UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON D.C., 20460

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Office of Chemical Safety
And Pollution Prevention

James H. Lecky, Director
Office of Protected Resources
United States Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Silver Spring, MD 20910

Dear Mr. Lecky:

This letter provides EPA's comments on the National Marine Fisheries Service (NMFS) May 13, 2011 Second Draft Biological Opinion (Second Draft BiOp) relative to the potential effects of products containing any of four herbicides and two fungicides to federally listed threatened or endangered Pacific salmon and steelhead and their critical habitat, if designated. The Second Draft BiOp addresses formal consultations EPA initiated with NMFS between 2002 and 2004, based on potential risks to the subject species from the registered uses of pesticides containing any of the following active ingredients: 2,4-D, triclopyr butoxyethyl ester (BEE), diuron, linuron, captan, and chlorothalonil. EPA understands that the Second Draft BiOp provides NMFS' updated analyses and conclusions after a consideration of comments and input received as a result of EPA's solicitation of input on the First Draft BiOp. EPA commented extensively on the March 1, 2011 Draft BiOp in our April 19, 2011 letter and technical appendix. To the extent that comments in our April 19, 2011 letter on the First Draft BiOp were not addressed and remain applicable given the changes reflected in NMFS Second Draft BiOp, those comments are incorporated here by reference. Several of these warrant reiteration as follows:

- EPA pointed out that the Terms and Conditions (T&C) that implement the Reasonable and Prudent Measures (RPMs) were very similar to the non-chemical specific Reasonable and Prudent Alternative (RPA) elements in the First Draft BiOp and questioned why the same elements would be appropriate for both the RPA and T&Cs. This same issue exists with the Second Draft BiOp (further input on this is provided below).

- In discussions between EPA and NMFS staff, NMFS indicated they may modify the wind speed RPA element so that wind only needs to be considered if the application of the pesticide occurs within 1000 feet of the salmonid habitat. EPA believes NMFS should so consider limiting the wind speed restrictions.

- EPA remains concerned with the definition of salmonid habitat being employed. While this definition seems to have changed from the First Draft BiOp to the Second Draft BiOp it remains unclear and appears to be inconsistent throughout the Second Draft BiOp. EPA recommends NMFS clarify this issue (further input on this is provided below).

- Regarding the rainfall RPA element, NMFS has again been requested to consider adding a limiting factor in terms of the storm event significance and probability (further input on this is provided below).

- EPA continues to request NMFS consider public comment that applications relative to rain events may not need to be limited for certain application methods that result in little pesticide being applied over a large drainage area – for example, individual plant treatments, low volume basal or cut-stump/surface applications.

- EPA continues to question why NMFS would provide flexibility to EPA to develop mitigation measures intended to ensure pesticides do not reach the stated target concentrations, only to then retain approval authority over EPA's choice of the suite of mitigations it elects to use.

EPA believes that NMFS' enhanced use of spatial and temporal analysis focused on specific use patterns represents an important improvement in NMFS' methodology to determine whether specific ESUs/DPSs have the potential to be exposed to levels of concern for a given pesticide. Though limited in this Second Draft BiOp, EPA believes that future assessments should incorporate an expanded use of this type of analysis for all use sites for individual pesticides. EPA continues to believe that the spatial and temporal relevance of individual use patterns is vital to making spatially explicit risk decisions and limiting the impact of mitigation options on growers and other pesticide users, while still achieving protections for listed species. One step toward more routine use of such analyses would be for NMFS to develop and make available, GIS files of maps that explicitly indicate the water bodies important to each species, and the function of such water bodies in the life cycle of the species. Also, NMFS has used additional sources of monitoring data (*i.e.*, data provided by the Oregon Department of Agriculture) in the Second Draft BiOp which EPA believes provides important information to help put modeling results into context.

EPA appreciates NMFS' willingness to consider data not previously integrated into the First Draft BiOp, and which resulted in significant changes reflected in the Second Draft BiOp. EPA encourages NMFS to document the newly considered data and describe how it was used in reaching the conclusions expressed in the Second Draft BiOp. The Second Draft BiOp differs from the first in several significant respects discussed below.

Different Conclusion: The Second Draft BiOp comes to conclusions that differ from those expressed in the First Draft BiOp. Specifically, the Second Draft BiOp concludes that of the six subject pesticides, only 2,4-D use (limited to aquatic uses of 2,4-D BEE) results in likely jeopardy to any of the species at issue, while triclopyr BEE, diuron, linuron, captan and chlorothalonil will not likely jeopardize any of the 28 species. The Second Draft BiOp further concludes triclopyr BEE, linuron and captan will not result in adverse modification of any

designated critical habitat of the species at issue while 2,4-D, diuron and chlorothalonil will result in adverse modification of critical habitat within a limited number of evolutionary significant units (ESUs) of the species at issue. Commenters have requested the Second Draft BiOp be clarified relative to the jeopardy determination for 2,4-D to make specific that it is only the butoxyethyl ester (BEE) form when applied directly to water, that has been determined by NMFS to result in likely jeopardy. EPA supports such clarification and believes this could be accomplished without significant effort since 2,4-D BEE has a unique PC code of 030053, meaning that this form of 2,4-D is a separately regulated active ingredient under FIFRA. As a result, the final BiOp could indicate that the likely jeopardy determination is specific to 2,4-D products that contain the active ingredient identified by that PC code. There appear to be 17 Section 3 registrations, 3 Special Local Needs Registrations (1 for Connecticut and 2 for Washington) and an expired experimental use permit that contain 2,4-D BEE (PC code 030053). Should NMFS be willing to change the BiOp to specify that jeopardy is only related to the 2,4-D BEE active ingredient, EPA will confirm the specific registrations that contain the active ingredient identified by PC Code 030053.

Different Target Concentrations: The Second Draft BiOp also establishes concentrations in water and in riparian areas above which jeopardy may occur, that differ from the values expressed in the First Draft BiOp. While the values generally are less conservative, it is not clear how the specific values were derived and whether they are in fact appropriate values to use as targets for RPAs and RPMs to ensure no likely jeopardy or no adverse modification. Further input on these target concentrations is provided in comments on the specific RPAs elements. For purposes of transparency, it would be helpful to have a description incorporated into the final BiOp that provides the specific details on how these concentrations were calculated so the calculations can be replicated by all stakeholders.

Chlorothalonil RPA Elements: Specific RPA elements related to chlorothalonil are new in the Second Draft BiOp as there were no specific requirements for this pesticide in the First Draft BiOp.

RPAs, RPMs and Terms and Conditions: The Terms and Conditions section of the Second Draft BiOp contains elements that are nearly identical to elements in the Reasonable and Prudent Alternatives section. It is not clear to EPA why the same provisions would be necessary to reduce the likelihood of take as are deemed necessary by NMFS to preclude likely jeopardy. Further, by repeating or moving elements to the Terms and Conditions section as was the case with some elements, NMFS has effectively removed for those elements any discretion EPA may have had regarding their implementation when they were articulated solely as elements of the RPA. EPA believes NMFS should provide considerable explanation regarding why the same or very similar elements are necessary and additionally, the rationale for moving or restating elements of the RPA in the Terms and Conditions.

Below are our more specific comments on the Draft RPAs, RPMs and Terms and Conditions. Additionally we have included comments addressing "Other Aspects" of the Second Draft BiOp.

COMMENTS ON RPAs, RPMs AND TERMS AND CONDITIONS

As a general matter, it is not clear why some of the RPA elements are also repeated as Terms and Conditions. Although the Second Draft BiOp concludes that no likely jeopardy or adverse habitat modification exists from the current uses of captan, linuron or triclopyr BEE, it includes proposed Terms and Conditions that implement the Reasonable and Prudent Measures (RPMs) to minimize take, which are very similar if not identical to the RPAs for those chemicals for which jeopardy was determined. In addition to it not being clear why the same element necessary to preclude jeopardy is also applied to reduce take where no jeopardy has been determined, repeating an RPA element in the Terms and Conditions essentially makes that element non-discretionary and therefore unnecessary as an RPA element.

EPA understands that NMFS intends the RPA elements discussed below to be applicable to each active ingredient (a.i.), only within those ESUs/DPSs where NMFS has determined that registration of that a.i. is likely to jeopardize listed species and/or destroy or adversely modify designated critical habitat. Within the geographic boundaries of those ESUs/DPSs however, it is not clear to what specific waters the RPAs apply. In contrast to the First Draft BiOp, this Second Draft BiOp seems to describe the applicable waters more narrowly as "salmonid-bearing waters." However, throughout the Second Draft BiOp alternative terms are also used such as "surface waters accessible to listed salmonids," "salmonid habitat," and "habitats that contain listed salmonids." In the Terms and Conditions NMFS appears to imply that intermittent streams are also subject to these limitations. The use of varying terms without definition is confusing and EPA is unsure how to proceed with identifying such areas graphically. Again, EPA suggests an appropriate scope may be those streams identified on the fish distribution maps on the Streamnet.org web site. In any case, EPA will require clarity around the geographic extent of any recommended RPA elements or any Terms and Conditions.

RPA ELEMENT SPECIFIC COMMENTS

Element 1 - The following applies to broadcast spray applications of pesticide products containing 2,4-D, diuron, and chlorothalonil in applicable ESUs or DPSs. These pesticides shall only be broadcast applied when there is minimal potential for drift or direct run-off to listed salmonid-bearing waters. Do not apply when wind speeds are below 2 mph or exceed 10 mph, except when winds in excess of 10 mph will carry drift away from salmonid-bearing waters.

In general, limiting applications to times when wind speeds are between 2 and 10 mph will serve to reduce drift to the sensitive areas and will help address situations where inversions may occur. Allowing applications when wind speeds are outside these bounds when the wind direction is away from the sensitive habitat provides a measures of flexibility to applicators that is necessary and at the same time, continues to help ensure protection of the habitat.

A commenter noted that while wind speed limitations are useful in minimizing drift, the wind speed does not have an effect on run-off. As a result, they recommend that the statement in the RPA referencing run-off should be deleted to improve credibility and prevent confusion regarding this element. EPA agrees that the run-off statement in Element 1 of the RPA is unnecessary since run-off is addressed in the third element (soil moisture) of the Terms and Conditions.

Element 2 - Do not apply pesticide products containing 2,4-D, diuron, or chlorothalonil when soil moisture is at field capacity, or when a storm event likely to produce direct runoff to salmonid-bearing waters from the treated area is forecasted by NOAA/NWS (National Weather Service) or other similar forecasting service within 48 hours following application.

Commenters have noted that this element is confusing based on technical descriptions of when soil moisture is at "field capacity." They note that this term applies to fields that continue to have air trapped in the soil matrix and that these soils at field capacity are often the ideal conditions for both plant growth and pesticide degradation whereas it can hold no more water only if it is "saturated." Commenters and EPA suggest that this RPA element be changed to indicate applications may not be made when the "soil is saturated."

Additionally, commenters have requested that NMFS consider whether this element would more appropriately limit pesticide applications when soil is saturated AND when a storm event likely to produce direct runoff to salmonid-bearing waters from the treated area is forecasted. The commenters argue that both soil saturation and a rain event is what would lead to runoff. Commenters further ask for NMFS to include in this element a suitable rainfall probability to inform when a rainfall is considered "likely". For example, they suggest this element would be more meaningful if it were to specify a specific threshold probability of a storm event of a certain minimum magnitude, such as when the potential for a **significant storm event** is **greater than 50%** (or some other suitable rainfall probability). They indicate this would provide flexibility to continue their operations when the probability of an event is low or when even though high in probability, the event itself is inconsequential such as "occasional rain" or "light drizzle" is predicted as is said to often be the case in parts of the Pacific Northwest.

Finally, commenters questioned the need to predict rainfall events that may occur within 48 hours and asked for an explanation of why 48 hours was appropriate rather than 24 hours or some other time frame.

Element 3 - 2,4-D BEE specific requirements: Do not apply pesticide products containing 2,4-D butoxyethyl ester directly to any surface waters accessible to listed salmonids.

Apart from the generic issue of the waters to which the RPAs and Terms and Conditions of the RPMs apply EPA has no further input on this RPA element. However, commenters have noted that in some cases, state law addressing 2,4-D BEE applications to water have not been acknowledged in the Second Draft BiOp and request that NMFS do so.

Specifically, one commenter noted direct application of 2,4-D BEE to salmon-bearing waters is not allowed in Washington. This restriction was incorporated into the Aquatic Noxious Weed Control National Pollutant Discharge Elimination System Waste Discharge Permit issued by the Washington Department of Ecology on January 16, 2008. The commenter asked that this restriction be reflected in the discussion of ESU/DPS Specific Evaluations (starting on page 643) for all ESU/DPS within Washington. Another commenter noted that direct application to water is already prohibited by label requirements and by state laws in some states and that while the Second Draft BiOp indicates NMFS could not locate restrictions on ground applications or hand applications of 2,4-D in Oregon (p. 633), such restrictions exist (Oregon Administrative Rule 629-620-0400[5][a-e]).

Element 4 - 2,4-D specific requirements designed to protect native riparian vegetation and reduce direct exposure to listed fish:

1. **Do not apply 2,4-D directly to native riparian vegetation. Control of invasive plants within the riparian habitat shall be by individual plant treatments.**
2. **EPA will implement NMFS approved risk reduction measures to ensure maximum concentrations of terrestrially applied 2,4-D do not exceed a peak of 100µg/L in salmonid-bearing waters.**

EPA understands that this element applies only to 2,4-D products other than those containing 2,4-D BEE, and is designed to protect riparian vegetation and to reduce direct exposure to salmonids.

Commenters asked for clarification of several aspects of this RPA. First, they note there is no definition of "native riparian vegetation" and ask whether NMFS intends to provide such definition. Commenters also requested clarification that the limitations regarding use in riparian areas applies only adjacent to salmonid-bearing waters. One commenter suggested the limitation be changed to read: "Do not apply 2,4-D directly to native vegetation in a protected riparian area immediately adjacent to ESA-listed salmon-bearing stream reaches. Control of invasive plants within a protected riparian area immediately adjacent to salmon-bearing streams shall be by individual plant treatments." The commenter indicates this language appropriately places the emphasis on stream reaches that contain listed fish species, not upstream headwater reaches that may not contain listed fish species or are fishless (perennial or ephemeral).

Comments further indicate that where control is being sought for rhizomal plants, individual plant treatments do not always work and that "spot treatments" are sometimes necessary. They ask that NMFS consider including "spot treatments" in the permissible applications of this RPA element. Additionally, one commenter requested NMFS provide some latitude for treatment of native plants when that treatment is undertaken as part of a restoration project, for example, when some native plants need to be controlled to allow other native vegetation to better survive or flourish.

The second part of this RPA element specifies that for direct exposure to salmonids, NMFS approved measures need to be implemented to keep exposures below 100 ppb in salmonid-

bearing waters. Other than the increase in target concentration, from 10 to 100 ppb, there is no appreciable difference in this element from the First Draft BiOp. The increase to 100 ppb appears to be in response to previous comments on the source of data used for this target. Revising the target concentration from 10 ug/L to 100 ug/L for 2,4-D seems to represent a consideration of the 100 ug/L endpoint in the study where adverse vegetative effects were seen. While there is no general disagreement with the endpoints observed effects, it is worth noting that the study involved a constant exposure for 60 days to 2,4-D (function of stability and decreasing volume due to evaporative loss in the pond enclosures). While constant concentration may be useful for small isolated waters occupied by salmon, the constant concentration over 60 days is not applicable to flowing waters when establishing a 100 ug/L RPA. A more protracted averaging time would be appropriate for flowing waters and would be consistent with prolonged averaging times for other chemicals/endpoints in the Second Draft BiOp.

Element 5 - Diuron-specific requirements designed to protect native riparian vegetation and reduce direct exposure to listed fish:

1. **Do not apply diuron directly to native riparian vegetation.**
2. **Do not apply diuron to intermittently flooded low lying sites, marshes, swamps, and bogs that may be seasonally connected to habitats that contain listed salmonids.**
3. **EPA will implement NMFS approved risk reduction measures to ensure diuron drift to native riparian vegetation does not exceed 0.10 lbs/A.**
4. **When native riparian vegetation is not present, EPA will implement NMFS approved risk reduction measures to ensure maximum concentrations of diuron do not exceed 5.0g/L in salmonid-bearing waters.**

EPA requests clarification regarding sub-element 2 of this Element. Specifically, does the recommended prohibition on applications to intermittently flooded low lying sites apply even when the area is dry? Also, the relationship between sub-element 3 and 4 is not clear. EPA believes NMFS is requesting EPA put in place measures to ensure that diuron does not exceed 0.10 lbs/A in native riparian vegetation and if there is no native riparian vegetation, that concentrations in salmonid-bearing waters do not exceed 5.0g/L. As with prior RPA elements, NMFS should also clarify here that the riparian vegetation at issue is that adjacent to salmonid-bearing waters.

Element 6 - Chlorothalonil-specific requirements within specified ESU/DPSs:

1. **EPA will implement NMFS approved risk reduction measures to ensure maximum concentrations of chlorothalonil do not exceed a peak concentration of 1.05 µg/L, or a 21d time-weighted-average concentration of 0.18 µg/L in salmonid-bearing waters. Reduction measures may include reduced single and annual application rates.**
2. **Application to conifers will be limited to the following uses: (i) conifer nursery beds; (ii) Christmas tree and bough production plantations; (iii) tree seed orchards; and (iv) landscape situations (ornamental or specimen trees in a residential or commercial landscape).**

The First Draft BiOp did not include RPA elements with specific recommendations for chlorothalonil, so this element is completely new. EPA appreciates the incorporation of a temporal aspect to the target concentration by inclusion of the 21-day time-weighted average concentration. However, a commenter questioned the source of the chronic value used by NMFS for establishing the target concentration of 0.18 ppb. They question the validity of the study value and the 10x factor applied to the selected value. A similar argument is made for the NMFS selected acute value.

EPA requests additional explanation regarding this element. The chronic threshold value for chlorothalonil was based on applying a 10x factor to the lowest observed effect concentration (LOEC) (1.8 µg/L) for the most sensitive freshwater invertebrate chronic study available. The no observed effect concentration (NOEC) for this study was determined to be 0.6 µg/L. EPA requests NMFS provide a rationale for using a safety factor applied to a LOEC value to determine a maximum chronic concentration value instead of using a NOEC value.

Element 7 - Report all incidents of fish mortality that occur within the vicinity of the treatment area, including areas downstream and downwind, and in the four days following application of these a.i.s to EPA's Office of Pesticide Programs. Alternatively, these incidents may be reported to the pesticide manufacturer through the phone number on the product label once EPA modifies FIFRA 6(a)(2) to require registrants to report all fish kills immediately, regardless of incident classification (i.e. both minor and major incidents). EPA shall submit an annual report to NMFS OPR that identifies the total number of fish affected and incident locations.

This element is essentially the same as that commented on previously by EPA and we have no additional comments except to note that EPA will not be modifying FIFRA section 6(a)(2) but rather has indicated to NMFS we are considering modifying the regulations implementing FIFRA section 6(a)(2) to indicate that incidents that may otherwise have been considered "minor," must be treated as non-minor for purposes of this RPA element related to listed Pacific salmon and steelhead.

A commenter believes this element will require inspection of streams adjacent to and below treated areas one or more times over a four-day period after herbicide application to verify no fish mortality has occurred. As no fish mortality is expected under current labeled uses for forestry, this commenter sees this requirement as having no value and as a huge cost burden to applicants. EPA requests that NMFS clarify that this element consists of reporting incidents if any are seen within four days of the pesticide's application rather than this element attempting to impose a requirement on pesticide applicators to overtly monitor for such incidents adjacent to and downstream from application.

RPM SPECIFIC COMMENTS

The Second Draft BiOp requires the following RPM Elements to minimize the likelihood of incidental take:

1. **Minimize the amount and extent of incidental take from use of pesticide products containing 2,4-D, triclopyr BEE, diuron, linuron, captan, or chlorothalonil by reducing the potential of these chemicals to reach salmon-bearing waters;**
2. **Minimize the effects of 2,4-D during direct water applications;**
3. **Monitor any incidental take or surrogate measure of take that occurs from the action; and**
4. **Report annually to NMFS OPR on the monitoring results from the previous year.**

Only the second RPM element above is new since the First Draft BiOp. EPA has no additional comments on the four specific elements of the RPM.

TERMS AND CONDITIONS SPECIFIC COMMENTS

A commenter noted that page 798 of the BiOp (Terms and Conditions) states that, "Terms and conditions 1, 2, 3, and 4(a) shall be specified on FIFRA labels of all pesticide products containing 2, 4-D, triclopyr BEE, diuron, linuron, captan, and chlorothalonil. Alternately, the labels could direct pesticide users to the EPA's ESPP bulletins that specify these terms and conditions." The commenter notes that condition 2 refers specifically to 2, 4-D only and condition 4 only applies to diuron. Further, there seems to be no 4(a). The commenter requests NMFS review this section of the Second Draft BiOp to ensure accuracy and intent. The commenter notes that if implemented literally, each product label would be required to carry language specific to all 6 pesticide active ingredients. This would be unnecessary and would create confusion regarding the requirements for any of the subject active ingredients.

Again, EPA does not understand the redundancy of RPA elements and Terms and Conditions. To the extent a T&C element is duplicative of an RPA element the comments provided for the RPA apply here as well. Following are comments on the specific T&C elements in the Second Draft BiOp.

T&C Element 1 - This pesticide shall only be broadcast applied when there is minimal potential for drift or direct run-off to listed salmonid-bearing waters. Do not broadcast spray when wind speeds are below 2 mph or exceed 10 mph, except when winds in excess of 10 mph will carry drift away from salmonid-bearing waters.

This element of the Terms and Conditions is identical to RPA Element 1. Comments above regarding RPAs in general and regarding RPA Element 1 are applicable to this element of the Terms and Conditions.

T&C Element 2 - Products containing 2,4-D (except 2,4-D BEE) may be applied to water accessible to listed salmonids providing the following:

a) **Applications are only to control non-native (exotic) invasive plant species;**
b) **Applications are only during timing windows provided in appendix 9; and**
c) **Applications will minimally affect non-target native vegetation.**

EPA appreciates NMFS incorporation of a temporal aspect to pesticide restrictions that are spatially explicit (by ESA/DPS). However, EPA and commenters are unclear how these timing windows were established and believe that clarification of the source of information used to derive these windows is needed. EPA is not certain how NMFS would foresee implementation of the third bullet in this element of the Terms and Conditions and requests clarification from NMFS on the terms "minimally affect" and "native vegetation."

T&C Element 3 - Do not apply pesticide products containing 2,4-D, triclopyr BEE, diuron, linuron, captan, or chlorothalonil when soil moisture is at field capacity, or when a storm event likely to produce direct runoff to salmonid-bearing waters from the treated area is forecasted by NOAA/NWS (National Weather Service) or other similar forecasting service within 48 hours following application.

This element of the Terms and Conditions is identical to RPA Element 2. Comments above regarding RPAs in general and regarding RPA Element 2 are applicable to this element of the Terms and Conditions.

T&C Element 4 - Do not apply diuron to intermittently flooded low lying sites, marshes, swamps, and bogs that may be seasonally connected to habitats that contain listed salmonids.

This element of the Terms and Conditions is identical to a sub-element of RPA Element 5. Comments above regarding RPAs in general and regarding RPA Element 5 are applicable to this element of the Terms and Conditions.

T&C Element 5 - Chlorothalonil applications to conifers will be limited to the following uses: (i) conifer nursery beds; (ii) Christmas tree and bough production plantations; (iii) tree seed orchards; and (iv) landscape situations (ornamental or specimen trees in a residential or commercial landscape).

This element of the Terms and Conditions is identical to a sub-element of RPA Element 6. Comments above regarding RPAs in general and regarding RPA Element 6 are applicable to this element of the Terms and Conditions.

T&C Element 6 - Regarding all products containing 2, 4-D, triclopyr BEE, diuron, linuron, captan, and chlorothalonil:

> **a) EPA shall include the following instructions requiring reporting of fish kills either on the labels or ESPP Bulletins:**
>
> > *NOTICE:* **Incidents where salmon appear injured or killed as a result of pesticide applications shall be reported to NMFS OPR at 301-713-1401 and**

EPA's Office of Pesticide Programs. The finder should leave the fish alone, make note of any circumstances likely causing the death or injury, location and number of fish involved, and take photographs, if possible. Adult fish should generally not be disturbed unless circumstances arise where an adult fish is obviously injured or killed by pesticide exposure, or some unnatural cause. The finder may be asked to carry out instructions provided by NMFS OPR to collect specimens or take other measures to ensure that evidence intrinsic to the specimen is preserved.

b) EPA shall report to NMFS OPR any incidences regarding 2,4-D, triclopyr BEE, diuron, linuron, captan, or chlorothalonil effects on aquatic ecosystems added to its incident database that EPA has classified as "probable" or "highly probable."

EPA has commented on this requirement in response to NMFS First Draft BiOp.

T&C Element 7 - In addition to the labeling requirements above, EPA shall develop and implement a NMFS-approved effectiveness monitoring plan for floodplain habitats, and produce annual reports of the results. NMFS encourages EPA to work with local, state, and other agencies to assist in plan development and implementation. The plan shall identify representative floodplain habitats prone to drift and runoff of pesticides within agricultural and non-agricultural areas. The representative sampling sites shall include habitats currently used by threatened and endangered Pacific salmonids, as identified by NMFS biologists. Sampling sites include at least two sites for each general species (*i.e.*, coho salmon, chum salmon, steelhead, sockeye salmon, and ocean-type Chinook and stream-type Chinook salmon). Sampling shall consist of daily collection of surface water samples for seven consecutive days during three periods of high application for 2, 4-D, triclopyr BEE, diuron, linuron, captan and chlorothalonil. The report shall be submitted to NMFS OPR and will summarize annual monitoring data and provide all raw data.

EPA has commented on this requirement in response to NMFS First Draft BiOp. However, this T&C element was previously an element of the RPA and has been moved to the Terms and Conditions section. EPA requests NMFS explain this change and discuss the ramifications of moving this to the Terms and Conditions.

Additionally, a commenter notes that it is still unclear what the specified sampling regime will accomplish. The commenter asks that NMFS clarify the study requirements for the effectiveness monitoring so that existing resources (*e.g.*, state monitoring programs) can be fully utilized. Another commenter stated that the effectiveness monitoring program requirement is very vague and potentially of broad scope.

As you are aware, EPA makes draft Biological Opinions related to pesticide actions available through the EPA web site and through a public docket for purposes of obtaining input to any draft RPAs and RPMs in the draft. EPA has incorporated some of the information provided through that process in this response letter to NMFS' May 13, 2011 Second Draft

BiOp. However, since we have not reiterated specific comments nor included in our letter every comment received, EPA recommends NMFS review such comments as submitted to the Docket. EPA has made clear on its web site that any comments on other aspects of the Second Draft BiOp submitted to EPA, will also be provided to NMFS for consideration during development of the final BiOp. I am requesting that you consider all of the comments EPA has received in the public docket related to the Draft BiOp which you may not have already considered and related to the Second Draft BiOp. This would include all comments with a posting date since March 3, 2011 (the date on which EPA posted the First Draft BiOp to the Docket). For your convenience in retrieving these public comments, the docket may be accessed at http://www.regulations.gov/search/Regs/home.html#docketDetail?R=EPA-HQ-OPP-2008-0654. EPA recommends that NMFS include a section in their Biological Opinions that serves as a response to the comments received. Specifically, EPA recommends NMFS: 1) indicate for each comment accepted how that acceptance is demonstrated in the biological opinion and 2) for each comment rejected, the rationale for it being rejected.

Finally, EPA understands that NMFS has indicated to applicants and others that EPA, in the context of providing comments to NMFS on the Second Draft BiOp, is performing an analysis of economic and technological feasibility of the Draft RPAs, RPMs and Terms and Conditions. I want to clarify that EPA's review is not intended to include such an analysis and should not be construed as EPA's concurrence that the RPAs, RPMs and Terms and Conditions are economically or technologically feasible. In EPA's experience, NMFS would need to engage pesticide users, industry, state and tribal pesticide regulatory authorities, and regional/academic crop experts in an interactive and sustained manner in order undertake such an analysis. If in the future NMFS determines it will undertake this work, EPA would be happy to help facilitate NMFS' discussions with the appropriate entities.

Thank you for providing the Second Draft BiOp for EPA's review and comment. EPA appreciates the methodological improvements NMFS has made relative to previous BiOps and believes there continue to be areas that would benefit from further scientific review, discussion and continued collaboration between EPA and NMFS. In this regard, the upcoming National Academy of Sciences review of scientific issues associated with the development of BiOps will be very informative. Please do not hesitate to contact me if you have any questions regarding our input.

Sincerely,

BY [signature], DEPUTY

Steven Bradbury, Ph.D., Director
Office of Pesticide Programs

cc: Donald Brady
Arty Williams
Richard Keigwin