

Work during 2019 focused primarily on project work and communication between members in our July meeting.

Updates on Projects and Partnership Activities

Colorado River Watershed Restoration Project 3.0 - WRI Project #4952

The 2019-2020 WRI project focuses on legacy projects along the Colorado River Corridor, especially those that focused on improving fisheries via efforts to maintain backwaters and side channels. Other work on private lands including the old Nelson property and publicly managed river sites focused on Russian olive removal. The TNC/DNR burn did not occur this year, but is proposed for FY 2021. Work has been done primarily with UCC hand crews. Geodatabase set up is still in process and site reassessments occurred at older legacy sites.

At the start of the UCC work season a ½ day training with new crew members covered the overall project intention, compared sites where work had been done many years ago versus sites where work was done in 2018 and also to explained concepts including the importance of side channels. This proved to be very helpful for these crews moving forward and the next WRI project proposes to expand that pre-project training with participation by all project partners if possible.

UCC worked at the following sites in the fall and early winter of 2019:

- Westwater upstream of ranger station/boat ramp
- Hittle, Onion, Grandstaff, Goose Island and Kings
- New Rapid side channel (14 weeks)
- Below White's Rapid on River Right
- RL from Mill Creek to Kings Bottom with follow-up
- Old Nelson Property (8 weeks completed)
- Jaycee Park to Williams Bottom (10 weeks)
- Kane Creek to Amasa Back (6 weeks)

In addition, RRR performed site assessments at legacy sites, testing a new protocol before linking it to our future geodatabase. Grand County has taken over the Ravenna grass scouting and removal efforts, and will continue to do that in 2020. Notably, Ravenna grass has been found up Mary Jane Canyon and in a few other places farther afield than just Mill Creek in town and Grandstaff Canyon.

In late winter 2019 discussions turned to biochar production as another tool for biomass removal. January 2020 discussions between USU biochar experts and others at a demonstration at the old Nelson property may lead to testing this out at the Jaycee Park area.

UCC has 11 weeks left to complete the Colorado River project. Work in spring 2020 will focus on planting willow poles and long stem shrubs at a few key locations (starting March 16) as well as targeting olive trees that are becoming more noticeable along the river corridor (Kane and Williams for instance). Work on the project should be complete by May or June 2020.

RRR worked with UCC on tracking work as it proceeded in the fall of 2019. A more 'real time' system will be in place by fall 2020 to aid with project management and tracking.

Colorado River Restoration 4.0 – WRI project #5286

The proposal submitted includes work from May Flats at the State Line to Potash, with new projects and follow-up work, comprehensive herbaceous weed control efforts led by Grand County, and a commitment to incorporate biochar for biomass removal. Updates to protocol include wood disposal in the river corridor (where no wood collection is permitted per the RMP) and a focus for FY 2021 on revegetation efforts in areas that need it, and assistance completing the fish refugia in the Matheson Wetlands. The Rasmussen Tool was

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used and the site assessment information also played a role in developing this proposal. Total WRI ask is \$556,948.50 with \$270,924 of other funds and \$143,604.50 of in-kind match. Project total: \$980,477.00.

Beetle and Vegetation Response Monitoring Reporting

RRR’s report is in a revision phase with comments submitted last summer. Matt McEttrick is also working on some analysis of climate and native/non-native interactions using RRR’s monitoring data from 2006-2017. Grand County performed presence/absence monitoring in 2019 and has performed extensive monitoring of beetle/tamarisk interaction since 2007. Please see table below for a summary of all monitoring work. Tim Graham has also been doing some data collection. Local efforts and a list of known papers follows:

Grand County

Area of focus	Findings
Beetle monitoring (census and status) 2007-20013	More browning over time
Beetle x resprouts x mature tamarisk 2010 – 2012	Beetles prefer mature tamarisk over resprouts
Tamarisk Weevil monitoring 2012	Tracked locations of new potential biocontrol
Adult/Larvae counts and browning 2012-2016	Need minimum population size for browning to occur. More larvae = more browning
Revegetation tracking 2009 – 2013	Data on native/non native vegetation (annual/biennial/perennial)
Tamarisk Mortality 2008 - 2012	Beetles present longer periods, observed higher percent tamarisk death. Herbicide helpful for fully killing tamarisk
Tamarisk Mortality 2013 - 2017	Changed methods to point intercept per Anna Sher to look at spatial patterns and environmental controls. Part of paper by AL Henry

Rim to Rim Restoration

Area of focus	Findings
Vegetation Response to Large Scale Vegetation Manipulation 2007 - present	<p>Important to start at restored areas and work outward in a phased manner rather than trying to change the entire landscape at once. Time required for native plant recovery > 3 years.</p> <p>At sites along mainstem Colorado, relative native cover (native cover/total cover) <i>decreased</i> in years with more days above 32F and 90F and , relative native cover <i>increased</i> in years with higher peak river flows and more days below 32F the preceding year. Warming trends may inhibit native recovery.</p>

Tim Graham

Area of focus	Findings
Tamarisk beetle monitoring 2001-2019	Beetles emerge from diapause, survive until mid/late June, then there is a second peak from larvae maturing, and depending on the year there may be 2 nd and 3 rd larval generations. Climate and forage availability controls these dynamics.
Understory regrowth 2011-2016	Veg recruitment increased every year 2011-2016, but there were many differences between sites. Difficult to discern a clear overall pattern of response to tamarisk defoliation, likely are other important controls that need to be examined (similar to Henry et al).

Bureau of Land Management

Area of focus	Findings
Examined effects of different combinations of removal methods and treatments for tamarisk removal 2010	In all cases found that secondary invasion of understory weeds was a problem, particularly Russian knapweed. Broadcast burning showed most native regrowth and least negative impact on Pofr, (see Sher 2017 as well). Data will be collected at these sites again in 2020.

Publications from Beetle and Vegetation Monitoring Data

Area of focus	Findings
<i>Spatial modeling improves understanding patterns of invasive species defoliation by a biocontrol herbivore</i> (Henry et al., 2018) (in association with Grand County)	More dead canopy with increasing age of tamarisk. Longer beetle presence, more live canopy (indicating compensatory growth) Slope, distance from release site and elevation were biggest environmental controls on % live canopy Older tamarisk stands are at higher risk of mortality from beetle herbivory, target these sites in years after heavy defoliation for best chance at reveg success and to prevent heavy regrowth.
<i>Secondary invasions of noxious weeds associated with control of invasive Tamarix are frequent, idiosyncratic and persistent</i> (Gonzalez et al., 2017)	Tumbleweed and kochia peaked immediately after tamarix removal and persisted over time, even after herbicide application. Russian knapweed and cheatgrass were most successful at biocontrol sites, and progressively spread as the canopy layer opened. Strategies to control tamarix affect secondary invasions differently among species and time since disturbance is an important factor affecting response.

Native species recovery after reduction of an invasive tree by biological control with and without active removal (Sher et al., 2017)

Reduction of tamarisk by biological control that leaves some canopy intact can facilitate recovery of the native plant community, especially when low disturbance mechanical biological and chemical control are combined. Once niches are restored, native plants can recolonize.

Geodatabase and Past Project Inventory

The geodatabase is still in process – ideally Gabe and the DigitLab will be able to connect in the next couple of months to finish this up. In the meantime, Rim to Rim worked with Gabe and Tony to create a site assessment tool to evaluate current conditions at all legacy sites. Duncan Fuchise inventoried approximately 70 total sites along the mainstem Colorado and significant side drainages. Site assessment data includes presence/absence of native and non-native plants, Russian olive and tamarisk stand dynamics, level of site disturbance, geomorphological character, propagule pressure and collect photo documentation.

Education and Outreach

In 2019 little official outreach was done, though the Travel Council continues to attend our meetings. At the July 2019 meeting a lively discussion about human waste management included discussions of how wag bags branded with Do it Like a Local may be a good direction to go. All agencies (NPS, BLM and FFSL) agreed that human waste management is becoming a more widespread issue than in the past.

Mill Creek (Moab) Restoration Partnership – WRI Project #5260

Nicole Neilson is the PM for this project that includes work at the headwaters of Mill and Pack Creeks on Forest Service and Private lands, and through BLM areas and in town. Work focuses on brush work in the upper watershed with an eye toward fire fuels mitigation on USFS and private parcels. In the BLM sections work is focused on addressing Ravenna grass expansion and possibly some trails work, and in the lower watershed (Mill and Pack Creeks in town) work is focused on active revegetation efforts following up on fire fuels mitigation efforts. Total WRI request: \$904,477.50 with \$120,000 in other funds and \$191,000 of in-kind funding with the bulk of this work and funding slated for the upper watershed. Total Project cost: \$1,215,477.5

Partnership Mission

At the July 2019 meeting the mission was discussed it was agreed it should read as follows:

SURP is committed to supporting, informing, and advocating for the restoration, protection, and maintenance of healthy riparian ecosystems in Utah's Colorado River Watershed.

Partnership Vision & Values

The Core Team spent some time reviewing the vision, values and goals of the Partnership at a meeting in October. The core team echoed the groups impression that the partnership approach improves work effectiveness for those participating and it is worth this group continuing to meet. The values and vision were reviewed and approved by partners during the January 2020 full partnership meeting.

The SURP Partners Value:

1. **Follow-up** on our projects, including **evaluation** of our past work, and accountability for project success/failures
2. **Collaboration** between members, including sharing information about lessons learned and working together effectively.

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3. **Communication** between members and with the community for sharing information to improve project planning and implementation.
4. **Riparian health** and improvement of environmental quality
5. Resilient **fish & wildlife habitat**.

Vision 2025- By 2025 we will:

- Have effectively shared information gathered through various monitoring efforts (e.g. biocontrol and vegetation monitoring) to help with evaluating site conditions and to help inform land management decisions about work. The group will continue to actively share data, information, and knowledge about project success and failure.
- Consider project sites and improve management techniques through use of a geodatabase that allows all members to access information about legacy project sites and is updated with information about current site conditions and continued monitoring efforts.
- Actively use tools to facilitate project prioritization based on science, site conditions, and articulated land management goals.
- Provide accurate and useful information to the community about river restoration, riparian land management, and stewardship as well as share information between partners.
- Be a welcoming and inclusive partnership for all collaborators who want to work with this group as supported by their own funding sources.

Goals:

- Work to understand the effects of biocontrol and other project activities on riparian ecosystems.
- Act as a public resource for understanding ecological processes and fostering stewardship.
- Coordinate projects involving multiple collaborating agencies.
- Promote resilient native ecosystems.
- Mitigate the negative impacts of recreation on project sites.
- Integrate visitor experience into projects when appropriate.

Funding

The core team spent time discussing fundraising at a meeting in October. Since none of the federal or state agency partners can assist with fundraising it was agreed that fundraising to cover administrative costs related to SURP is in the hands of the NGOs participating. It was determined in 2018 that the NGOs participating can cite their work in their fundraising efforts.

In addition the following information was shared:

- RiversEdge West staff time put towards SURP efforts has been paid in part by TNC.
- RRR is not funded for SURP support other than through the ROR program. RRR has, since ROR ended, leveraged some funds (through cooperative agreements RRR holds with agencies) with WRI funding to cover costs associated with RRR's assistance with meeting preparation and partner communication.
- Since SURP does not have a major funding stream from any other source there is less administrative cost than there might otherwise be as there is less reporting need for administration.
- The SURP has always operated differently from other partnerships (like the Escalante) because there has never been a significant private funding source supporting the effort, instead group costs like facilitation have been covered through direct asks of collaborating partners when costs arise.

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- Funding from DNR has come through WRI proposals and individual requests for project-related funding. DNR staff have been advised to not be in any fundraising discussions. Federal partners are similarly restricted.
- TNC would like to be involved in any RRR and REW conversations about funding capacity and time.

There is a meeting scheduled for January 23rd where RRR, REW and TNC will discuss funding moving forward.

Upcoming Activities and Projects

Overall Partnership Coordination

John Leary from RiversEdge West and Kara Dohrenwend from Rim to Rim Restoration continue to work to coordinate Partnership meetings and projects. 2019 proved to be a challenging year to hold many meetings, but work did get done. In 2020 we will hold a full partnership meeting at the end of January and again in mid summer. Core Team meetings will continue to occur as necessary.

Colorado River Projects 3.0 and 4.0

Colorado River 3.0 will be completed by June 30, 2020. Colorado River 4.0 is submitted to WRI and will move through the application process which starts on January 28th with the SE region's meeting at the Green River City Hall. We should have an idea of how the project ranked by April or May of 2020 and will make plans accordingly.

Beetle and Vegetation Monitoring

Ideally the January 2020 meeting will provide some guidance moving forward for those entities working on vegetation and beetle impact monitoring to best communicate their information to the group, and also best focus their efforts with the limited funds available.

Geodatabase and Past Project Inventory

As mentioned above, this work will begin as soon as the geodatabase is created. Everyone will have an opportunity to contribute to this effort. It is hoped this will be available by summer and the site assessment protocol can be evaluated and added soon after.

Potential Plan Revision

The vision, values and goals have been revised to reflect the group's current focus and interests. In 2020 the tool box (Rasmussen Tool, Geodatabase, Site Assessment Tool, and other monitoring reports) will ideally be completed so that the group can continue to plan collaborative projects throughout the region. This suite of tools should allow meetings to focus on potential project sites, success and failure at legacy sites, and strategies to improve our work and link efforts.

Expenses Report and Budget Proposal

REW, TNC and RRR will meet in January to flesh out funding needs, administrative roles and capacity building steps for the year.

Next Meeting

Please see the email about the next meeting in the summer or contact info@reveg.org