The State of Water

I applaud and celebrate The Russian River Watershed Association for its twenty years of advocacy, community management, and strategic defense of this precious and unique watershed. Covering 1,500 square miles, the watershed holds 110 running miles of primary watercourse, the Russian River—the body of which is fed by many hundreds of creeks, drains, streams and tributaries where 63 species of fish find habitat in the riverine environment—now surrounded by a built-urban environment housing more than three-hundred and sixty thousand humans.

When I wrote my second book, the State of Water, Understanding California's Most Precious Resource, I had thought that what the subtitle referred to, the most precious resource should be axiomatically, water—the substance itself. It is not. Our most precious resource, and I learned this tough lesson through walking the gauntlet, building a relationship with the greater, human-community of both urban and rural California, touring and listening to people all in support of the book… that it is our ability and willingness to trust one another with the Story at all that is our most precious resource.

Story is often boiled down to the interpretation of data based on personal or cultural bias, but I think, especially in relation to the natural world and our place in it, the better story, the one that requires the most trust is how we better manage the balance of our rights versus our responsibilities. And it is with this trust that we can find common values that will better inform our practices, our policy and even… dare I say, our poetry (a general term for the manner by which we articulate and share our values) in this time so removed from historical precedent.

So it is, with that that I ask for your trust for the next fifteen minutes or so, to tell this story of emergent phenomenon, trends across the human and the more-than-human ecology of the State of California—a story about which way the cultural winds are blowing, and a story with shocking findings that stand defiant to the default popular rhetoric of despair and divisiveness.

In the gathered audience here we have a community of industry leaders who have dedicated their careers to critical water design in the twenty-first century, which has no real historical analog for comparison. I suspect that the majority of the audience is focused locally on their efforts and are very sensitive to local realities—it is the front line of the climate war, if you will. Every local fight is. The fight, the line in the sand is drawn between a number of nuanced factors that include, one—positively drawing clear distinctions between what is profitable in

the short term, and owing to the Land Ethic, what is good for the land going forward, and two—understanding, however intuitively, that the nature of ecologic resiliency in any watershed is insured by robust and redundant systems of regenerative biodiversity and that the new paradigm of human industry is built around this ethic. Both of these factors have huge economic implications and in fact, may drive the future course of California's economic growth.

There is a cumulative effect, from the local, to the regional, to the national, to the international, to the planetary, that action of all types have when looked at as a whole. This makes for terrible headlines, because headlines like "California is complicated but seems to be doing many things right" or "despite it all being endangered, California has a very low extinction rate and therefore there is miracle to still be stewarded" seem to be the types of stories that don't work so well in the if-it-bleeds-it-leads paradigm that dictates the stories that the media press likes to tell.

The list is long and I don't have time to discuss it here, although at coyoteandthunder.com, my blog, I will go through each one of these to describe the dynamics at play because the picture right now is fascinating. Join me on my blog for further analysis on points that might not be readily obvious but even such disparate ideas as wolf reintroduction, the border wall, and the indigenous peoples' Land Back movement affect ecological adaptive cycles that spur cascading effects in water and fire regimes across landscapes.

My wife is an acupuncturist and this almost seems like it is a nodal chart of needle points across the body of California, from the bottom of the foot to the top of the head—good health comes from a comprehensive attentiveness to the interconnectivity of the living matrix in question. How that applies to today's curriculum is that ultimately, these are engineering questions. And, if they are engineering questions, the question can then be posed, how is that the execution of the engineering distributs equitable dividends on an ecological basis, if indeed that is the goal of realizing some kind of common value set.

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The history of water infrastructure in California throughout the twentieth century, the one that we live with and the one that is changing rapidly, perhaps most notably in a local context with what will probably be the fate of the Potter Valley water project—was not cognizant of the many factors of resiliency that are required today to address the values—values born of science and a sense of

equitable justice—that are understood as necessary in the formulating of sustainability practices. In the emerging era of what seems to be defined rainbombs delivered by atmospheric rivers across a landscape that is generally overtaxed for water and exacerbated by increased aridity, through the foreseeable future California will increasingly rely on our most innovative and nimble minds to not only do more with less but insure that the *more* we are talking about includes a plan for the more-than-human family we are actively engaged and beholden to for a certain level of management. That future will be us doing our best to find the most adaptive and resilient systems of cohabitation within a larger network of biodiversity based on our responsibilities to each other in the face of a warming planet and a climate that is breaking old, reliable cycles.

I think of connectivity. I think of engagement. I think of poor Stockton. The lowest point in the central Valley. Vulnerable to sea level rise and flooding. I visited Ros Rios Ranch, which will be our newest state park in a few months, with Wade Crowfoot, our State Secretary of Natural Resources, and Armando Quintero, our director of California State Parks, a couple of weeks ago, just after the atmospheric rivers hit. We walked the old army corps levies with John Carlon who twenty years ago, along with River Partners, began planting alder, cotton wood and other riparian arborea at the confluence of the Tuolumne and the San Joaquin Rivers. Now we've got habitat for returned endangered species like Least Bell's Vireo and pygmy rabbits. The recharging of the aquifer that has been established by the restored ecology and exhibited during these recent atmospheric rivers helped to protect Stockton, fifteen miles downstream from the worst of the flooding.

As our systems get more efficient and we rely less on the extraction of our local and limited resources to sustain our growing population, we are watching a trend to greater opportunities in ecological stewardship and restoration. As I saw beavers actively building habitat for chinook salmon fry and smolts, I marveled at the opportunities for what Wendell Berry calls "solving for pattern" as the compounding effects ecological connectivity become apparent and are available as nature based solutions to affect so much positive regeneration. Projects like this abound across the state, not only on the coast. We are thrilled to witness modest yet growing populations of some of our most precious biodiverse species including Osprey, river otters, beaver, red-legged frogs, great horned owls, white-tailed kites, and in some instances steelhead, coho and chinook. The challenges are legion, but the opportunities may yet rise up to meet them.

We are in the bottleneck, the momentum of the positive feedback that has already accreted will not be denied and our planet and thus our society is in for quite a ride over the next century as we witness what that looks like. In California, the equation for our collective resiliency, one that may determine the character of our society, and indeed that of the biosphere over the next several centuries, is a function of this inflection point, the remaking of our interdependence that may yet emerge as something that doesn't look like catastrophic failure, but rather catastrophic success.

The nature of that success will be reliant on the delivery of ecological services. Ecological services, perhaps the single most important influence of globally-measured domestic product, inform and support every level of industry in every society around the world. Providing resilient stewardship towards their own agency and continued functionality is the top mission. Watershed conditions across the state, measured in terms of natural habitat percentage, intact riparian and riverine percentage, sedimentation threat, artificial drainage area, impoundment and dam storage ratio, and fragmentation and road crossing density inform the biotic and abiotic stressors the directly amplify or degrade the quality of the ecological services delivered.

This morning's symposium is about navigating the technical and practical interface between local water utility in the sphere of human ecology, the changing baseline metrics of water delivery due to infrastructure responding as fast as it can to a regional demand and the big elephant in the room, an altered atmospheric character that is chaotically deviant from any historical norm. With state policies such as the 30 by 30 executive order—one that I would argue is a dangerous gamble unless accompanied by a 50 x 50 plan that is codified into state law—or Sacramento's vision of the State becoming a net carbon sink by the year 2045, will only realize their goals because of professional gatherings like this one, where local nodes of capable engineers and entrepreneurs incorporate the new land ethic into their daily work.

Choosing stubborn optimism, choosing radical hope, is not a dismissal of the challenge but an embrace of it, and probably the only choice there is to make. This is not only the hardest challenge we face, and it is not only the most important challenge either, but it may just prove to be the most rewarding. Thank you for letting me share my thoughts to your community. I am unable to stay all morning, but if you'd like to check out my books, I have them here for sale.