RUSSIAN RIVERKEEPER
Advocate for the River, On the River
Don McEnhill

Good Evening:

I work under the direction of the board of directors of Friends of the Russian River and our greatest mission is to advocate for actions that will restore our once mighty runs of Steelhead Trout, Coho Salmon and Chinook. The preferred flow reduction proposal contained in the draft biological assessment causes us grave concern for our endangered fish. We believe that this proposal could lead to worse conditions for the fish by raising water temperatures, increasing pollution from less dilution and causing fish kills in the proposed closed estuary similar to what occurs on Pescadero Creek and other closed estuaries in urbanized watersheds every fall…… In all our research we have yet to find documentation where lowered summer flows improved fish habitat….in fact they usually lead to more precarious habitat conditions that on occasion produce fish kills like on the Klamath two years ago and this summer on Butte Creek in Chico.
The fish need cool, clean water to survive and we are concerned this flow proposal will lead to hotter and dirtier water.

To understand our concerns…….
Let's take a quick journey back to the year 1900. In 1900, the fish were so plentiful that many people said you could cross a stream walking on their backs, so plentiful that in 1888 over 15,000 fish were caught for canneries and personal use near Duncans Mills alone indicating that tens of thousands of fish were present in our Russian watershed. Prior to 1900, large scale logging of our watershed had yet to begin so the vast majority of rainfall soaked into the ground and slowly percolated downward where it would eventually feed springs and creeks during the summer months and keep the deep pools that existed full of water and cool for the fish. In the wide valleys such as the middle reach and Alexander valleys, early photos show that the riverbed was only 5-10 feet below the terraces of the floodplains. Even though some sections of the river appeared to be dried up in summer a huge volume of water flowed beneath the gravels where it was kept cool from the hot sun and cleansed by passing through the gravels where it emerged in deep pools where the juvenile fish spent their summers safe from the summer heat. In the more confined canyons of the lower river all historical reports suggest that flow was maintained throughout the summer months. All the plants that grew in the watershed were obviously natives and in 1900, we had no dams, little channelization of creeks and waterways so meandering streams with deep pools during summer existed. Water quality was probably excellent for the fish as few people lived here and many pollutants and chemicals like organophosphate pesticides hadn't even been developed. These were a FEW of the historical conditions that once sustained a healthy, abundant fishery in the Russian River.

Now it's 2004, our fish are barely surviving, Coho populations are so low that like the California Condor we have gathered the last fish to be placed into a captive breeding program

to keep the Russian coho population alive, Steelhead Trout are also listed as endangered as well as Chinook Salmon. Hydrologicaly speaking our river bears little resemblance to 100 years ago…..The comparison to other north coast streams that are far less developed and populated is questionable because of the huge impact felt in the Russian watershed due to all the people and resulting degradation. The Russian watershed has more people than the entire rest of the north coast and as such has water quality issues those streams don't face. Thinking that our tributaries will provide cold water like other north coast streams ignores the water diversions and pumping our tribs face that others don't. To use Austin Creek as a refernce stream to gauge historical flows is questionable as it has diversions and has been logged over in the past years and bears little resemblance to it's historical flows. The impacts from logging, development, roads, vineyards, cattle grazing, chemical pollution and other human activities have severely degraded our Russian River fishery. In the Alexander Valley and middle reach of the Russian river , gravel mining has lowered the riverbed up to 35 feet in places so the majority of water flowing in the summer flows above the surface where it is heated by the sun and no longer cleansed by flowing thru the gravel. We have two large dams holding back hundreds of thousands of acre feet of water and blocking prime spawning grounds for fish. We have arrundo donax, ludwegia, perrywinkle and dozens of other non-native invasive plants competing with natives and degrading fishery habitat. Most sections of the watershed have experienced some form of channelization with some former creeks just rock lined channels. In the last 20 years many residents can tell you each year there is less water in tributary creeks due to new wells and impervious surfaces like driveways and rooftops and some vineyards that act to quickly move rainfall to the ocean rather than letting it recharge our groundwater, springs and creeks for summer. In fact one of the best Coho streams Green Valley Creek has sections that dry up when large wells are turned on nearby. Years ago deep pools existed at places like Burkes canoes where they could dive off 30 foot balconies into the river and not hit bottom, now for a mile above and below Burkes there is no pool deep enough to do this. Most of the deep pools that once provided summer refuge to endangered fish have filled in with sediment from areas disturbed by logging, development and continued gravel mining.

In 2004, the Laguna de Santa Rosa now has the title of the most polluted water body in the north coast and is listed as impaired under the Federal Clean Water Act for high temperature, Low dissolved oxygen (no air for fish to breathe), and excess nitrogen and phosphorous that lead to algae blooms and proliferation of ludwegia or water primrose which harbors mosquitoes. The Laguna was previously impaired for sediment and bacteria. An impairment under the Clean Water Act says that a particular waterbody doesn't meet what's known as beneficial uses which means not healthy enough to support cold water fish like our endangered salmonids or in the case of bacteria or pathogens it isn't fit for swimming. Today we have over 75,000 registered chemicals in use today… some of which find their way to the river and we know are toxic to fish, many others we have rushed to market before knowing their true impact on the environment.

To recover our endangered fish requires that we restore dozens of fish habitat variables and so many of us are skeptical we can help the fish by solely lowering the flow in the mainstem of the Russian River. Some parts of the project proposed by this Biological Assessment make sense like piping water down Dry Creek into the mainstem for water supply instead of subjecting Dry Creek fish to high velocity flows needed for water supply during hot spells. But other parts of this assessment are more of the same insults to fish such as continued gravel mining for flood control and no accounting for harmful early season flood control releases from dams that blast fish eggs and juveniles out of their protective nesting redds.

We are most skeptical of the proposal to cut flows in the lower river in an effort to improve conditions for fish by returning flows back to a more historical level of say 1900. How can you change one out of DOZENS of variables and expect improvement in fish habitat?

Pollution:

What about all the polluted water from the Laguna that will make up a much larger portion of lower river flows? The water quality in the Laguna is akin to liquid fertilizer and the EPA said it exceeded healthy levels of nitrogen and phosphorous by over 300% meaning a higher percentage of Laguna water in the lower river will likely lead to massive algae blooms that are bad because they end up depleting dissolved oxygen levels and can suffocate fish. Of course for humans the river will look like a nasty pea green soup and we can expect water primrose or ludwegia to increase greatly because of more nutrients and slower flow so the lower river might have this mosquito harboring plant growing from bank to bank like it does in the Laguna.

Another potential problem with nutrient pollution and lower flows is nutrient rich water increases methlyization of mercury which is readily abundant in our local geology, occuring in a metallic or inorganic form. Excess nutrients have proven to increase conversion of metallic mercury to methyl-mercury, an organic form that fish and humans then store in their fat cells, and is a very powerful toxin.

Speaking of toxins, let's not forget that Santa Rosa is trying to increase their sewage dumping and move their dumping site to the river somewhere between Cloverdale and Mirabel . Santa Rosa is also trying to weaken the California Toxics Rule by seeking mixing zones,… this doesn't appear to be factored into the analysis. Currently Santa Rosas sewage is one of the largest contributors of nitrogen and phosphorous to the Laguna and this doesn't all magically flush into the ocean. The Phosphorous binds with sediment and falls out in deeper slower sections of river ready to stimulate plant growth in summer.

Temperatures:

What about lower flows leading to more heating of the river? This is a simple fact, shallower water allows more daytime heating by the sun leading to warmer temps which are very bad for

fish. Warmer water increases disease rates and slows growth rates and swimming speeds for juvenile endangered fish and helps predators that eat them.
The rationale for lowering flows was to pull water from tributaries which is thought to be colder water. What about the lower flows in the river draining what little water is left in the bottom of tributary streams. The biggest problem in many tributaries now is lack of water now we propose to draft off more water? Of course this won't be a problem for most tributaries as they don't have water left in them by mid-summer.

Estuary:
It is also questionable that lower flows will lead to improved estuary conditions. The study of the estuary frequently cited in this report only took measurements during the afternoons and only during sandbar breaching events. The problem with only using data taken in the afternoon is that Dissolved oxygen fluctuates widely during each 24 hour period. When you have moss, algae and other photosynthetic plants present, they produce oxygen during the day and consume it at night during respiration. So taking afternoon readings gives only the highest oxygen measurements when plants are at maximum oxygen production and misses potentially lethal low oxygen periods during the early morning hours from 2-6am before the sun comes up when plants have consumed most of the dissolved oxygen in the water. We are also concerned about operating the estuary as a closed system. In this report it shows that sandbar open conditions create generally good estuarine habitat. Problems currently occur when the sandbar at the rivermouth closes a layer of anoxic or water with zero dissolved oxygen forms and which suffocates fish and creatures fish feed on and then when the sandbar is reopened it causes the layer of anoxic water to mix with upper layers and depresses oxygen levels top to bottom. If as proposed we keep the estuary closed all summer the eventual opening can cause an larger and longer period of depressed oxygen levels similar to what happens on Pescadero Creek in San Mateo and also documented in some southern California estuaries. Keeping the estuary closed will also halt flushing of accumulated pollutants and most likely lead to a net degradation on water quality over the entire summer.

So before we entertain embarking on this potentially harmful experiment we need to broaden the focus of any restoration actions to encompass all variables such as cutbacks in Eel flows to restore their almost extinct fish, our tributary flows, nutrient pollution, pesticides and other chemicals, channelization, gravel mining, early winter dam releases, invasive plants and also look beyond the current 20 year timeframe for water supply needs because in 21 years we are likely going to need more water to feed the growth that never stops in our watershed.

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The reality we face is that we can't turn back the clock on many habitat variables, the dams aren't coming out, channelization often can't be undone, returning flows to tributaries could take decades and we need water from the river for our communities so the endangered fish live in an degraded and altered watershed. To recover they need adequate flows to keep water temps down, dilute existing pollution until we do all the other work required to improve fish habitat conditions……Thank You!!

A Project of Friends of the Russian River
PO Box 1335 Healdsburg, CA 95448 ❖ 707-433-1958 ❖ Fax 707-433-1989 ❖ info@russianriverkeeper.org