Participant Pre-Workshop Assessment: "Helping to Make Riparian Restoration "Climate Smart" A Workshop for Funders, Regulators, and Public Trust Agency Staff"
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December 18, 2016

Introduction

I present the results of a pre-workshop assessment of the participants registered for the "Helping to Make Riparian Restoration "Climate Smart" A Workshop for Funders, Regulators, and Public Trust Agency Staff." These results are meant to inform prioritization of objectives and subject matter for this workshop, which is being led by Pt. Blue Conservation Science and convened and facilitated by Elkhorn Slough Coastal Training.

Methodology

This assessment was designed to prioritize learning objectives and workshop format to support the workshop goal for "Helping to Make Riparian Restoration "Climate Smart" A Workshop for Funders, Regulators, and Public Trust Agency Staff." The goal of this workshop is:

"To broaden knowledge about designing and implementing restoration projects that will persist and thrive in the face of climate change (climate-smart restoration)."

The survey included questions designed to elicit general, open ended responses about the reason that participants signed up for the workshop, what their current application of related information/skills was, and if they wanted anything specific from the workshop. I sent the survey to all of the participants who had registered by December 8, 2016 and closed the survey after the deadline on December 15, 2016.

Results

Thirty-one of the 50 people registered at the time responded to the survey (62%). Note that there was a high cancellation/no-show rate in this workshop due to illness and severe weather.

Question 1: *Why are you taking the time to attend this workshop?*

The first question was open-ended about respondents' general interest in the training subject, as it pertained to their work (Table 1). The top three priorities were: 1) interest in climate change effects, in general; 2) relevant to work in riparian restoration; 3) relevant to work, in general.

Table 1: Reason for attending (n=31)

Bins of answers	# responses
interest in climate change effects, in general	12
relevant to work in riparian restoration	6

relevant to work, in general	5
interest in riparian systems	4
relevant to work, restoration	3
relevant to work, regulatory	3

Question 2: *What are you doing, or thinking about doing, to help make riparian restoration more resilient in the face of anticipated climate change?*

This question was also open-ended about respondents' current application of the focus of the training subject, (Table 2). The top three answers were: 1) currently doing nothing; 2) relevant to work in riparian restoration; 3) relevant to work, in general.

Table 2: Current applications (n=29)

Bins of answers	# responses
doing nothing relevant to this subject	12
understanding anticipated climate change for work	6
increasing connectivity of streams to floodplains	5
increasing width of riparian areas	3
planning for increased flow	3
planning for drought	3

Question 3: *If there is anything else you want the organizers and instructor to know, please feel free to share here:*

This question was also open-ended to allow respondents to add any other commentary relevant to the training, (Table 3). The top three answers were: 1) nothing to add; 2) address varied riparian systems; 3) explain how to do riparian restoration.

Table 3: Current applications (n=29)

Bins of answers	# responses
nothing to add	3

address varied riparian systems	2
explain how to do riparian restoration	2

Conclusions

There were two take home messages from the pre-workshop participant survey. First, the highest need of this audience is a better understanding of anticipated climate change effects. Second, most of the audience is not currently applying any climate adaptation tools in their work.

Appendix 1: Various interesting specific comments

Question 1: ***What information or training needs are you most interested in to improve your work with riparian restoration considering climate change?***

Info I'm already keenly aware of that I wish would be more broadly promulgated/emphasized: simply, that riparian zones, among their other attributes, offer important runoff detention functions that are mostly overlooked, despite two decades+ of supporting science. Two good references:

> *Ponce, V. M. 1989. Baseflow augmentation by streambank storage. Environment, Health, and Safety Report 009.4-89.13, Pacific Gas and Electric Company Department of Research and Development, San Ramon, California, USA. [online]: http://ponce.sdsu.edu/baseflow_augmentation.html*
>
> *Kondolf, G. M., L. M. Maloney, and J. G. Williams. 1987. Effects of bank storage and well pumping on baseflow, Carmel River, Monterey County, California. Journal of Hydrology 91:351-369.*

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i don't see climate change impacting how projects are done right now. CA climate is subject to huge swings regardless.

Before we rush forward in anticipation of projected changes, we need to analyze past restorations and look at long-term success and failures. We have failed miserably at tracking restoration efforts.

Appreciating the leadership that Point Blue, TNC, and Elkhorn Slough take in these topics:

1) Estimating/quantifying carbon storage in riparian restoration -- age of the trees matter -- and how to participate in carbon markets or programs to fund the restoration. I'd estimate/model at the beginning of a project to inform clients or partners, and then I'd like to use field measurements and/or models to quantify during a project. Virginia Matzek wrote a great paper in Restoration Ecology about carbon markets funding restoration ecology and concluding that current policy in the US means carbon payments won't cover restoration: what's coming up, policy-wise?

2) Climate-smart restoration: are there patterns to which riparian areas are most sensitive to climate and will need a climate-smart suite of species? How do we mainstream climate-smart work (and not have to convince clients it's a good idea)? In practice, willows will continue to be the workhorse tree species (whether we announce "climate-smart" or not), but I'd still like to discuss theory-meeting-implementation.

Question 5: ***If you attended a one day "climate smart" riparian restoration workshop, how interested would you be in that workshop including a field component, where participants learned about a relatively recent riparian planting area?***

It may be hard to fit in enough time for both lecture and field components, depending on the size of the class. I assume many riparian sights look similar once restored, so schematics of a site during the process of restoration might be more helpful.

Appendix 1: Various interesting specific comments

I have seen and participated in many restoration projects. Looking at one, even a good one, won't be particularly helpful. I need overall information. It would be useful to have a portion of the presentation that presented, in slides, many different restoration projects and how things are and are not working in each.

My interest *(in a field component)* would depend upon how closely the site resembled the site I work on, as I only work on one.

I would be more interested to tour a mature, successful project

Question 6: ***Are there any other comments you would like for us to hear concerning training on riparian restoration that is informed by climate change projections?***

Most riparian projects, if they have a veg component, only have a 10-15 yr horizon. Do we expect that much change in climate over this timeframe? Seems not. Even long lived tree species will do just fine once established, even if the climate changes to move that species out (e.g. redwood)

It'll be important to have informed discussion of:

1. Hydrologic variability - surface flow and groundwater fluctuations.

2. Adapting to changing stream conditions and what those conditions might be.

Any advances on the policy front, so that conducting legislatively-mandated mitigation means you can not only replace species taken out by development, but have options for experiments that are climate-smart and support resilient landscapes (and have funding or heft to encourage clients to choose that route). Thank you!

Suggested partnerships, for increasing work done and contributing to demonstration areas for public and officials, not just class attendees.