 1.3 model. Dr. Keane said that his lab could complete calibration and run OpenSIMPPLLE 1.3 to the 6th code HUC scale for the Team this winter. He said that ‘empirical data’ such as the 1930s aerial photos cannot be argued with. However, there are numerous papers published in the scientific literature that use similar spread models with similar state-and-transition inputs to generate landscape NRV and FRV statistics with success. Although no model is ‘right’ the new fire spread logic OpenSIMPPLLE 1.3 has scientific support for modelling NRV and FRV.

## *DECISION*

We make no attempt here to outline various costs, benefits and risks with any approach forward. We do want to give you an update on these discussion. Because this is a pilot project for the Northern Region, decisions made regarding time, costs and risks for the BSLRP project affect much more than just the Flathead, Lolo and Helena Lewis & Clark National Forests—they will have implications for the Region as a whole. The process used by BSLRP is intended to be replicable and effective in getting work done on the ground through one EIS analysis. Specialists see compelling reasons to choose one approach over the other. For this reason the Forest Supervisors are assuring they have the best available information to make their decision. No date is established for a decision. Timelines, including inclusive engagement with internal and external partners, will depend on the approach we take.

## PRODUCTS & APPLICATIONS

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### *BSLRP HAZARDOUS FUELS PRIORITIZATION GIS ANALYSIS*

The Hazardous Fuels Prioritization Analysis is an effective and innovative tool the Team developed to determine the priorities for potential hazardous fuels treatments values at risk from a wildfire in collaboration with our partners. This tool aligns well with the National Cohesive Wildland Fire Management Strategy and has already been used by the Flathead and Bitterroot National Forests with other potential regional applications. The Team will use this tool in collaboration with our partners for the BSLRP project.

### *BSLRP PROCESSED LIDAR DATA NOTES AND PROCESSING TOOL BOX*

Approximately 365,000 acres of LIDAR have been acquired and processed within the BSLRP area between 2013 and 2015. The LIDAR data will help with ongoing BSLRP planning efforts and is well suited for project implementation as well. The data has already been utilized to identify roads on newly acquired lands and for stream restoration work planning in the area.