

Methow Restoration Council

April 20, 2021

Participants: Chris Butler, John Crandall, Nicole Jordan, Kristen Kirkby, Steve Kolk, Robes Parrish, Jarred Johnson, Colin Forsyth, Susan Crampton, Chris Johnson, Lynda Hofmann, Jessica Goldberg

UCSRB Updates:

Nicole Jordan – UCSRB: we are working on the 2020 completed project reviews, and I have a few questions. Do we know if MC Upper Methow Goat Creek CE was completed?

Jessica Goldberg – contact Julie Grialou or Heide Andersen at the Methow Conservancy

Nicole – what about Methow Bull Trout?

John Crandall – the field work is completed, but we extended the grant by a year, so the new end date is in 2021

Nicole – the Ruckelshaus Center has completed their regional evaluation, and they will do a workshop during UCSRB Board meeting this month. The report is posted on the website, please read before the workshop if you plan to attend, people are invited to come to the board meeting 9-11, and there is a link to the workshop on UCSRB site

Jessica – do they plan to address the recommendations at the meeting?

Nicole – the workshop is to review the recommendations; it will probably take a year or so for appropriate follow up. They will be sharing the information, and it will depend on what the region wants to do with the recommendations, so there will be follow up and more actions after the workshop

Nicole – RTT approved new guidance for Reach Assessments, and it is posted on UCSRB site. Also, we are hiring for a Lead Entity position. The announcement is on our web site, we're trying to get it out so please share or recommend anyone who would be a good fit

Nicole – we have our podcast on Beaver Dam Analogs live now; it is posted on Spotify and on our website under outreach/podcasts. It features Matt Young and Alexa Whipple. It's part of a series; we had funding to do it every other month, so we will shoot to continue that this next year, although we may shorten the episodes a bit. John Crandall did the first one. We are always looking for interviewees, so if you know people in the Methow who want to share a subject or passion let us know

John – do you have any idea what the listenership is?

Nicole – yes, although it isn't perfect because it's posted in three different places. Your episode had around 170 when I uploaded the last one, there are some analytics, but it is not as detailed as google analytics. We have a lot of listeners on the west side, and in other regions of the country. Even though our audience is geared toward the Upper Columbia, our audience is all over. If you want analytics information, send me an email and I can summarize

John – I'm just trying to understand how many people are actually looking at the information.

Nicole – we are working with Chelan PUD, CTCR, and invasive species council to bring resources to eradicate Northern Pike, trying to make sure they don't enter our region, have been working on outreach on that, if you want to get involved let me know.

Paper of the Month:

John Crandall – was looking for something locally based, Chris Tatara and Barry Berejikian from NOAA teamed up with folks from the Winthrop Fish Hatchery in 2017 to produce a paper on hatchery steelhead trout: *Age and method of release affect migratory performance of hatchery steelhead trout *Oncorhynchus mykiss**. We have all these hatchery programs, and we have a lot of assumptions. In

growing fish there are a lot of variables that may influence the condition of the fish when they leave the hatchery, not always an apples to apples comparison. They looked at the differences in migratory behavior in 1 and 2 year old fish, and tried to understand the differences. My guess is that the shorter time they rear a fish, it doesn't cost as much, you can drive growth through a few variables - temperature and amount of food they get both influence growth trajectory and their hormones. Some fish don't leave when they are released and hang out, not necessarily at smolting size/weight. The paper found some interesting differences between 1 and 2 year old smolts. Holding them 2 years and growing them slower, they can move quicker downriver (PIT tagged over 140k fish), f2 rearing got larger smolts, had a higher survival in outmigration, mixed results but generally 2 year olds moved to the river quicker than the 1 year olds and survival was a lot higher. Thought is that the 1 year olds that don't leave - lead to residuals in the river, fin clipped but have not left. Interesting paper from some local folks, with far reaching implications. We will send that out. I bring it up as the way we do hatchery rearing affects the results, a learning curve in terms of figuring out the best methods for getting highest returns, reducing residency impacts on wild fish.

Presentation: Upper Columbia Hydrologic Outlook

Robes Parrish - USFWS: this presentation is similar to something I did last year, a winter recap and hydrology outlook.

There were 35 atmospheric rivers that made landfall over the US West coast during water year 21 (through February); these are the big storms that we get that brings a lot of precipitation, coming from the southwest. Of these, most made landfall in WA and OR, and very few to the south in CA; this persisted through the winter. This compares to 2020 when the storms were more distributed.

We were in a moderate la Niña as well; we've been trending back toward normal. Seldom do we go directly from la Niña to el Niño. The other pattern that affects us is the three month running mean of the arctic oscillation index, it either bottles up storms in the arctic in a positive phase, or you get storms dropping out of the poles in a negative phase. In 2020 we were almost up to positive 3, but were in more negative territory this year, where we get polar express.

From Oct 1, in our area there was a mix of slightly below normal temps and slightly above. The SW tended to be warmer and northern states tended to be cooler. Overall it was the fifth warmest year since 1895.

The Southwest had a really dry winter. In Northern tier of states there were still a lot of dry conditions east of the Cascades and Idaho.

In WA, we had slightly above normal temperature conditions in valleys and close to normal in the mountains. We had above normal precipitation in the north and central Cascades but it was very dry in Yakima and southwest WA.

March precipitation was only 35% of normal for Okanogan County, similar to last year. Current drought outlook, most of the southwest in a drought extended east to CO, TX, northern plains, we are in one of the few places not in drought. The year ended with 41% of the US in drought, including 18.6% in extreme or exceptional drought.

Precipitation for the year in Winthrop was slightly above average, and above previous two winters that were quite a bit below the median. Temperature was not a lot warmer than normal, but slightly above normal

Length of the growing season, going back to 1979, it has been increasing by about 14 days per decade, each of the last 9 years has increased further still.

John - did you look at other places in the region?

Robes - I would have to plot it for more places, as I recall last week up the Entiat valley, they had an increase, but to look at a higher number of towns I would have to pull the data. Comes from the last spring freeze and the first fall freeze; there is considerable annual variability, but last spring freeze has

been happening earlier and first fall freeze later. We are pretty much already at some of the climate projections RCP 8.5 model seems to be tracking.

Last summer, we experienced above normal temperatures, 1-2 degrees, precipitation was below normal. We don't get much of our annual precipitation during the summer but it was pretty dry. For this May, June, July, almost entirety of continental US and Alaska, they are forecasting above normal temperatures everywhere except west side of Cascades, and below normal precipitation.

Aug-Oct above normal temperatures, normal or below normal precipitation. Warm and Dry.

Snowpack for the last winter, April 1 is the date, majority of WA above normal, most other places had normal (OR, ID, MT), or below normal in southwest, CO. CA had very much below normal conditions, and they are losing snow very rapidly, southern Sierra is at about 18% of normal.

Last year we ended up right about normal in the Upper Columbia, this year we are quite a bit above normal. Looking upstream, this year you can see the upper Columbia and the other basins that feed our area in Canada are around normal as opposed to last year when they were above normal.

At Hart's pass we haven't hit the median accumulation peak yet, we are close and the hot weather we have had has caused a drop, but is quite a bit above normal still. Rainy Pass is a bit above normal, starting to melt. Salmon Meadows started to lose snow a little before April 1, but ended up a little above normal for winter accumulation.

It's worth remembering that warm springs can lead to rapid loss of snow, conditions can really change fast, how it comes off is just as important as how much you've got.

Right now calculated soil moisture is dry across the west, and really dry in the southwest, pretty dry in the valley bottoms in Upper Columbia already.

Hydrology – as of yesterday (April 19), Methow at Pateros was 4100 cfs, current forecast for seasonal runoff through September, even though we have normal snowpack in Canada and above normal snowpack in the region, we are forecast for a below normal runoff down the Columbia at Grand Coulee, closer to normal at Wells, a peak somewhat later than normal. For mainstem Methow at Pateros above normal runoff volume and close to normal timing. For April through September expecting above normal runoff for Methow at Pateros, Q2 at Winthrop 9650, at Pateros 1180

Runoff is hard to predict, so don't put a lot of stock in it, but higher peaks are more common for la Niña years compared to el Niño and neutral years.

Fire outlook – this is the hardest to predict; typical fire season in our area is July – September, by end of September we can get season ending events, this tracks pretty well with predictions. Total acreage burned has increased especially since 2006. There is variability; 2015 was the greatest number of acres, but a single event on Labor Day last year got almost to the acreage from 2015. Across the US there is also increasing acreage burned every year.

The question of whether low snow pack and dry winter/spring mean a bad fire year. Haven't seen a comprehensive peer reviewed paper, NWS Spokane had analyzed that what drives it is how hot it gets in the summer and how many lightning strikes we get. Not really any correlation between winter and spring conditions.

Ocean and ENSO conditions – across the Pacific we have a lot of warm water, but along the coast of OR/CA some colder than normal water, was extensive most of the winter, more recently a little warmer in WA, 30 year baseline that they've been using has been 1971-2000, this is about to change, so expect that some of our ocean conditions and precip and temp conditions will look a bit different relative to the new baseline.

We have been in a moderate to strong la Niña, colder than normal central Pacific water and high pressure. In typical la Niña we would have colder than normal and wetter. Overall the models did a good job of predicting the trajectory but not the magnitude. This time of year is hard to predict. We are moving back into more neutral conditions.

What we experienced was not at all like a typical la Niña in terms of high/low pressure for December/January, it was the least la Niña-ish pattern dating back to 1950, even though it was a strong/moderately strong la Niña

Prediction is to trend back to neutral conditions, equal chances of la Niña and neutral, very low chance of el Niño

Last thing – there are fires already, so be careful

Roundtable:

Chris Butler – Yakama Nation: the Chewuch RM 4 Fish enhancement project, partnering with WDFW, started working on it 4 or 5 years ago, was selected for a monitoring project, the two years is up, so now we will implement and then there will be another year of monitoring, have been getting permits, Pipkin selected as contractor. We will be working this year on the Chewuch.

Kristen Kirkby – Cascade Fisheries: we will be hiring a few interns for the Okanogan and we are in need of housing for interns in the Methow, mid-June for a couple of months, if you know of anything please let me know

Chris J – that is an interesting question, COVID has dried up opportunities for room sharing, so looking up opportunities for temporary housing

Next scheduled MRC meeting: May 18