KVN
AB2121

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14 September 2009

Karen Niiya, Senior Engineer
Division of Water Rights
State Water Resources Control Board
P.O. Box 2000
Sacramento, CA 95812-2000

References: AB2121 and North Coast Instream Flow Policy
Joint Recommendations for the North Coast Instream Flow Policy
authored by Brian Johnson of Trout Unlimited, Peter Kiel of Ellison, Schneider and Harris, and Bob Wagner of Wagner & Bonsignore

Dear Ms. Niiya:

The above-referenced Joint Recommendations were submitted to the Division of Water Rights in late April 2009 and were then posted on the SWRCB website. I have written comments regarding these Joint Recommendations and would appreciate having my commentary posted on the SWRCB website alongside the Joint Recommendations.

Thank you for your cooperation in this matter.

Very truly yours,

Rudolph H. Light

Rudolph H. Light

Encl: Comments to the Joint Recommendations by R.H. Light

Copy: Charles R. Hoppin, Chair
State Water Resources Control Board

Bob Wagner, P.E.
Wagner & Bonsignore

RHL:lep

COMMENTS TO *Joint Recommendations for the North Coast Instream Flow Policy* dated 30 April 2009 prepared by Trout Unlimited, Ellison, Schneider and Harris, and Wagner & Bonsignore

Comments by Rudolph H. Light
14 September 2009

Commenter's Note

During the Public Comment period for the North Coast Instream Flow Policy which ended May 1, 2008, Trout Unlimited/Peregrine Audubon Society, the law firm of Ellison, Schneider and Harris, and Wagner & Bonsignore, Consulting Civil Engineers jointly wrote a letter dated May 1, 2008 to the SWRCB outlining areas of agreement and disagreement regarding the proposed policy as drafted by Water Board staff. Wagner & Bonsignore and Trout Unlimited each wrote separate comment letters as well.

These three entities have continued to discuss alternatives to the proposed policy which they believe are improvements. On August 5 and 6, 2008 the SWRCB held workshops in Ukiah and Santa Rosa. Bob Wagner of Wagner & Bonsignore, Brian Johnson, attorney for Trout Unlimited, and Peter Kiel, attorney with Ellison, Schneider and Harris each spoke and mentioned their collaboration. At the August 5th meeting, Bob Wagner said that they had formed a "loose coalition" and had worked together for three years and at the time of that meeting were in agreement on most aspects, even if these differed from the Division of Water Rights staff proposal. The Water Board members at those workshops were receptive to receiving alternative proposals. Brian Johnson on August 6 affirmed they were working together "to present common ground to the Board."

On April 30, 2009, Trout Unlimited, Ellison, Schneider and Harris, and Wagner & Bonsignore released their *Joint Recommendations for the North Coast Instream Flow Policy*. This included Sections 1-9. These Joint Recommendations were posted on the SWRCB website shortly thereafter.

I have provided public input regarding the drafting of the North Coast Instream Flow Policy and have written several documents, including my own Commentary to the proposed policy, dated April 22, 2008. I am now offering this critique of the *Joint Recommendations for the North Coast Instream Flow Policy* in the spirit of improving that document and in the sincere hope of seeing it modified to become a policy which is protective of both anadromous fish resources and human resources. Some aspects of the Joint Recommendations, such as continuous recording and electronic transmission of streamflows is pointless and constitutes excessive regulation, is extremely expensive and cannot provide useful hydrologic information. When unnecessarily overburdened with regulations and with an unworkable application process, landowners may choose or be forced to sell or to convert agricultural land to a less ecologically desirable use. The best use of most rural land is agriculture, not subdivisions or ranchettes which don't lend themselves to active riparian management beneficial to fish. Rural conservationist landowners can be and often are the best friends of fish, wildlife and the environment, and they take pride in their conservation successes. Any adopted policy for North Coast streams must take the human aspects into account, or California will continue to lose both its fish and its farms.

Comments to the Joint Recommendations

Section 3. Applicability

(3.1.) Geographic Area Covered by the Policy

This section needs to have "3.1." added before the first word in the text.

3.2. Instream Biological Resources Covered by the Policy

The last sentence refers the reader to Section 3.4 and goes on to discuss the elimination of applicability where the principles of the policy conflict with requirements for other instream biological resources. There is no Section 3.4. What Section is referred to?

3.3. Water Right Actions Covered by the Policy

It seems clear enough that the policy will not be applied to existing water rights, except when a petition is filed which reduces streamflow. Moreover, the Division of Water Rights senior staff has said in at least two public meetings that the NCIFP would apply only to new diversions. However, the NCIFP as originally written suggested that previously licensed ponds might be compelled to come into full compliance under the new restrictive rules of the NCIFP.

The question in my mind still remains open whether or not the policy as adopted will in the future force people with existing licenses to completely change their operations or be forced to pay to support the NCIFP because of newly adopted rules. Section 9, the Regional Monitoring and Policy Effectiveness Review, states that this program will be funded by water right holders, a requirement of the State Water Board. Language should be added to make sure the policy truly does affect only new water right applications, and won't tamper with existing licenses.

3.3.1. Exclusions from Policy and 3.3.2. Applicability of Section 5 to Certain Petitions to Change

Providing exclusions from the policy for these two situations when a change permit or petition is filed that will not result in a reduction of streamflow is an excellent measure.

3.3.2. Applicability of Section 5 to Water Right Actions on Certain Streams

I believe this section should be numbered 3.3.3.

This section is all right as far as it goes, but needs some changes. The first bullet point discusses "streams that do not support anadromous salmonids and that do not contribute streamflow to salmonid-bearing streams." Since virtually ***all*** streams, even first order streams high in the watershed, eventually contribute at least a little water to a salmonid-bearing stream, this phrase is meaningless. I think the concept should be quantified to either a set annual volume, say less than 50 acre-feet per annum, or as a percentage, say not more than 5%, of the annual volume in the stream which does contain salmonids.

The second bullet point refers to non-salmonids which inhabit the streams. Presumably, this refers to species of special concern. These are plant or animal species which do not qualify for listing as threatened or endangered. The term species of special concern has no legal standing at all, but is a concept internal to DFG for species to watch carefully for habitat degradation or population decline. This bullet point should be explained in detail to delimit which non-salmonid species' habitat requirements may conflict with requirements of anadromous salmonids.

For example, there are at least three species of special concern in the policy area

(*California Wildlife*: Vol. 1 *Amphibians and Reptiles*; Vol. 2 *Birds*). The tricolored blackbird (*Agelaius tricolor*) occurs in rare settings in Mendocino County, and somewhat more commonly in southern Sonoma and Marin Counties. It lives on the margins of ponds and needs still water for nesting habitat. If ponds are removed to favor anadromous salmonids, the tricolored blackbird population will decline.

There are two amphibian species of special concern which are found in discontinuous populations in the policy area. The red-legged frog (*Rana aurora*) lives in and around still water, while the foothill yellow-legged frog (*Rana boylei*) lives in a habitat of intermittent shallow streams and pools, and requires some gravels. Habitat conflicts with anadromous salmonids are clear because habitat requirements for salmonids are lethal to these three species of special concern, and vice versa.

In all three cases (and there may be more), the bullet point should address non-salmonids in more detail, and the actual species should be named.

There should be a bullet point added to include under applicability streams where site specific analysis demonstrates that these streams do not adversely affect the native fishes, amphibians or other fauna, nor the hydrology and geography of the area. Streams with site specific studies which show no harm from a proposed project should be removed from policy applicability.

Section 4. Review Procedures for Water Right Applications and Petitions

4.1. Application and Petition Processing

There is no mention in this draft that a protest must be specific to the application; this is a serious omission. The State Water Board Protest Form reads, "Protests of a general nature (not project specific) or opposed to constitutional or legislated state policy will not be accepted." The leaflet accompanying the Protest Form says, "There must be a clear link between the proposed project and the objection to its approval." The leaflet goes on to say, "All protests should include a description of any measures that could be taken to resolve the protest."

The Division of Water Rights has a history extending back at least 15 years of accepting protests which are not project specific, not even remotely connected to a project, and with nothing in the protest to indicate how it can be resolved. Many such protests were filed by Trout Unlimited. See my Commentary on the NCIFP dated 22 April 2008 (pages 3-5) for more information. Language should be added in this policy to ensure all parties, including the applicant, know this requirement of the protest procedure, and the applicant needs assurance that the Division will enforce these provisions.

Without this language stated in the policy that requires the Division to enforce the Water Code, the water rights application process can never be repaired.

4.2.3. Early Consultation with Protestants and Responsible Agencies

Instead of "encouraging" a site visit, this should be "required", and within 60 days of the Division's acceptance of a protest. As it stands now, when a protest is accepted, the protestant can refuse to discuss the project with the applicant, can refuse to make a site visit, and can delay the process indefinitely. This is exactly what has happened in the past with hundreds of protests by Trout Unlimited and the Division did nothing about it. By forcing a protestant to make a site visit soon after a protest is filed, these delays can be avoided.

This site visit should be conducted with the applicant and his or her representatives, the protestant, and Division staff. The early consultation is essential, but so is a site visit if a protestant

is to be allowed to keep the protest alive. If the protestant refuses to do a site visit within a reasonable time or cannot spell out the measures that can be taken to resolve the protest, the protest should be dismissed, and that should be stated in the policy.

Also in this section, additional language should be specified so that no new grounds for protest may be added after initial filing unless there is a site visit which discloses new grounds. Subsequent to the site visit, and if the protestant desires to file additional grounds, the protestant must have grounds which are site specific and which are based on what was learned during the site visit and then those additional grounds must be submitted within 30 days of the site visit.

In the past, Trout Unlimited submitted additional grounds for protest on many pending applications simultaneously, ones that were still not site specific to the original protests, 3 ½ years and even longer after the initial protest was filed. See my Commentary (pages 6-8, 60-84) for more details. During that prolonged time, Trout Unlimited representatives refused to visit the site, but felt it was acceptable to add new grounds on several occasions. The Division accepted these additional grounds, and so the protestant was able to delay the application procedure for many more years. The Division did nothing about it.

Applicants are required to pay filing fees for water right applications and to the Department of Fish and Game for a 1602 Streambed Alteration Agreement. Protestants likewise should have to pay fees, and I suggest that protestants be charged $750 per protest. This is the DFG fee for a moderate size project that the applicant must pay.

4.3.1. 2. Impact Assessment Criteria and Study Guidelines

The first paragraph discusses "environmental impact analyses . . . for non-salmonid resources including non-salmonid aquatic resources (such as amphibians and warm water fishes) and terrestrial resources, for assessing the effects of onstream dams, and similar resource issues."

This is an alarming concept because it is so broad as to be meaningless. AB2121 stressed protection of instream flows, targeting steelhead, coho salmon and chinook salmon (all endangered or threatened). This paragraph unnecessarily expands the protection to other species, but singles out two classes of vertebrates, amphibians and warm water fishes.

This gives a protestant or any agency carte blanche to compel an applicant to do anything that the protestant/agency wants. Expansion beyond protecting endangered or threatened salmonids which are dependent upon adequate streamflow can easily lead to an entirely new set of regulations to protect fish such as California roach, sticklebacks, Sacramento pikeminnow, and several species of frogs or salamanders, and many non-threatened species. An expansion such as this should require a legislative act.

Moreover, there is no mention in this paragraph of the environmental benefits of onstream dams, and in any environmental analysis of onstream ponds this must be taken into account. For example, migratory waterfowl such as geese, many species of ducks, herons and egrets, and even the occasional cormorant will use these ponds. Redwing blackbirds and the rare tricolored blackbirds (a species of special concern) are totally dependent on still water and cattails. Deer, bear, raccoon, mountain lion, otter, and other mammals use ponds, and are found close to them. A number of insects are confined to ponds and still water: dragonflies and damselflies, crane flies, mosquitoes, backswimmers, water boatmen and toad bugs to name only a few.

The environmental assessment must be sure to include the project benefits to these species also, if it is to include warm water fishes and amphibians. The environmental benefits of ponds are never considered, and should be required to be included in all environmental analyses.

4.3.2. Options for Retention of Consultants for Projects where the State Water Board is Lead Agency

The preparation of any draft environmental analysis should include input from the applicant, and not just the experts. This is accounted for in number (3) and that is heartening. However, the MOU process, as it has been practiced, effectively shuts out the landowner from any input, while the protestant continues to be consulted, and is given many opportunities to review the environmental documents and to request changes. This is an accepted but very unfair part of the process because it locks the applicant out. Protestants are often on a first name basis with Division staff and develop a relationship that jeopardizes staff objectivity while the applicant is just an application number. In any arrangement, language should be included to encourage landowner participation in preparation of environmental documents.

The MOU process also makes it clear that the environmental consultants are working for the Division rather than the applicant. The environmental consultants freely acknowledge this fact. However, the total cost for consultants is borne by the applicant, and can easily run $30,000 to $50,000 or even more. And once again, the applicant has no say in the proceedings. The applicant is the one who is requesting the permit, the only one with anything to gain or lose, and the only one which the outcome of the application affects his or her livelihood, property values, and future of the land. It is very unsettling for a landowner to be excluded from the process.

I would like to see the MOU process eliminated. In its place, the environmental analysis should be written by competent professionals (perhaps from a recommended list) but make it clear the consultants are working on behalf of the applicant and not the State. Consultants then become to some extent advocates for the applicant rather than agents of the Division.

When the documents are all in order and are to be distributed, the applicant should be sent these first copies for review, and given the opportunity to make or request changes. As it stands now, the set of documents such as the Division Site Visit Report and the consultant's Public Trust Resources Assessment is first sent to the protestant, who is given full opportunity to review and add new objections. This happened to me in 2008 for an application I had submitted in 1994. I believe the same procedure is used when these environmental documents are sent to government agencies such as the Department of Fish and Game.

Instead, the documents should first go to the applicant and once he or she or the personal representative agrees to the content, then the documents should be sent out for review. Both agencies and private protestants should have no more than one chance to criticize, and all objections should be project specific. If it is not done this way, the application can be delayed for years as has been so commonly done in the past.

4.4. Pre-decisional Review - Trial Program

This is a wonderful idea, but the language needs improvement to stress in a few more places that a Member of the SWRCB will act as hearing officer on appeal. As it is now, Division staff has virtually complete authority to accept any protest no matter how irrelevant the protest is to the project; staff also has power to compel the applicant to enter into an MOU agreement as long as 11 years (in my case) after an application was filed; staff can, and has, canceled applications when a time deadline wasn't met by the applicant yet staff can delay (and has done so) examination of environmental documents for several years without repercussions; staff has ignored applicant's correspondence and questions (my case during 1994-1998), and can delay the process for decades. Providing an applicant the formal opportunity to bring an application to the attention of a Board Member will do a lot to improve the process, especially the disposition of a protest.

However, I think the language should spell out in more detail what the procedure might be if an applicant chooses to involve a Board Member as arbiter. The bullet points list needs to be lengthened to include unwarranted staff inaction and delays, once the applicant has documented delays or non-cooperation by protestant or agency or Division staff. The applicant should have to make a case in writing why he or she believes it is necessary for a Board Member to hear the case. But at least add the bullet point of staff delay.

The language in this section should specify that testimony will be given, and that there will be an opportunity for cross examination. The language should also make it clear that such a step isn't taken lightly; it must be clear that something has gone wrong before resorting to this procedure.

I remain very concerned about the last paragraph which contains the phrase, ". . . the Division shall provide them [applicant or protestant] an opportunity to prepare competing Draft Decisions for the Division's consideration."

Applicants want to build a project, and divert water for beneficial use. Most applicants don't have time or expertise to go through on their own all the steps necessary for this Pre-decisional Review. Applicants, we have seen, don't have an advocate; they have consultants who work for the State but are paid for by the applicant. An applicant works essentially alone, and knows only one case, his or her own.

Environmental group protestants generally have a legal team or experienced individuals whose major function and purpose is protesting applications and trying to achieve predetermined ends. They want the project to fail in the initial application phase and they will expend time and money to have their way. Protestants are professionals and deal with dozens or hundreds of cases and so are very familiar with the process. They know the ins and outs of protests, how to file them, and how to delay an application for 10 years or more. These professional protestants are experienced in writing protests and in filing additional grounds for protest. The environmental organizations routinely have attorneys who are well versed in the protest procedure prepare the documents. This sort of professional preparation would doubtless extend to the writing of a "competing Draft Decision for the Board's consideration."

The situation is even worse when DFG is the protestant. DFG has an almost limitless staff from a variety of disciplines which the Department may send in to challenge the applicant. DFG can also hire more outside experts, and it is all at taxpayer and applicant expense.

Consequently, the applicant is at a terrible disadvantage from the beginning. When given a chance to write a "competing Draft Decision", the protestant's version prepared by an attorney working for an environmental organization or prepared by an agency with vast resources, will almost invariably be superior to the applicant's version. And since the applicant has no advocate, he or she is forced to do it alone or engage an attorney who may or may not be familiar with the process. It is all but certain that the professional protestant, the protestant's attorney or agency staff will be more knowledgeable and will know better how to succeed than the applicant's attorney. Bringing in attorneys for both sides also leads to more of an antagonistic situation than should normally be called for in a water right application.

I think the solution is to ensure that all consultants should act in a professional capacity and should also be advocates for the applicant. Language should be added to the last paragraph to state that applicant's consultants are actually working on behalf of an applicant in the event a draft Division Decision is written.

Also, the hearing must be confined to specific points of the specific project which were raised in the initial protest. The bullet points in Section 4.4 are not sufficient issues to guide a

Board Member acting as an independent hearing officer to a decision. As I pointed out at the beginning of this section, protestants have all the power, and unless carefully handled to achieve a level playing field, protestants will take advantage of the Pre-decisional Review process also.

Section 5. Review Standards for the Calculation of Bypass Flows, Rates of Diversion, Season of Diversion, and Cumulative Effects

This section is a vast improvement over the original NCIFP draft, and I'm sure I speak for the regulated agricultural community when I say how grateful I am to see these changes. As originally written, ponds in watershed areas less than 200 acres would not be allowed any diversions at all, and that in a watershed area of 9,600 acres (15 square miles), diversion would be possible only about 25 to 30 days. The current Joint Recommendations proposal will allow at least some diversion in small watersheds.

It is also an improvement that ponds in small watersheds which are too small to support salmonids will generally be exempt from bypass flow requirements. And the bypass flow requirements themselves are written in a more realistic way than before.

While I may be critical in many places of these Joint Recommendations, I also recognize the good points, and much of Section 5 is far superior to the original draft.

5.6.1. Fill and Spill Projects that Require No Minimum Bypass Term

B. Exceptions

The draft says that in some cases even where the watershed area is less than 64 acres, there may be a bypass requirement to sustain aquatic life below the diversion. This is too vague because it doesn't specify what species of aquatic life. A watershed area of 64 acres or less will preclude the existence of anadromous fish, as is pointed out. However, Section B simply refers to "aquatic life". Does this mean amphibians, or might it include the numerous invertebrate aquatic species? As it is, the door is left open to require a bypass in small watersheds without an adequate rationale. The potential for abuse is huge. Language should be added to clarify the meaning of "aquatic life" and to clarify when the bypass requirement is added where it normally would not be needed.

5.6.2, 5.6.3 and 5.6.4. Projects Required to Bypass Various Q Values and the Cumulative Effects Test

A bypass requirement is ordered for all streams in watersheds greater than 64 acres. However, it seems to be implied that certain projects which meet standards after site specific studies are made might become exceptions. It's not spelled out well.

Although there won't be many cases, there will be some projects which shouldn't need a bypass flow. The draft properly considers three factors: watershed area, streamflow values, and pond size relative to annual seasonal streamflow. The Cumulative Effects Test is a good idea. If the pond size is small compared to the annual streamflow, no bypass should be required. As an example, take a watershed area of 75 acres and a rainfall of 60 inches. This can easily have an annual streamflow of 225 acre-feet of water. If an applicant wants to construct a pond, offstream or onstream, to contain 10 acre-feet of water, no minimum bypass flow should be required, and this Test seems to allow for that.

Some language should be added or clarified to allow for these possibilities in the event one can show that no downstream harm will occur. This is more or less taken care of in Section 5.3. Flow Management Objectives and 5.3.2. on estimates of cumulative rates of diversion. But I think clarification is in order for these unusual situations.

5.7. Mode of Bypass

A. Active Management

This section as written says that rate of flow below the point of diversion, flow rate and volumes, and reservoir levels are all to be recorded and reported. There is nothing said about when, so it implies all year long. Since the policy is written to maintain streamflows for anadromous fish, actual rate of flow monitoring (cfs) should be confined only to the season of diversion, and should reflect the necessary bypass flow Q_S or Q_{WLF}. Projects cannot measure flow during large storms because water volume will exceed the instrument's capacity to measure the flow rate; there should never be a need to record actual rate outside of the diversion season.

5.9. Guidance for Estimating Q_S and Q_{WLF}

5.9.1. Site Specific Studies

5.9.2. Regional Estimates for Calculating Flow Thresholds

This section refers to the calculation of Q_S and Q_{WLF} and states, "The formulae shall be tested and adjusted based on the results of additional field work and site specific studies."

The Appendix goes into considerable detail regarding estimates for Q_S and Q_{WLF}, and cites research on riffle crests and water depth. This is fine as far as it goes, but all of this cited field work was carried out northeast of Arcata Bay in Humboldt County near Brookfield. This area is prime habitat for coho salmon. Average annual precipitation is around 75 inches, with 10 inches or so of rain falling from April through September. Summer daily high temperature is around 75° F. Summer fog is common. The Mad River flows all year long, and so do most of its tributaries. Stream morphology tends toward the narrow and deep, with low width/depth ratios (see Dave Rosgen: *Applied River Morphology*). Water temperatures are cold, seldom exceeding 70° F or so. Vegetation is primarily redwood forest and the ground is covered with mosses, ferns, skunk cabbage and other humid forest representatives. The area, except where disturbed by man or fire, is well shaded. This area is also from 50 to 65 miles away from the Mattole River which is the northern most part of the policy area.

The Russian River basin has conditions similar to these only in a relatively small area, from Hacienda or Rio Nido westward, to include a few tributary systems such as Austin Creek, Dutch Bill Creek, and Willow Creek. This region, fairly near the mouth of the river at Jenner, gets warmer in summer and has less rainfall than the Brookfield area cited in the studies, but still is primarily redwood forest, and conditions are reasonably like the Humboldt County study area.

The majority of the Russian River basin is much different. The Brookfield study area lies nearly 190 miles away from Healdsburg. It's not much of an exaggeration to say their low flow years are our high flow years. Mean annual precipitation in the Russian River Basin is from 35" to 50", and there is virtually no rain at all from mid May through the end of September or into mid October, a five-month drought which occurs every year without fail. Summer temperatures always reach more than 100° F and there may be two to three continuous weeks of temperatures in the 95° range. The rivers and creeks dry up completely, including much of the entire West Fork of the Russian River. The only reason that the mainstem of the Russian River has any summer flow at all south of Ukiah is due to the Potter Valley diversion and Lake Mendocino. The Potter Valley diversion historically has sent on average 140,000 acre-feet annually from the Eel River to the East Fork of the Russian River which flows into Lake Mendocino and out again. At capacity, Lake Mendocino holds about 90,000 acre-feet and releases water year round and averages a release volume of more than 200,000 acre-feet per annum. Otherwise, many reaches of the Russian River would be dry with a few pools, and some subsurface flow.

In contrast to the streams near Brookfield, the streams which are tributaries to the Russian River tend to have a high width/depth ratio, are shallower, and evaporate more water. The stream gage (USGS 11461000) for the West Fork watershed of 100 square miles registers around 0.25 cfs in the month of September. This is the equivalent of only 112 gpm, or less than 15 acre-feet for the entire month. There are few summer pools at all in the West Fork and most of those will have a water temperature of 80° to 90° F on a summer day. This temperature is lethal to all salmonids. Vegetation is oak woodland or oak savanna, typically blue oak, Valley oak, some interior live oak and many alien grasses, all suited to thrive in a five-month period without rain. These areas are habitat for chinook salmon, not coho habitat where the cited studies took place.

I don't mean to criticize the actual field work which has been conducted in Humboldt County, but results from these studies cannot be extrapolated to such a different region as the Russian River watershed. While the concept of a minimum depth needed for salmonid passage may be true for differing watersheds, the hydrology of the Russian River basin is so variable that site specific studies must be conducted to obtain worthwhile results. Relying on Mad River studies is not appropriate here. Imagine the furor it would cause if the authorities imposed the same water use restrictions and standards of the Russian River system to the Mad River and others of northern Humboldt County solely based on studies of Russian River tributaries. It simply wouldn't be scientifically appropriate, and our northern neighbors would justifiably howl in protest.

We did discover on a website a series of tables relating to Q_S and Q_{OPT}. These tables are filled with data from the Mad River and some tributaries in northern Humboldt County. Rock Creek and Elder Creek, tributaries to the Eel River in northern Mendocino County, and Big Sulphur Creek in Sonoma County were included. These will doubtless provide valuable information, but must be repeated in at least ten watershed areas in the Russian River basin upstream of Hacienda, to include at the least the Alexander Valley and Franz Creek and Mark West Creek, Dry Creek areas and Santa Rosa Creek, all in Sonoma County, and areas of Mendocino County such as Pieta Creek, Feliz Creek, Dooley Creek, Robinson Creek, and the West Fork of the Russian River. There should be similar studies in the Napa and Petaluma basins and many of the coastal streams. Only then will the results be meaningful for fish and fish habitat improvement. There is no substitute for ground-truthing site specific studies in the policy area and no policy should be written absent these studies where the policy will apply. Time and expense cannot be used as an excuse for not conducting these studies when an applicant has spent years and has been required to spend many thousands of dollars on studies trying to comply with the application process.

5.10. Guidance for Estimating Upper Limit of Spawning Habitat

The text reads that the upper limit is, "the stream reach that includes the uppermost habitat that may support anadromous fish spawning under unimpaired conditions (in normal and above-normal water year types)."

The words "may support" are very troubling, because neither history nor actual observations are taken into account; this phrase also does not consider possibly changed environmental conditions over time. The fact that a creek "may support" anadromous fish spawning does not by itself mean that the stream actually did and possibly now supports fish at that location. There are many creeks which at first glance appear to be suitable, but on closer inspection prove unable to support fish spawning. Language should be added to say that the stream is known to be spawning habitat because anadromous fish were observed, or that there are credible records of fish there within the last 25 years.

Moreover, since conditions may have changed over time, what was once reported may no longer be true. An agency report may be relying on information 50 years old or even more. Therefore, language should be inserted which states the applicant has the right to challenge the opinion of any agency or protestant regarding the upper limit of spawning habitat. The applicant should have the right to conduct a site specific study of the habitat, and the conclusion from this study may result in a different determination of the upper limit of spawning habitat than an initial study might suggest.

Section 6. Watershed-Based Approaches

6.2.1. Definition of Charter

This idea a Charter may well be workable and desirable. However, the section states, "At a minimum, the Charter shall define the basic goals or objectives of the Charter group, the requested Water Board approvals, and water right application or petition processing steps (defined generally in Sections 4.1.1 and 4.1.2)." When I referred back to Section 4, there are no Sections 4.1.1 and 4.1.2. It does not appear that this simply is a typo and refers to Sections 4.2.1 and 4.2.2. Here is a topic that the authors must address.

6.2.2. Definition of a Watershed Management Group or Charter Group

The Charter Group is first defined as a group of applicants, petitioners and/or existing water rights holders. But a few sentences later this section says, "The Charter Group is encouraged to include nonprofit corporations, government agencies, or other people who will participate in Group activities (for example monitoring, coordination, or management plan development) but will not hold water rights."

Encouraging groups or agencies which have a predetermined and oppositional interest in the outcome of the Group but which do not have any potential loss or risk is a poor idea. The probability for abuse by such participants is very high and it would be easy for non-water rights holder members to dominate the whole process to the detriment of water rights holders and then develop plans which are not at all in landowners' best interests.

Instead, language should be added to stipulate that unless one does possess a water right or is an applicant for a water right, that person shall not be a part of the Watershed Management Group or Charter Group.

The whole idea of the watershed approach is to foster self-regulation among water rights holders, and to establish a set of procedures for applications to achieve procedural efficiency all the while protecting fishery resources. Whatever is decided must in any event be approved by the SWRCB. To allow nonprofits and agencies with incompatible goals to those of water rights holders to be included as full partners can only result in animosity and failure of the process.

There is no reason to receive mandatory input to a Charter Group from anyone other than legitimate water diverters and appropriate lawful regulatory agencies. Based on Section 6.2.4. Elements of Water Diversion and Streamflow Implementation requirements, why would one need input from others who have prearranged agendas antagonistic to water right holders?

If the Charter Group wants assistance, a point should be added to say the Group is free to hire professional consultants.

6.2.3. Elements of Diversion Management Plan

Information point (iii) requests an estimate of the percentage of total diversions in the

watershed that are included. There should also be an estimate of the actual amount of water diverted in one year compared to the average annual natural streamflow in the watershed, much like the CFII. This is critical information to have in order to plan for future projects.

Information point (vi) refers to "meaningful consultation with non-member stakeholders." Non-members should not be called stakeholders; they are non-members. A stakeholder is a person or entity who has a stake, or who risks something in an enterprise. For a stakeholder, there is a possibility of loss instead of gain, and there is a direct connection between that person and the outcome of the activity. Non-members face no risk, cannot be punished, and cannot lose financially. They should simply be called non-members and should be prohibited from joining a Watershed Management Group or Charter Group. While information may be given to non-members, the Charter Group should not be under any obligation to consult with non-members. Control must rest solely with the water rights holders, who are of course subject to the SWRCB and other state and federal authorities.

Section 8. Compliance Monitoring, and Reporting

Imagine that your car and everyone else's car is equipped with a GPS sensor which has a unique identifier to your vehicle and which sends a radio signal of your speed and location at every moment to the California Highway Patrol. CHP knows how fast you are traveling at any moment. Whenever you go 71 miles per hour on the I-5 or other freeways, they immediately know it, and 10 days later you receive a ticket and a fine of $175 with instructions to pay promptly. And by the way, your speeding infraction would be posted on the web for all to view.

Would any person reading the Joint Recommendations be willing to accept this invasion of personal liberty? Of course not. You would say you wouldn't want to live in a police state, and you and 38 million other Californians would force the authorities to back down.

This requirement of Section 8 was set by Trout Unlimited and directly leads to this aspect of a police state for water users. See my Commentary of April 22, 2008 on the draft NCIFP (pages 8, 9, 18, 25, 70) for details of Trout Unlimited's historical activity as long ago as 1998 on this topic. Streamflows and pond depths are to be monitored at all times, at least once each hour, and data will be radioed to the SWRCB where it will immediately be placed on the web in real-time or close to it. The only way you will know how your stream is performing is by going to the website. But you won't be the first one to view the information. The environmental groups will already have reported any infraction to the SWRCB if the agency hasn't yet spotted it. The SWRCB will then take punitive measures.

There will be those who say there is nothing to fear from continuous monitoring if you are doing nothing wrong. But my response to that is, what information is there to be gained from continuous monitoring that can't be gathered from monthly monitoring and reporting? I fail to see continuous monitoring as a concept that benefits salmonids. I see it as having an entirely different purpose.

There is only one reason that Trout Unlimited (and perhaps the Division of Water Rights staff) wants this, and that is to seek out anyone whose flow metering does not meet the instantaneous flow criteria, and then to punish them with fines. And by the way, you get to pay your fine administratively, and no, you can't get your case heard in front of a judge as you do for a speeding ticket. The Division of Water Rights is the sole arbiter.

There's another terrible aspect: once started down this procedural path, this monitoring and electronic reporting will go on forever. Landowners, their heirs or other future owners will be

saddled with this awful burden which never will get easier. Remember that perpetuity is a long time.

The first conclusion to make regarding Section 8 is that it is by far the most troubling of any of the sections in the Joint Recommendations. As I have just discussed by accurate analogy, the introductory paragraph demonstrates an appalling ambition to subjugate all diverters to punitive, expensive and useless overregulation. This section was clearly authored by Trout Unlimited in a continuing effort to make life so difficult and the process so expensive for applicants and diverters, that applicants will give up and not even apply for a water right.

The first issue here is "continuous monitoring", meaning taking readings of various parameters at intervals of one hour or less. The historical reference for demanding the monitoring of actual flows and reporting them on a real-time basis goes back to a letter dated July 7, 1998 from the Trout Unlimited attorney, Richard Roos-Collins of Natural Heritage Institute, written to the SWRCB. That letter said that Trout Unlimited wanted the Division to set up a meeting with government agencies and others to examine feasible techniques to "monitor actual flows into and out of the point of diversion, and report such data, on a real-time basis." I don't know the results of such a meeting but it would be most instructive to see the notes and minutes, and to learn how quickly the Division accepted this idea from Trout Unlimited.

On August 26, 2006, Mr. Roos-Collins wrote again to the SWRCB on behalf of Trout Unlimited. He insisted on seven conditions, two of which are pertinent here: "(D) Each point of diversion will include continuous monitoring and reporting of diversion, or (if infeasible) an alternative that provides the functional benefit." "(E) Each point of diversion will include real-time monitoring and reporting of physical conditions necessary to achieve a quantifiable management objective for the affected reach, such as inflow, outflow, water quality conditions, depth or width of wetted channel, or some combination."

With the above paragraph as historical documentation, Trout Unlimited continues these demands in the present. The introductory paragraphs of Section 8 go on to say, "that the State Water Board intends to develop and implement a basin-wide program for real-time electronic monitoring and reporting in a standardized format, and that such reporting will be required upon a showing by the State Water Board that the infrastructure is in place to accept real-time electronic reports."

It is important for everyone to understand that these Joint Recommendations are not being written by the State Water Board but by a committee consisting of the Trout Unlimited attorney, an attorney from a law firm, and an engineering consultant firm. That being so, this "intention" does not come directly from the Water Board, but was written by Trout Unlimited, just as the idea for the requirement for continuous monitoring came from Trout Unlimited more than a decade ago. Trout Unlimited has said that it will not compromise on its requirements for monitoring and reporting and that is noted in the Introduction section of these Joint Recommendations. [See cover page of the Joint Recommendations Introduction written in italics.] It is important to consider the motivation Trout Unlimited has for requiring hourly monitoring now and real-time web-viewing in the future -- is it necessary for the benefit of fish or is it a punitive strategy against landowners? There is no doubt in my mind it is the latter reason.

There are many reasons to object to this requirement becoming a part of the policy. The most important one is that it does not serve the habitat needs of salmonids. If the policy truly is to be applied only to new projects, few streams will ever be monitored at all. This is true because getting a permit to divert water has become so difficult, and will be even more so under these recommendations if they become policy, and so expensive that few applications will ever be

approved, and consequently, few streams will ever have this continuous monitoring. The vast majority of each of the smaller watershed areas and the Russian River basin as a whole, the Napa River and Petaluma River basins, and the coastal streams will remain unmonitored, because either no project will be built or because the policy will not apply to existing licenses.

If on the other hand, the Water Board does require retrofitting of all projects to continuously monitor streamflows, contrary to what has been said about the policy affecting new applicants only, the overall cost will be enormous to the landowners and to the Division of Water Rights to obtain useful information. People and agencies will spend all their time and money on monitoring and have nothing left over to actually improve habitat conditions for salmonids.

The solution is simple. Establish stream gages operated by the USGS at selected and numerous points in the policy area. Stream monitoring is a major function of the USGS. This federal agency has an information collection system in place with a proven track record of quality data collection and disseminating the information to the public. Gage sites will be professionally chosen to obtain the best information, and with many gages, the USGS can publish reliable and accurate information for the benefit of all interests.

In the event that Trout Unlimited won't compromise (and there is a long history of no compromise by this organization) on the continuous monitoring issue, I offer an alternative to forcing all landowners or those with new applications to do continuous monitoring. If the CFII is less than 15% in a stream which supplies agricultural water, the requirement for continuous monitoring should be dropped and replaced by mechanical metering and reporting via the annual report already required. The Joint Recommendations committee has already said that the proposed flow requirements are less restrictive than the 2002 Draft Guidelines or the 2007 Draft Policy. That being so, a more relaxed method of monitoring should logically follow. Setting a maximum CFII of 15% of unimpaired flow should be acceptable, because this level of impairment is so low that salmonids won't be harmed if the monitoring is not done continuously. No one should complain about this proposal, because it continues to make sure that water is available for salmonids and especially so during critical times.

This isn't to say that bypass flow requirements should be changed. Water would still flow at the same rate as set by the standards. The only difference would be that the diverter can use a mechanical flow meter to measure the bypass flow from a dam and use a staff gage to measure and record the depth of water, and not have to do things in real time with all the attendant negative consequences. In these smaller watersheds where project impact is negligible, it could also do away with a requirement for a personally installed stream gage because the USGS gage would give the necessary information.

8.1. Monitoring and Reporting for Direct Diversions and Diversions to Offstream Storage

8.1.1. General

Provided there is flexibility of the monitoring and recording methods, reporting the amount of water actually used for irrigation is feasible. All users who use no more than the allotted annual volume of water will be willing to meter that volume, provided the cost and bureaucratic involvement are not too high. Inline meters can be installed when the irrigation system is constructed. Recording can be done noting the number on the totalizer to determine total gallons or cubic feet, depending on the meter, and monthly readings can be forwarded along with the annual report of water use.

8.1.2. Compliance with Bypass Terms

A. Passive Management Systems

Passive systems are to be required on large drainage areas, of 640 acres or more. These are watersheds which have the greatest volume of water and in which flooding is most likely to cause damage.

The passive bypass system as described for offstream storage or direct diversion which requires either a gravity flow intake or a pump intake set above a designated depth of the stream will not work reliably except in specialized circumstances, i.e., heavily engineered and stabilized rivers, riverine environments that fish don't thrive in. These are the only sorts of streams which have channel sides and bottoms which are physically stable enough to construct a diversion system which will reliably deliver accurate measurements of the diversion and accurate measurements of the bypass.

Streams of any size, unless put in concrete channels, are dynamic systems: change is always occurring, either in depth or width or even entire channel movement. The larger the stream, the more likely the changes. On North Coast streams in the policy area, the most likely stream change is downcutting of the floor of the channel. Downcutting and channel incision has happened repeatedly on nearly all of the tributaries of the Russian River, especially near their confluences with the mainstem, often the prime area where people need water for agricultural purposes. These stream processes are also ubiquitous in coastal streams.

The passive management system requires that the intake be set at a predetermined level above a designated depth. This provision assumes that the height distance from the intake to the streambed is fixed, but in reality it cannot be. If, or really when, a major storm comes, the rushing water will scour the bottom and lower the channel. The intake is then higher than it should be and the farmer is deprived of water.

On the other hand, in some stream reaches, gravels and other material are deposited after a storm. In these cases, the height distance becomes less and the farmer will be able to pump too early when the depth remains lower than specified.

What is potentially even worse than channel incision or sedimentation is wholesale lateral movement of the stream after a major storm. The shift may not be significant enough that an operator could not place a suction hose in the stream, but it might change the width significantly so the stream depth is altered, either higher or lower than it was before the channel movement, even at the same flow rate.

The passive management system simply is not suited to natural streams and pumping to offstream storage because recalibration will be necessary fairly frequently and how that would be accomplished in a manner acceptable to the Water Board and to the landowner is unknown. There is the potential for it to be as complicated and expensive as getting the original permit because it would be likely to require streambed work. Instream work simply to recalibrate and to relocate the pump intake point would possibly require a 1602 permit. As stated, these are the streams most likely to change course or exhibit downcutting because they are larger streams in larger watersheds. The engineers must be authorized to develop a workable alternative for this section of the policy.

In watersheds smaller than 640 acres but larger than 63 acres, passive bypass systems are not required for direct diversions or diversions to offstream ponds.

B. Active and Automated Management Systems

This section continues the discussion of direct diversions and diversions to offstream

storage. At the moment, it's unclear if already licensed ponds will be affected, but I have heard that this may be a possibility. The Joint Recommendations state in Section 3.3 that only pending and new applications, and change petitions are covered. However, most or all existing licenses also have some provision for the SWRCB to open up existing licenses and require certain kinds of changes. As pointed out earlier, requiring monitoring of streamflow for new applications will result in few monitoring stations and very little useable data. The draft is intentionally vague here about the mechanism to monitor bypass flows with an active or automated bypass system, but does state that ". . . the applicant shall monitor and report rates of flow immediately below the POD as well as diversions and reservoir levels. . . ." One would never know the "big picture" of the stream system, only the information at the POD.

If on the other hand the policy really intends to have all diverters comply with this requirement, there is a nightmare waiting to happen to all landowners, and a nightmare to Division staff or anyone who is forced to look at the data and develop meaningful interpretations. Such monitoring will not generate any useful hydrologic information, nor will it assist in the maintenance and improvement of salmonid habitat. It will generate inconsistent and incoherent data, nothing more.

Trout Unlimited favors real-time flow monitoring and reporting by wireless transmission. Setting this up and checking it to make sure it works is very expensive and time consuming. It's one thing to conduct an academic study funded with federal and state grant money on one or two streams sending data from half a dozen flow measuring devices to university computers and with no fear of punishment when a gage or device malfunctions. It's an entirely different affair to expect a thousand or more landowners to do this on streams for direct diversion or diversion to offstream storage, or to onstream ponds. The set-up and maintenance requirements are totally out of proportion to any possible benefit.

Now, think for a moment about the Division which receives all those data. How can the staff ever make any sense of it? Just inputting it into a database, even if automatic, would be a huge task. Interpretation into meaningful information would be overwhelming, and no one person or even a team could keep up with it all.

Consider the real examples of monitoring inflow, outflow, and reservoir levels in Lake Mendocino and Lake Sonoma. It's a huge job to take the data and report it even though these reservoirs are operated by well-paid professionals of the U.S. government. Stream gages, such as many of the ones on the Russian River, provide accurate and official information to the public but it can take up to one year after the daily readings are recorded to ready this information for release. (A few gages do provide provisional data soon after collection.) Now, extrapolate that to 1,000 landowners attempting to do the same thing. It's impossible. Real-time monitoring flow rates downstream of the POD should be eliminated totally.

Instead, to get an idea of the hydrology of the stream, many more stream gages should be added to the main stem of the Russian, Napa, Petaluma Rivers and to some of their tributaries, and should be operated by the USGS. If there are a number of gages on a stream and they send data on to a central office, one can see what is happening to the stream at selected points, and interpolate for the larger areas. The gage sites would be selected with a plan developed ahead of time, with an eye toward understanding the hydrology of the stream and adjusting diversions as needed to ensure salmonid passage and survival.

For example, there is on the West Fork Russian River one stream gage, located just above the confluence with the East Fork of the Russian River and separate from Lake Mendocino. It is operated by the USGS. This drainage area of the West Fork is 100 square miles and this gage

measures the flow of the entire West Fork. There are two main upstream sources: the West Fork itself above Forsythe Creek comprising 35 square miles and Forsythe Creek, of 48 square miles. The area after they join is 17 square miles. It would give a great deal of information if there were a gage on Forsythe Creek just upstream from its confluence with the West Fork, and if there were a gage on the West Fork just upstream from its accepting water from Forsythe Creek. A gage could also be placed somewhere upstream on Forsythe Creek, and at some location upstream on the West Fork itself. (In fact, the USGS did operate a gage on the West Fork about 8 ½ miles north of Lake Mendocino for five years which produced much useful data.)

If there were a total of five stream gages in this system of the West Fork, data management would be possible and valuable information would be gleaned.

However, if every small diversion on the West Fork of the Russian River had to have its own monitoring downstream from a POD, it would require 125 monitoring sites for appropriative users (i.e., ponds) plus monitoring by some licensed direct diverters. This is an impossible task and would never result in useful information. The West Fork has a mean annual flow of 128,000 acre-feet, and 100,000 acre-feet during the period December 15 - March 31. The total accumulated amount of diversion is about 2,650 acre-feet, just over 2% of mean annual flow. Clearly, five well-placed federally operated stream gages would be far more valuable than 125 individual gages, one below each diversion. It goes without saying that other moderate size watersheds in the Russian River basin could be monitored in a similar manner.

There is a practical matter to consider also when discussing streamflow monitoring at a site. The flow may range from 0 gallons per minute in summer to 3,000 gpm (= 6.68 cfs) or more, even on a small watershed. Measuring that range of flow volume is very difficult. For example, a 2" water meter typically measures accurately in the range of from 40 gpm to 250 gpm (0.09 cfs to 0.56 cfs). Any flow rate below 40 gpm in this size meter is likely to be inaccurate. In order to accurately measure 1,000 gpm (= 2.23 cfs) one must use at least a 6" meter, which generally can measure from about 80 gpm to 1,400 gpm (= 0.18 cfs to 3.2 cfs). In order to accommodate 2,500 gpm (= 5.57 cfs) one needs to use a 10" or a 12" meter, either of which has to have at least 300 gpm (= 0.67 cfs) or more to give accurate readings. The flow rate variability to be measured is so great that it cannot be done with a single meter. (I should mention that there are a few specialized and very expensive meters which can measure from 15 gpm to 1,150 gpm (= 0.03 cfs to 2.56 cfs), but that still doesn't solve the problem of very low and very high expected flows.)

I am now learning that there is a device which measures the pressure of the water directly above the device. It is called a pressure transducer. The pressure of the water on the transducer is directly related to the height (or depth) of the water. When the stream channel is carefully surveyed for depth, width and sides, an engineer can develop a series of horizontal cross sections of the channel. The cross sectional area may then be used in conjunction with the height of water recorded by the transducer to estimate flow rates. The less depth of water, the lower the flow; the greater depth, the more flow. At each location that one of these transducers is placed, the engineers must first conduct a stream channel survey, then develop the cross sections, and finally relate stream depth to flow rate at any depth. These are routine engineering problems to solve, but the solutions aren't cheap. These also require recalibration on a regular basis.

8.2. Monitoring and Reporting for Onstream Reservoirs

8.2.1. General

Monitoring and reporting for onstream reservoirs must be divided into three separate

operations, as the first paragraph says. For onstream reservoirs, much of what is suggested can be complied with.

1) The reservoir level must be monitored occasionally during the time that the pond fills. However, a pressure transducer is an unnecessary and expensive method. Substituting a staff gage in the pond to measure water depth will do the job, better than a pressure transducer. There are no maintenance problems, there are no batteries to replace, and the staff gage can't get lost as a transducer can nor will a staff gage break down.

A staff gage can be read at the end of each month, and more frequently when the pond is filling or when water is being withdrawn for irrigation.

2) Releases to the stream channel may be read with an online flow meter. During the diversion season, the landowner just needs to set the flow to the required bypass, Q_S or Q_{WLF}, and record the flow rate and numbers on the totalizing meter. The landowner can check this at the end of each month to ensure the proper rate of flow and volume has been released. These values can be reported to the Division on the annual report. This will satisfy the bypass flow monitoring term.

3) Measuring the withdrawals from the pond is easily accomplished with an inline flow meter as the Joint Recommendations suggest. Recording may be done daily when the irrigation pump is operating because a person will go to the site anyway to turn on the pump, so recording a totalizer meter is not onerous. For completeness, the meter reading may be recorded at the end of each month during the period no water is being used.

In summary, there are far easier and cheaper methods to monitor flows, both onstream and offstream, than to require expensive high tech real-time monitoring methods and wireless reporting. Landowners should be able to choose monitoring methods.

8.2.2. Compliance with Bypass Terms

A. Passive Management Systems

The objections raised regarding direct diversion or diversion to offstream storage do not apply here, and for larger onstream ponds on large watersheds, a passive management system for MBF may actually work. However, there remains the objection of high cost, and there will be some environmental damage to the land surface and the creek bed to construct such a system which would not occur otherwise.

B. Active and Automated Management Systems

An automated system should never be required for a small project defined, according to the Water Code and the SWRCB, as 200 acre-feet per annum of storage or less than 3 cfs direct diversion. One should never confuse farmers in the policy area with PG&E which has the resources to build and monitor an automated bypass system.

Active bypass systems as described above will do a satisfactory job. Data will be collected by the diverter and sent to the Division of Water Rights in the annual report for water use.

8.2.3. Compliance with Season of Diversion

This section starts out in an acceptable and reasonable manner, stating the pond level shall be recorded at the end of the irrigation season, and that all flow entering the reservoir before the start of the season of diversion shall be released. But the sole suggested method of monitoring reservoir level is to use a pressure transducer.

A method to monitor reservoir level that is just as accurate and just as compliant is for the

landowner to go to the reservoir on a periodic schedule to look at the staff gage and record the pond height. This can be done as the Joint Recommendations requires, at the end of the irrigation season, and at monthly intervals until the end of November, and then on the 15th of December which is the start of the collection season. All water prior to the 15th of December must be bypassed anyway, so if the pond height remains where it was when irrigation stopped, it's evident all the water was bypassed. At that time, diversion to storage may commence and at the same time the meter to record bypass flow will operate.

8.3. Monitoring and Reporting of Streamflow

8.3.1. Individual Stream Flow Monitoring and Reporting

The first paragraph says, "Permittees may install an automated flow and temperature measuring device or devices downstream of the point of diversion." The second paragraph says, "The location of such devices shall be specified in the compliance plan approved by the State Water Board. The Flow data shall be recorded on an hourly (or more frequent) basis in a format that can be readily downloaded into a computer spreadsheet program or database for subsequent reporting."

Once again, these requirements are written by Trout Unlimited for Trout Unlimited's convenience. See my opening discussion as to why this is unacceptable, but there's more to add.

The SWRCB cannot possibly have authority in the issuance of a water right permit and license to demand that water temperatures be taken on a continuous basis. Very few USGS gaging stations take temperature readings. It's not logical or fair to expect the private landowner to do this when federal government with its vast experience and resources will not.

What will be the next demands on the part of Trout Unlimited or the Division of Water Rights? Continuous readings of parameters such as dissolved oxygen, dissolved carbon dioxide, pH, turbidity, concentrations of various cations (e.g., iron, magnesium, manganese, calcium) or anions (e.g., phosphate, bicarbonate), total dissolved solids, alkalinity and more? All of these show annual variation in a seasonal stream. Where does it all stop? We are farmers who will pay for all this, but we are not research scientists who gather data at taxpayers' expense using lucrative grants.

This section should be deleted entirely. If not, language should be added to read, "The State Water Board and interested environmental groups shall pay all expenses to install automated temperature measuring devices downstream of the point of diversion, and shall pay the cost to maintain and monitor these devices. Landowners shall be held harmless."

8.3.2. Participation in Regional Stream Flow Monitoring Program

The first sentence states: "Permittees may participate in a Regional Monitoring Program (Program) described in section __ of the policy (Policy Effectiveness Monitoring and Review)."

This apparently refers to Section 9 called "Regional Monitoring and Policy Effectiveness Review". The Joint Recommendations should be consistent in terminology from one section to another.

A more substantive concern regarding this section is who must participate. It is clear that landowners with diversions in watershed areas of less than 64 acres will be required to participate and pay for the regional monitoring. However, it's not clear that those projects which have compulsory monitoring of streamflow downstream of the POD will have to participate and pay. This needs clarification.

8.4. Reporting

The opening paragraph states, "Until further modified by formal action of the State Water Board, the data required by this section shall be submitted in either hard-copy or electronic format . . . ." The second paragraph begins, "Data required for automated bypass systems shall be recorded on an hourly (or more frequent) basis and presented both graphically and numerically . . ."

As stated before, there's no reason to compel electronic format reporting, and there is no benefit to anadromous fish in requiring continuous monitoring in automated bypass systems.

8.5. Development of Standardized Electronic Reporting

8.5.1. Publication on the Internet

Without knowing the details for the proposed electronic reporting scheme, it's impossible to comment, except to say that the method should be simple.

The idea of publishing the information on the Internet may be feasible and useful for USGS gage data, but to do this for each of the hundreds of streams on which diversions are located is an absurd idea. Very little information pertaining to salmonid habitat or fish population health will be recovered. Real time data on these streams cannot possibly provide much more than noise.

8.6. Compliance Plans

The last paragraph states, "Permits shall state that the State Water Board reserves authority to remedy cumulative impacts on public trust resources; this reservation includes the authority to modify permit terms as a result of new information developed after the permit is issued, through compliance or policy effectiveness monitoring, or through other means."

What this really says is that even though a landowner develops a compliance plan and even though that compliance plan is accepted by the Water Board, it is a meaningless document because the Division of Water Rights can force the landowner to do things or make changes to the compliance plan which are harmful to the landowner. There is nothing in this paragraph to say what the source of "new information" is, nor anything about determining the validity of this new information.

If the Division is to remedy cumulative impacts on public trust resources, the Division should have the obligation first to scientifically and conclusively determine there is a deleterious impact on a public trust resource, and second to conclusively determine there is a nexus between that impact and the specific project. Without this safeguard, there is no assurance for a landowner that he can continue his livelihood and his survival on his land even after much time and great expense has already been spent in complying with every previous requirement.

9. Regional Monitoring and Policy Effectiveness Review

This is an excellent idea except for one major omission: there is little specific reference to salmonid populations and their increase. The term "protective of anadromous salmonids and their habitat" is used here and elsewhere in these Joint Recommendations and the Draft Policy authored by Division of Water Rights staff. The problem when it comes to monitoring the listed attributes of diversion season, minimum bypass flow, maximum cumulative diversion, onstream dam mitigation measures, etc. is that when referred back to the "effectiveness of whether the standards for maintaining instream flows are protective of anadromous salmonids and their habitat" there is nothing here which mentions population sampling of the fish.

In fact, this section goes on to mention the monitoring of stream hydrology, geomorphology

and anadromous salmonid habitat conditions without once stating that populations studies are to be made. If it is the intention of this section to monitor fish populations, the policy should state that.

There is a short paragraph referring to the R2 Resource Consultants Report of 2007, which was written about the same time Division staff prepared the original NCIFP. The Joint Recommendations refer specifically to Chapter 10 and Appendix K, both of which contain recommendations. In fact, Chapter 10 of that report is titled, "Effectiveness Monitoring Program".

I have read these documents and much of what is proposed is workable, although frightfully expensive. The consulting firm categorizes monitoring by purpose: 1) for compliance to a plan; 2) for effectiveness of the plan; and 3) as a validation for monitoring procedures and to test various hypotheses and models. The latter form is used to see if relationships between actions and their effects occur as predicted. These are all worthy goals as long as they remember to include salmonid populations in their studies. It is important to remember that there is no guarantee that implementing any part of or all of this policy will result in any significant increase in the number of anadromous fish returning to the Russian River watershed. It is widely acknowledged that there are many reasons for the decline of salmonids in various watersheds and in the ocean.

I have a serious reservation about the establishment of the Monitoring Oversight Committee. It is to be composed of nine members: one senior staff member of the State Water Board with experience in water resources management; one other representative from the Water Board; one representative each from Department of Fish and Game, NOAA Fisheries, U.S. Fish and Wildlife Service, California Department of Water Resources, and USGS; and two independent scientists from academic institutions.

Once again, the landowners who are ultimately being held responsible for the success of increasing salmonid populations are shut out of the process. So are trade organizations such as the California Farm Bureau, and all of the water purveyors or representatives from the county water agencies.

The Joint Recommendations were careful to propose inclusion of organizations antagonistic to water rights holders in the Charter Groups but also careful to exclude water rights holders from the Monitoring Oversight Committee. Clearly, there is an inherent and obvious bias against water right holders. They must be included in the decision-making processes.

Chapter 10, Section 10.3.7 of the R2 Report discusses funding support and specifically recommends that the State Water Board commit sufficient funding. It also recommends that the Water Board form partnerships with other agencies and stakeholders. This all makes sense.

But the Joint Recommendations twist this and instead state, "The State Water Board will require water right holders to fund the development and implementation of the program . . . and shall also seek public funding."

The Joint Recommendations go on to say, "If possible, the program will provide for USGS operation of gauges throughout the policy area. It will, at a minimum, provide for stream gauging at a level contemplated by Appendix K [of the R2 Report]. It is anticipated that water right holders will pay for instruments and staff time necessary for installation and upkeep, and that right holders will provide access to streams, but that water right holders will not be required to operate the program."

The Joint Recommendations simply say that all costs will be borne by water right holders, and yet, the applicants or water right holders have no say whatever in the development of the monitoring procedures. Moreover, the authors of the Joint Recommendations don't provide even a hint of the cost to implement and operate this monitoring program and all the new research that will come of it. The cost will be astronomical, and I'm sure to implement this in the manner described

will run into the tens of millions of dollars.

For the Division of Water Rights to blithely assume that landowners should be the principal benefactors to pay the costs of implementing the Section 9 plan is totally unfair. The whole foundation of this proposed policy, the Trout Unlimited Petition and all the changes in rules lies in the concept of the Public Trust Doctrine which the Division and Trout Unlimited routinely cite. If there is a Public Trust issue, then the public should happily pay for it.

As Brian Hunter, former DFG Director for Region 3 once said to me, "Most landowners are not the cause of salmonid habitat degradation. So, it's appropriate that mainly public money [e.g., funds provided through SB274] be used in habitat restoration projects, along with some landowner participation." The same principle should apply to monitoring.

The Division has repeatedly said that the entire reason for the NCIFP is to improve anadromous salmonid habitat and to increase salmonid populations. The reasons for the decline of salmonids are numerous and varied. The cost of trying to save a public resource for the benefit of the public should be put borne by the beneficiary public, not just the small number of landowners.

It is completely unreasonable for landowners to bear these costs. At the least, the SWRCB should use its general fund money for these purposes, and each of the agencies sitting on the Monitoring Oversight Committee should have to provide some funds also.

It is stated unequivocally in a number of places that the NCIFP will apply only to new applications, and this has been reiterated by senior staff at various public meetings. This monitoring program clearly anticipates funding by other than new applicants, which is contrary to the statements and the policy as drafted.

So, it's imperative that this Section 9 be rewritten to discuss funding sources other than landowners and water rights holders when considering the Regional Monitoring and Policy Effectiveness Review Program.

10. Enforcement

11. Fish Passage and Screens for Diversions on Class 1 Streams

12. Standards for Processing Permits for Onstream Dams and Reservoirs

13. Small Domestic Use and Livestock Stockpond Registrations

As of the date I'm writing these comments, the Joint Recommendations authors have not written the four sections listed above. When they are written, I will submit comments.

14 September 2009
Date

Rudolph H. Light