

January 14<sup>th</sup>, 2020

Comments regarding the ASRP Phase 1, dated November 2019.

The Aquatic Species Restoration Plan, phase 1 document was produced to answer the paraphrased question: "What actions to improve habitat in the Chehalis Basin offer the best chance to have healthy and harvestable salmon populations and robust diverse aquatic species that are resilient to human and climate change stressors." Short version; the ASRP looks at: "What habitat do fish need?" The plan contains a massive amount of work and information. The authors and advisors have done a tremendous amount of work. You have our thanks for this massive undertaking. There is lots of information in the report, which means there are many questions, concerns and suggestions. Additionally, many questions were not asked, answered or even part of the study plan. We make some suggestions on some that should have been asked and answered in this phase and others we suggest are ripe and need to be answered as we move into the next phases of this process.

To bring some sense and readability to these comments we have divided this comment and suggestion letter into two sections :

- I. Comments and suggestions on what is in the Phase 1 Draft ASRP (comments constrained as best as possible to content and science in the draft as written today.)
- II. Suggestions on immediate or unanswered questions, concerns and essential imminent next steps. We are at a transition point in the process, call it the ASRP "phase 2" plan or "next program steps" as we move in the next steps on the pathway.

Before we get into the detailed comments here are overall thoughts. Please don't take these comments as a rebuttal of support for a good habitat plan and habitat implementation program that can achieve successful short and long term recovery of the aquatic species in the Basin. The Chehalis Basin ecosystem offers one of the best chances in the State and region to build sustainable salmon and amphibian populations. The farmers in the basin including our dairy farmers have a long history of working to improve conservation on their lands. Our Association and our farmers have decades of experience in how to build and deliver conservation on their lands, conservation that works for both our farmers, for the ecosystem, for many important species and for the benefit of citizens in Washington State.

All that being said, we have many questions and concerns with this draft.

#### **Section I – comments on existing draft -**

1. General comment - This draft is a plan for habitat and ecosystem restoration rather than a comprehensive or holistic restoration plan. In some places the draft makes that clear (introduction page 3, pp2) and in other places it makes contrary statements that it is an integrated plan (i.e see second to last paragraph on page 215). The ASRP committee was not tasked in the ASRP phase 1 process with addressing all the aspects of a comprehensive, holistic

or integrated plan. This point is not a criticism of the ASRP plan document, this ASRP plan is one step of many. For accuracy this document could be relabeled as the Habitat restoration plan of the Aquatic Species Restoration Plan. Later in this comment letter we outline some of the specific and general areas we suggest should be further refined, or that were not addressed.

2. General comment – This draft of the ASRP is a not a comprehensive **restoration** plan, it focused mostly on the science and potential effects of habitat. There are numerous statements, calculations and assumptions regarding how habitat can **restore** the species in the basin. (see figure S-3 and calculations and charts on paragraph 2 on ES-9, and last paragraph page ES-12). Habitat is only one leg of at least a 6-8 legged stool that is needed for this to be an aquatic species RESTORATION plan. This document implies and/or makes statements, assumptions and conclusions - in many locations - that habitat is the only thing that needs to be improved for the species to recover. We simply don't believe that is going to work or is true. This is a habitat plan and that is only one aspect of many that we need to address, especially for the salmonid recovery. The analogy is: we can build more or better hotel rooms, but if nobody comes back to use them then what was the point. More on this in section two below.
3. General comment – The report outlines what aspects will be in phase 2 and 3 of the ASRP. (see Introduction section, page 5, paragraph 1) These recommendations are certainly possibilities but these suggestions on the organizational charts and proposed structures are premature. We suggest there needs to be policy discussions and decisions on what and how to proceed on next steps. Who is involved? Who has a seat at what tables? Who has a vote or role to play in next steps of implementation? What is the work and who and how is that done? How is that work coordinated? Who is the lead for communications, on which aspects? The report envisions changes as we progress on page 203 paragraph 3:  
*"As the ASRP is further developed and transitions to implementation and M&AM, the governance needs of the program will likely evolve. A detailed organization chart of ASRP management for implementation and M&AM will be developed in Phases 2 and 3."*

We suggest this is an important part of the next steps process. We need discussion on who is involved and how; what does that process look like. For example, currently the structure has a steering committee intimately involved in the future ASRP process. The steering committee currently is designated and represented by three voting members (Chehalis, Quinault and DFW representatives). The ASRP on page 197 outlines a project review and selection process with the Steering Committee leading that project review and selection. It is premature at best, to accept this structure and in our opinion the implementation processes outlined in Chapter 6 is not complete, adequate or the "correct" structure and process as we go forward. This process needs evaluated, discussed and we suggest there are policy directions and decisions needed on that process. We suggest the **Office of Chehalis Basin** needs to engage in discussions and decisions on how to proceed and at least determine the outline of the organizational structure for the various aspects of the Program as we progress forward. Our concerns include:

- The Steering Committee and the Science and Technical review team and membership was developed to guide the science development of this phase of the ASRP, a scientific

habitat evaluation. The committee does not include membership by any state agencies other than DFW, it does not include cities, counties, agricultural or timber stakeholders, or folks with a diverse mix of expertise and experience in implementation and on the ground conservation planning.

As an example, the Yakima integrated plan has numerous committees that work on the various aspects of that plan and those projects, with a very diverse set of experts and stakeholders involved in the different aspects and different committees of the integrated plan.

Right now, there is the OCB, the Steering Committee and the Science Advisory Committee. The two committees have a wealth of expertise on some subjects but not on others. The Chehalis Basin Aquatic species recovery plan needs a “deeper bench” and a different mix of expertise and experience as we move deeper into the implementation phase. We need much more discussion and a policy direction.

4. General comment - The document is and has not been peer reviewed. Should it be? We believe it would benefit from a review of conclusions, assumptions and several aspects of the plan and the science behind the assumptions and conclusions (This public comment period is good, but we are asking if there should be something more akin to a Peer review. This plan outlines a huge undertaking on a large, expensive set of actions over several decades. It contains massive amounts of science, with assumptions and conclusions based either on that science and modeling or in some areas assumptions and conclusions not based on science. Then it goes on to set goals and implementations steps based on those assumptions and conclusions. We are not suggesting every aspect be peer reviewed but there are some aspects, assumptions and steps that should get an *outside* review. We have heard this Chehalis Basin effort is one of the most audacious basin restoration efforts in the US. There are only a few similar efforts from which to learn what steps and actions are essential and which may lead us astray. A review, by a diverse set of experts, some outside and some in basin experts and folks with different areas of expertise we believe is warranted.
5. The riparian width assumptions and science to support those assumptions are not supported by citation or explained. We asked for citations and discussion on those assumed widths last year and while there seems to be a few changes from the first draft of the ASRP plan these concerns remain -
  - a. The goals (and the assumptions for calculating costs) to restore/install 100-foot buffers on small streams (under 33 foot), 300 feet on medium (33-97 feet width) and 500-foot buffers on large (over 97 foot bank full width). There is **no science** that we know of to support buffers **this large** across the landscape. Need to explain and support scientifically or modify this fundamental aspect of the plan. We do not see much if any science on why it is ecologically necessary (a performance based riparian buffer will vary by location and basin. A performance based treed buffer for temperature functionality is different if you are working on the south side or the north side of the river.) We know of no science that shows any benefits from routine or ubiquitous buffers of this size for fish or water quality.

Additionally there has been no evaluation of cultural impacts, safety concerns or economic impacts in the basin of **ubiquitous** buffering of these sizes (there may well be areas where buffers of this size ARE appropriate, for example in very active river migration zones or channels such as the middle Satsop or in Alaska on braided rivers...but buffers of this size, in a basin like the Chehalis are unsupported scientifically to the best of our knowledge. This is not a good use of public funds, with little to no value for buffering of this size for fish or the ecosystem. Additionally these questions were not asked or answered:

- Does buffering and wood placement of this (100,300,500 feet) magnitude impact safety (increase flooding impacts on lands and cities in the Basin)?
  - Or economically impact landowners (is land use lost due either to buffers or increase flooding from instream obstructions and cause loss of economic activity)?
  - What does increased flooding do to neighboring up or down stream lands not enrolled in restoration – for example is there going to be increase frequency and duration of flooding if the river is “encouraged” to re-connect with the flood plain because the riparian and other actions will result slower flows, gravel deposition, etc.....We postulate that if the water can’t run off as fast, then this may or will result in more flooding and/or duration of flooded agricultural fields, resulting lost opportunity to grow crops due to increased flood size, frequency and duration.
- Before we take the step of “encouraging/selling” buffers this large everywhere planned, there must be consideration and evaluation at both the individual farm level and in the reaches on the impact to individual flood plain landowners and farmers or across the landscape or reach.
- b. The problem that arises (aside from the cultural, agricultural and economic impacts) is the assumption that we need this large amount of riparian land replanted: This assumption in the ASRP plan means there is a big economic request to fulfill those assumptions and goals (for riparian planting, easements, purchases, etc) , but the buffer width assumptions and goals are not supported by science, so **how do we politically justify such huge financial resources needed to implement a set of scientifically unsubstantiated goals.**
- c. **Key point: When public resources are used to purchase lands, care must be exercised that it is not inflating land values with public funds!** There have been other efforts in the Chehalis, specifically the WRP program that created ill will (and ultimately were lobbied against) when USDA NRCS WRP program offered to buy easements at values far beyond fair market value with federal dollars. Neighboring private landowners that wished to buy a neighboring farm or parcel suddenly lost out, in perpetuity, on the chance to buy out a neighbor because NRCS was effectively offering 150+% of fair market value.
- d. Need to refine the goals of riparian enhancement to have multiple options available to landowners that is supported by science. Practically speaking it will be essential to have different treatment options offered to landowners to consider and have scientifically informed, honest conversations for and with landowner about options for conservation. Consider working up tools for the “sales team” that are science based but showing good, better and best conservation actions.

6. Dams are not well addressed;
  - i. Report suggests considering removal of Skookumchuck but does not address pro's and cons of dams in the basin. The Skookumchuck and Wynoochee are two of the most productive salmon or steelhead rivers in the basin and have the two largest dams on them. Maybe this is a coincidence and maybe not but before we are so dismissive of these water storage structures we should look at them in a cost benefit analysis and in the face of climate change impacts on stream flow. (To paraphrase Aldo Leopold, "Intelligent tinkering means we carefully look at all the pieces.")
  - ii. There have been operational changes at the dams in the past few decades on stream flow, temperature and habitat conditions at both large dams. Are there more benefits from changes in flow regimes at the dam sites from different dam management. Such as: Can strategic additions of cool water limit impacts, range or reduce habitat for invasives such as small and large mouth bass?
  - iii. There are at least six other smaller dams in the basin. Two were mentioned in ASRP Draft, but what is the status of all these structures? Do all have passage in some form?
7. The plan, while recognizing that we need to increase dispersion of the various species into a diversity of habitats and locations, it doesn't seem to consider, plan for or outline what actions other than habitat restoration and barrier removal could do to achieve this.
  - i. I.e. should we consider replanting and reestablishing Springers in the Wynoochee and the Humptulips at least or other areas where there are current or future conditions to support and/or historical evidence for runs previously. (see discussion on page A-11 on restoration and priorities.)
  - ii. What other relocation efforts can be done on other species – such as reintroduce Chum into the south fork Chehalis as historical records indicates.
  - iii. Other examples; can willing landowners be found to host Oregon Spotted Frogs, into other parts of the basin beyond just Black river basin? Can a "safe harbor" be developed for landowners willing to host a relocation especially of state or federal listed species?
8. While the plan identifies temperature and other water quality parameter impairments in most or all basins. The plan doesn't seem to touch much on what role current traditional and future desired efforts are needed to address water quality impacts; for example, through the TMDL process. What are the ongoing requirements on those load sources in the Basin? As an example: Temperature is identified as impaired in many locations in the basin and there are likely several municipalities and industrial NPDES Point source dischargers that have requirements/discharge limitations for temperature. Are those permit sources going to have more, new, additional load reduction requirements? How are those reductions going to be made and how much will that cost? How can non-point sources that impact temperature be engaged? VSP is one possibility but is not enough. Here's one example/suggestion:

Example: On the Tualatin River in Oregon they have a temperature water quality trading program that seems tailored for the Chehalis Basin. To wit: The City of Tualatin, in Oregon

pays farmers, via a long term contract, to grow trees to shade a long reach of the river, rather than installing expensive equipment to cool their outfall, close to the mouth. The City of Tualatin saved and saves money by investing in shading; the Tualatin river benefits from riparian shade and cooling a much larger reach; the farmers benefit from getting a new contract to establish and grow a crop and receive annual revenue from that crop. Add in all the other functions that treed riparian program provides and this sure sounds like something the Chehalis Basin should look at and this is just an example of Temperature trading. Are there possibilities for other nutrient and loads that are impacting water quality?

9. The document should be recognized as step one in a multistep process before we have a holistic restoration plan. This Draft Phase 1 plan only provides one possible answer to the question, “in a perfect world what do fish and aquatic species need for habitat”. The current plan, the planners and the current mix of scientists do not have the experience nor expertise to answer many of the additional questions. I.E.
  1. The plan calls for approximately 10-15,000 acres of riparian restoration and that “call” is not well based in science, and that level of farmland conversion has not been reviewed for the possible negative effects across the Chehalis agricultural community system, the watershed and/or on individual farmers...
  2. The implementation aspects are not well laid out and thought through- for example: what level of staffing is needed to “work with landowners”. Working with farmers takes time up front just to build a trusting relationship then to design a project that meets the needs of both the landowner and the ecosystem restoration needs on a reach or an individual parcel.
  3. Need an implementation team as we transition to implementation. There are changes that need to be made to this phase 1 draft ASRP plan but we need changes in structure and process for next phase of the program.

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## Section II. Immediate action steps.

1. Spring Chinook numbers are not good. The plan does not outline immediate, more comprehensive and frankly more expeditious actions to reverse the numbers of this imperiled run of Spring Chinook. We have little time to take actions ourselves. We need to think out of the box, before we get put in the ESA box. The ASRP Draft seems to lack a sense of urgency. We suggest that we need to convene a brainstorming session on a rather quickly evolving crisis situation on Spring Chinook. While it is good to think about and wait 50 years for trees to grow, we do not have 50 years to wait for help to arrive for the Spring Chinook runs.
2. The ASRP plan needs more work –
  - a. Outside peer review and input. Here is an example:

- i. In addition to fundamental problems with the Riparian recommendations outlined above and below...The impacts of the suggested actions on riparian work have not been evaluated or addressed such as:
  - Economic impact on agricultural community of riparian buffers.
  - Changes to flood plain that will affect cropping patterns and cycles from potentially more and longer flooding in some areas.
  - increased flood damages from increased flooding due to instream wood, slowing river changes to river process like gravel deposition.
  
- b. work on refining answers, assumptions, conclusions, goals and resulting objectives
  
- c. We need a policy discussion and determinations on the many aspects of Species recovery that were either not addressed by the Phase 1 Draft ASRP or were discussed in the draft but need refined or a course correction (such as refining who and how we engage in the implementation program.)

Here is a list of aspects that were limited or not addressed by the ASRP:

- A. Plan does not address Salmonid harvest, either in basin or in ocean.
  - i. I.e. What is the rate of harvest? Are harvest timing and exploitation rates accurate and adequate to “protect” and “increase” the viability of the various runs? Including diversity (genetic, temporal and/or spatial) of the various basin salmonid runs? Is there adequate awareness and enforcement to limit poaching? Are there enough regulatory and enforcement measures by all co-managers to ensure harvest plans, exploitation rates, seasons and harvest tactics and equipment are being used correctly and as per harvest plans? Are there unacceptably detrimental rates of by-catch in basin or in ocean?
  - ii. There is no discussion in the ASRP on ocean salmonid harvest, so we do not know if there are clearly understood impacts on Chehalis Basin runs from ocean harvest. If we know – now or at some point - where basin fish migrate and feed in the ocean, and we identify unacceptable harvest impacts to basin originated stocks, then does there need to be recommendations or plans to ask for US harvest changes and/or treaty changes with Canadian and/or Alaskan fisheries?
  
- B. Plan does not address ocean conditions broadly. We submit we should consider if there might be options – tough as they might be - that could reduce effects and impacts of increased ocean temperatures, acidification, changing prey or predators due to changes in ocean conditions. (i.e. increased or changes in competition or predation from warm water/pelagic fish such as tuna, dorado, yellow tail, marlin, etc. Or address change in ranges, habitats, and populations for ocean conditions that impact prey species such as herring, smelt, candlefish, etc.) Hard or impossible, we ask anyway? Are there actions that could help reduce impacts of changing ocean conditions? Such as Genetic diversity that may

produce runs with different foraging migration patterns to increase return rates and productivity rates?

- C. Plan does not address prey, both in freshwater, estuary and ocean. For example, what is the impact of large-scale ocean harvest of prey species like smelt, anchovy, candlefish, herring, etc.? (A farmer's way of looking at this is: "The ocean "pasture" seems to be getting grazed by humans before the salmonids even get a chance to eat.") Do we do nothing if ocean prey stocks are impaired by harvest and a limiting factor?
- D. Plan does not address predators such as pinnipeds or bird impacts in the Harbor, in lower mainstem and out in ocean. These species have been identified as a problem and negative factor in the Columbia and actions are beginning to address balancing marine mammals and Salmonid needs, but the ASRP Draft plan only mentions this concern in passing.
- E. Is there more that can or should be done to manage in river invasive species? (Bass have been shown to eat 35% or more of the out migrating smolts in the Yakima basin.) Shouldn't or could we not support heavy fishing pressure on invasive centrarchids? WSDF just eliminated bass bag limits and seasons statewide but should we encourage a "catch and keep" rather than "catch and release" on small and large mouth bass? How about state and/or tribal sponsored fishing tournaments or a commercial bass fishing industry? Partner up DFW with the Washington lottery and have a fishing derby lottery on bass and bull gill. Point is, we have invasive species eating the last of our Spring Chinook runs, it's time to get creative, in a hurry and why not have some fun or profit with it. The Columbia River has a bounty on Pikeminnow. Let's tell folks there is a **bounty on their bass!**  
<https://www.seattletimes.com/sports/earn-cash-for-catching-predatory-pikeminnow-in-columbia-rivers-bounty-reward-program/>
- F. Draft Phase 1 has an incomplete narrative on the role of hatcheries. In fact the report seems very dismissive of any role for hatcheries and the dismissive statements do not have references (i.e. See page 5, section 1.3 "*increasing hatchery production in the Chehalis Basin is not a mechanism to achieve those goals.*"). This statement is repeated throughout the document and offered as fact without any background or reference to accept this statement, it seems to be opinion offered as a fact, frankly we have not the expertise to judge statements like this but we and our members are going to ask why is this so?

We are not experts on hatcheries so we can only ask questions, and better discussion and communication is needed on the topic. Here are some questions:

- i. Can current hatcheries be better managed? Can or should they increase numbers of hatchery releases? If not, why not, with more background than generic or biased statements. Are there improvements that can be made to genetic management strategies or more hatcheries that can use "integrated" management? Can hatcheries do more to complement wild runs? Why are the integrated programs only using at least 30% basin originated broodstock? Why not 100%?

- ii. Why does potential increases in viability/productivity for runs from better habitat conditions not include counting increases in hatchery productivity? Why only wild fish? (See bullet number 4, page 215: *"The modeling results are for wild fish. Restoration of habitat is also likely to benefit hatchery fish, but this is not accounted for in the results."*) This statement is troublesome- if hatchery management is integrated with proper “wild or basin sourced” genetics and release quantities are informed to put only smolts into the system that the habitat can support –then why can’t hatchery and wild production in a river and across the basin both be counted? **This make no sense!**
  - iii. Can hatcheries be used to rear and disperse smolts to more basins, in different or new locations? To “help” with spacial diversity? Can the High School fish rear and release programs be increased (with properly sourced genetics) to more than de minimis stocking rates? We need the fish (when and where appropriate) and we need the next generation of humans involved and engaged in our Basin!
  - iv. **Can hatcheries be used quickly to avoid an ESA listing in the basin by supplementing numbers and/or establishing/re-establishing runs in different locations for the Springers? If not, WHY NOT?**
  - v. All of the above lead us to ask this question: If most of the hatcheries are using “integrated” management to ‘work’ with the wild runs, then why are hatchery impacts continually listed as a problem. Hatcheries are treated rather dismissively in the document in many places, yet if the hatcheries are raising wild stock, or at least could/should be raising wild stock, then what is the conflict at least genetically?
- d. **RIPARIAN Science; Science, assumptions and the transition from the “science” to conclusions about the goals and implementation to achieve those GOALS**— We have a chance in this Chehalis basin process to develop a different model than what has been argued about for WAY too long in Washington State. There have been debates, conflict, discussions, and gridlock on the simple question of; “What is the ‘right’ size buffer?” The answer for decades digresses into a debate that is too simplistic – a debate about the “right number of feet to measure on a tape measure. **It's a wrong headed debate! Worse the conflict from this wrongheaded debate has raged for almost 25 years and has been a waste of time and opportunity.**

There are numerous and serious problems with the recommendation of a simple/generic one size fits all (or three) requirement and the extensive and widespread “goals” for riparian buffers. We have grave concerns about why this plan outlines such an extensive effort. Here is a list of problems:

- There is very little discussion on why these buffer widths were chosen, proposed and then assumed in the modeling, planning and cost estimates. The closest thing to a background discussion is in Appendix A on pages 20- 21 and that discussion has limited cited references and none we can see specifically for buffer width. In addition to the limited reasons, discussion on the choice of these buffer widths, there are parts of the discussion on pages 20-21 that are troubling. First is the dialog and only one citation on the strategy of using

*“...extensive, widespread treatment to be effective...”*. And further discussed on Page A-21 PP2;

*“In this case, an active large wood-restoration strategy can be implemented in conjunction with the riparian strategy to accelerate the habitat-forming processes driven by large in-channel wood (Abbe and Brooks 2011).”*

Citing only one reference to justify a strategy that is estimated to cost between \$547 million and 1.1 billion? That alone is a rather a concerning note, especially given the citation that follows on the same page A-21, pp4:

*“Notably, this category of strategies has sometimes been ignored in restoration planning because it has been listed as the lowest priority of strategies (Beechie et al. 2003; Cramer 2012).*

- Different rivers and areas/stretches of rivers scientifically and ecologically, need different treatments.
- The debate over a size of the best riparian buffer is almost always done without recognizing that the private landowner gets a say in the conversation about their land. (scientists or agencies may or have insisted that a buffer needs to meet all current and future needs of say 99% of the functions and values necessary in the riparian ecosystems. While the landowner asks what is good, or better or best options for them to consider and factor into how those options work with their interest, land and needs....this leaves a Conservation District practitioner wanting options to present to landowners but if there is only one option that doesn't meet the needs of the landowner, then nothing gets done.
- Putting conservation restoration in place is very expensive. Planning and costing out a riparian buffer program based on a generic, tape measured buffer across a huge landscape, rather than ecosystems services dictated buffer, is in many, if not most locations, completely inappropriate and unsupported scientifically.  
This is a waste of public and private resources and worse, we may be spending precious resources on places and treatments that add very little for and at much higher costs for fish habitat or flood protection. Using those precious (as in limited) resources in the wrong place or wrong time or wrong amount means we will have less to spend in better areas and better ways and higher prioritized times.
- The plan calls for a big chunk of land to get restored. Farmers and landowners have already started to express concern when they see this much of the farmland getting considered for other uses
  - The ASRP lays out three different recommendations of buffers on different sized rivers, using those “standard” buffer widths is not scientifically supported. A river and an ecosystem doesn't need a treatment based on a number on a tape measure. Different reaches and different rivers need different treatment suggestions. PERIOD
  - Here is our suggestion – there is a chance to have a better discussion – we suggest it needs to be a conversation that includes folks who understand the science of what is good/better/best riparian treatments given various river, ecosystem conditions and functions and values desired.

This is a tricky balancing act we are walking between the needs of fish, farms, cities and flood reduction. We suggest that a science informed, flexible adaptable riparian treatment method be developed and used (This seems to be what the implementation “team” is actually doing in the early reaches).

The method should be informed by:

- An understanding that there are economic impacts when land is converted to other uses – we are not saying there isn’t or should not be land treated with new riparian conservation treatments.... Farmers do not like to see land converted unreasonably. This report doesn’t give us a reason for these buffers.
- Understanding that there are costs to the agricultural community at large from loss of land as a resource base for farming...(I.E. The ASRP did not evaluate the economic impacts to agriculture and farmers in the basin from the proposed land conversions so we don’t have that information upon which to gauge what actions are reasonable and those for which there is not a good reason to act.)
- An understanding that landowners want options but will want to be informed with good information. (legislators and agencies who we will need to fund this program will also want and need that information!)
- We don’t want to “undersell” what is needed to “reasonably” provide “adequate” conditions. In other words; a performance based riparian treatment with some flexibility and option to consider in the conservation treatments. (the thought of using a key or flow chart comes to mind...this seems to be the methods that are actually getting used in the early action reaches by the folks working in the five early reaches, but that kind of adaptive design doesn’t translate up into the ASRP Phase 1 calculations on overall numbers of acres or cost estimates.

**There are some very concerning, fundamental problems with the science basis, the conclusions, the assumptions and then goals established for ecosystem treatment in the ASRP and the consequential cost estimates of the Restoration Scenarios!**

There is much more work and dialog to have.

Sincerely,

Dan Wood  
Executive Director