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Eric Shott
National Ocean and Atmospheric Administration
Santa Rosa, CA

Sent by email to Sacramentopubliccomment@fire.ca.gov

And to mrc.hcpitp@noaa.gov

Dear Mr. Browder and Mr. Shott,

These comments are written on behalf of Californians for Alternatives to Toxics, aka CATs, a public interest organization with membership throughout northern California, including in Mendocino and Humboldt counties. Our members are concerned about the negative effects of toxic chemicals in the environment and have a history of 35 and more years of opposition to harmful herbicide use in forestry operations, the issue that brought about the formation of CATs. Our members are concerned about the effects of this use of toxic chemicals on the environment on which we are dependant for health, home, work, recreation and culture.

Our reading of the HCP, timber operations plan and the supporting EIS/PTEIR has shown that, despite its great size and years of development, numerous gaps exist in the plans and their evaluation. Our observation, based on almost four decades of involvement as a public participant in the development of forestry operations throughout northern California, is that the plans are far too shortsighted and narrow in vision to suffice as a sustainable plan, especially over a long period, and that the EIS/PTEIR fails to adequately evaluate and mitigate herbicide and other pesticide impacts and to provide a full range of alternatives. Our comments are limited to herbicide use integral to the forestry operations as proposed – and currently integral – to MRC's plans.

From the outset, it is clear that the federal agencies, NMFS and FWS, have incorrectly dodged responsibility for regulating herbicide use via the HCP. As for the state agencies, Calfire has provided an inadequate herbicide evaluation and DFW has failed to evaluate herbicide use by MRC in its timber operations.

The Services have not provided an explanation about why herbicides should not be a covered activity in the HCP and evaluated in the EIS/PTEIR.

At Appendix A pg 25-27 of the EIS/PTEIR, it is mentioned that herbicides are not a covered activity. The reason offered is that MRC will “not have the ability to ‘take’ covered species,” as a result, and that this “is a more protective strategy toward species protection.” The reason for this statement appears to be completely arbitrary and

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capricious; no explanation is provided for this apparently backroom decision, made away from public scrutiny. Why “social sensitivity of the issue” (which is a trigger for CEQA evaluation for the state agencies) – a reason provided for not covering herbicide use – would prevent coverage is not explained, nor is why said “sensitivity” would preclude evaluation. Why “rapid pace of herbicide research and development “makes it hard to “predict conservation measures to protect covered species” is not explained or evaluated. These arbitrary statements are at the heart of CATs’ concerns regarding herbicide use as not evaluated and indicate failure to comply with CEQA, NEQA, the ESA and other statutes in ways CATs will describe throughout these comments.

In the current HCP draft, neither NMFS nor FWS plans to regulate herbicide use through issuance of biological opinions and limitations under take permits. The Services have not explained why the use of herbicides is outside its jurisdiction and are not included in the HCP, and, as a result, are in violation of NEQA as herbicides are certainly integral to the current and proposed forestry practices of MRC.

Save Our Ecosystems v. Clark (9th Cir. 1984) 747 F.2d 1240 is instructive. There, the United States Forest Service had determined that certain herbicides could properly be used for defoliation activities, relying solely on their EPA registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The Ninth Circuit Court of Appeals held that “[t]he EPA registration process for herbicides under FIFRA is inadequate to address environmental concerns under NEPA [National Environmental Policy Act]” Instead, an agency must conduct independent research on the safety of herbicides it proposes to use.⁶ (Id. at p. 1248; see Northwest Coal. for Altern. to Pesticides v. Lyng (9th Cir. 1988) 844 F.2d 588, 596.) An agency can appropriately fulfill this duty of independent investigation by considering the registering agency’s data on herbicides in the specific context of the area targeted for proposed application. (Save Our Ecosystems v. Clark, supra, 747 F.2d at p. 1247.)

NMFS and FWS have a well-developed history of pesticide consultations and issuance of biological opinions under the Endangered Species Act and are institutionally able and legally bound to determine the potential for impacts and include coverage of herbicide use in the HCP.

For example, refer to the U.S. EPA’s Endangered Species Program, <http://www.epa.gov/oppfead1/endorsement/litstatus/effects/> the National Marine Fisheries Service at Pesticide Consultations with EPA <http://www.nmfs.noaa.gov/pr/consultation/pesticides.htm>

And the Fish and Wildlife Service at <http://www.fws.gov/contaminants/Issues/Pesticides.cfm>

The Services cannot allow MRC to use, without set limitations, any pesticide that may come on the market through the “rapid pace of herbicide research and development” that MRC may determine it can use in its timber operations. To allow herbicide use to occur outside the limitations of the HCP is in violation of the various statutes governing an HCP, particularly the Endangered Species Act. Limitations on what chemicals may be used (including full formulations), where the chemicals may be used, the target species for which chemicals may be used and in what amounts and sites the chemicals may be used by species and ecology must be included in the HCP to protect species and their

habitat. These conclusions must be reached via a thorough evaluation provided in the EIS/PTEIR as is required. The failure to include such evaluation and coverage renders the current HCP and EIS/PTEIR inadequate and impermissibly skewed to support the preferred alternative.

By avoiding inclusion of herbicide use and evaluation in the EIS/PTEIR, NMFS and FWS also cannot prepare adequate alternatives such as one that would include no herbicide use, or one that would lay out an Integrated Vegetation Management, aka IVM, plan, or another that would restrict herbicide use and require regularly scheduled reevaluation of herbicides and their application. Without such alternatives at the heart of the NEPA analysis, the entire process fails, as CATs asserts is the fate of the current draft.

Regarding IVM, which may or may not include herbicide use:

“To sustain viable and healthy forest ecosystems it is necessary to consider vegetation management practices. Successful vegetation management uses a systematic approach called Integrated Pest Management (IPM), or in this case Integrated *Vegetation* Management (IVM). Consider IVM a subset of IPM. Pest management techniques generally include cultural, manual/mechanical, biological, and chemical. Conceptually, IVM is a pyramid, with cultural practices at the bottom and chemical at the top. As you move up the pyramid control practices become more complex and generally more costly. When choosing control practices always start with the simplest method and move, as necessary, to more complicated interventions.” <http://extension.psu.edu/natural-resources/forests/vegetation-management/ivm-principles>

The highest and best vegetation management alternative MRC could adopt would be a carefully plotted IVM program that assesses the impact of removal of tanoak or other species on the environment of endangered and threatened species, reduces removal of native species such as tan oak to the absolute minimum to encourage conifer growth only where proven necessary, and uses no herbicides to control species content. But no alternatives can be developed until the federal and state agencies come to grips with the herbicide use aspect of MRC’s forest management program. Thus, the EIS/PTEIR is fundamentally flawed and skewed to support the preferred alternative, and fails to identify significant impacts for which mitigations must be developed. The HCP as well is fatally flawed and cannot be implemented until all pesticides, herbicides and other pesticides that may one day be used, are fully evaluated and restrictions applied as required under the Endangered Species Act.

Appendix A pg 25-27 also includes MRC’s description of its herbicide program, relying on regulation by the County Agricultural Commissioner and the Regional Water Quality Control Board. In no way can this section be considered an evaluation of herbicide use under CEQA or NEPA, the ESA and other statutes governing the impact of herbicides used by MRC. Regulation by the Agricultural Commissioner and Regional Water Board cannot be used as a surrogate for the regulation that must be imposed by the lead agencies for the HCP and the NEPA and CEQA procedures. MRC’s timber operations plan is fundamentally flawed.

At 4.5.9.4 Changes in water quality of the PTEIR, the authors write that:

“Amphibians may be particularly sensitive to developmental disruption in the egg and early larval stages (Berrill et al. 1994, 1997; both as cited in Welsh et al. 1998). Developmental abnormalities that can cause mortality may be triggered by some herbicides at very low concentrations. Herbicides used on forest lands in northern California (e.g., 2,4-D; 2,4,5-T; and atrazine) mimic the female hormone estrogen (Colborn et al. 1993). They have been linked to deformities and mortalities in birds, mammals, amphibians, reptiles, and fish (Hall and Henry 1992; Colborn et al. 1993; Berrill et al. 1994, 1997). Adverse effects may occur at miniscule concentrations (parts per trillion) of some of these chemicals (Colborn and Clement 1992, Colborn et al. 1993, USEPA 1997). Welsh et al. (1998) believe that, apart from direct habitat destruction, the single greatest threat to red-legged frogs on managed forestlands may be the use of forest herbicides and pesticides that can contaminate breeding sites. Bettaso et al. (2000) sampled blood from male and sub-adult northern red-legged frogs from 15 populations in northwest California in 1999 and 2000 to determine if the female protein vitellogenin could be detected in quantities sufficient to use as an indicator of contamination by estrogen-mimicking compounds. The results of blood serum analysis showed that 4 of 7 populations analyzed had male frogs producing vitellogenin, indicating that an exogenous source of estrogen was present in north coast California.’

In no way can this be considered an adequate evaluation of herbicide impacts on water quality for the present timber operations and HCP. It merely lists adverse effects that have been observed in various studies but does not provide the context for impacts on MRC lands and the species and ecosystems under consideration in for timber operations and the HCP. What is provided is not an evaluation, it is lists of studies, in this instance studies on pesticide impacts to frogs, and no evaluation is provided anywhere by the Services of the herbicides acknowledged in this section as being highly toxic to animals. What’s more, water quality is not the only part of the ecology that may be impacted by herbicide use. A holistic view must be developed in which the interconnections and specifics regarding species and location are evaluated.

12.2.10.4 Pollutants states that “The potential effects of chemical pollutants on terrestrial and aquatic biota depend on the movement and toxicity of the chemical, as well as its fate and persistence in the environment (Norris et al. 1991). “ Again, listing scientific studies does not suffice for an evaluation of the impacts of the use of herbicides by MRC.

What’s more, in this section it’s claimed that “The MRC Management Plan (2010) sets restrictions on the introduction and application of chemicals in the aquatic environment.” The MRC Management Plan cannot act as a surrogate for evaluation or coverage of herbicide and other pesticide applications by MRC.

For similar reasons, regarding the toxic nature of herbicides and the need for an adequate evaluation and development of mitigations, the minimal herbicide analysis provided by Calfire in the PTEIR is inadequate under CEQA. Thus, the herbicide section of the PTEIR must be reworked to comply with state law and interpreted by a state court of appeals. See *Californians for Alternatives to Toxics v. Dept. of Food and Agriculture* (2005) 136 Cal.App.4th

As the Court of Appeals noted:

“Given the potential adverse impacts to human health and the environment from a

statewide program authorizing pesticide use in numerous settings that could expose humans, animal and aquatic life and surface water and air to pesticide residue, at a minimum the EIR should contain a serious risk assessment of all pesticides that could be used in the rapid response and containment programs of the PDCP.

As a contrasting example, the EIR for the vegetation control program of the California Department of Transportation (Caltrans) contains an appendix devoted to risk assessment that is larger than the entire DEIR and appendices for the PDCP. It includes a quantitative risk assessment for each of the 25 herbicides used or proposed for use in the Caltrans program. This assessment evaluates the likelihood of the occurrence of adverse effects in humans and representative aquatic and terrestrial species that may result from herbicides used for vegetation management in California. The appendix presents herbicide-specific information on chemical/physical characteristics; use patterns within the state; fate and transport in the environment; potential toxicity to humans, animals and aquatic organisms; and estimates of risks to humans, animals and aquatic organisms under specified conditions of use. Tables detail the average and maximum estimates of (1) single day intake and associated estimates of noncancer risk; (2) life-time average daily dose and associated estimates of cancer risk (where available); and (3) single day intake and associated estimates of ecological risk. Information related to humans is broken down according to exposure, e.g., to workers, and by manner of application; and to the public, by manner of contact, e.g., contact with sprayed vegetation, ingestion of vegetables, ingestion of surface water.”

While we don't expect Calfire to prepare an analysis as large as the one prepared by Caltrans as this is not a statewide program using up to 25 herbicides, we DO, as does the Court of Appeals, expect an analysis that is as comprehensive in order for the CEQA process to be adequate. Among the impacts inadequately evaluated in the PTEIR are impacts to non-target species, including humans, domestic animals and wildlife including listed species, impacts to ecosystems, water, soil organisms, and cumulative impacts.

Further, in the above cited case, the Court of Appeals also noted:

“The discussion of significant environmental impacts should give due consideration to both short-term and long-term effects. (Guidelines, § 15126.2, subd. (a).) Here the EIR emphasizes that although pesticide use will kill beneficial insects, the population loss would be temporary. Interestingly, appendix P identifies the longer-term consequence of the losing of beneficial insects: the potential to perpetuate a cycle of increased pesticide use to counteract the loss of beneficial insects that are natural enemies of pests other than the GWS. Rather than analyzing this reasonably foreseeable consequence as an environmental impact, DFA mislabels it as an economic impact. Clearly the potential disruption to the balance of nature from the loss of beneficial insects cannot be isolated to the economic impact of having to abandon an IPM program.” [Emphasis added]

Though the situation regarding pests and the pesticides to be used is different in the current EIR from the one that was before the court, what is similar is the science and legal rationale. The “disruption to the balance of nature” is what is at stake and CEQA demands an evaluation. Calfire and the Department of Fish and Wildlife, as the state agencies overseeing the public trust for endangered and threatened species and protection of the environment, must make note of this ruling or risk being found inadequate with the

current effort.

Herbicides by nature are toxic to many forms of life and may impact listed species and their habitat in ways that must be considered in the specifics of the environment in which they will be used. Herbicides include an active ingredient and other chemicals that enhance the performance of the active ingredient. Herbicides break down to other chemicals that may also be toxic. Sometimes the other ingredients in an herbicide formulation are more toxic than the active ingredient for certain species or in certain environments. Thus, NMFS and FWS must evaluate herbicides and their use under the HCP and undertake regulation of herbicides in the HCP.

See Lappe, "New Considerations for Evaluating Pesticide Impacts to Endangered, Threatened Species," sent by a separate email and intended as part of these comments.

The present EIS/PTEIR is deficient because it lacks a dynamic, multi-year assessment that factors in the persistence, toxic quotient and cumulative impact on sensitive species of herbicide uses. Where chemicals are used that persist over several years (e.g., imazapyr), this failure is particularly egregious, since cumulative impacts from herbicide build-up—especially for multiple uses in a single year—are likely. Absent such an assessment, and given the large-scale and repeated use applications for the anticipated use of herbicides intended to control shrub and hardwood vegetation (and not merely grasses), the present assessment is flawed, incomplete and inadequate to provide a reasonable basis for decision-making.

By failing to properly analyze the toxic effects of herbicides that may be used under the HCP, Calfire, and by extension the federal Services, ignore effects to workers as well as the environment, as dermal exposure, inhalation and other factors may impact worker health and safety.

The extremely minimal risk assessment scenarios offered in the EIS/PTEIR present a static view of single event accident/exposure simulations that is unrealistic and unnecessarily arbitrary. In conducting the risk assessment, the authors of the EIS/PTEIR often appear arbitrary and capricious in their choice of scenarios and risk assessment models for three reasons: 1) they largely downplay or neglect the impact of impurities, surfactants and other "inert" ingredients of the listed herbicides; 2) they offer an often inaccurate, oversimplified dose-response relationship that fails to consider cumulative and/or chronic impacts of the chemicals in question; 3) they ignore a differential impact of certain chemicals on organisms at different life stages (e.g., tadpoles or soil microorganisms); and, 4) they neglect the variable persistence of the active components of the herbicides or their metabolites and the resulting possibility of a cumulative impact on target species.

Herbicides and other pesticides which are thought to be relatively safe in early years of use are often, after decades of developing scientific research, found to have effects that weren't earlier anticipated and cause harm to the environment not previously understood, thus these chemicals must be covered in the HCP and updated as any new chemicals are proposed for use. Thus, at a minimum, safeguards must be built into the HCP which would require periodic reevaluation of no greater than 5 years, or when a new chemical is to be introduced, or when a potential or observed harm is reported to NMFS or FWS of herbicides being used under the HCP.

Imazapyr, for example, has been almost entirely studied by scientists hired by manufacturers to fulfill requirements for laboratory tests by U.S. EPA. In-field research is not required for registering a pesticide such as imazapyr. Registration doesn't factor in the non active ingredients, see <http://www.epa.gov/pesticides/reregistration/imazapyr/>

Other limitations in EPA's pesticide evaluation process keep it from providing real world analysis of pesticides for registration, a process that, as Lappe notes, extends to determinations the agency makes under the ESA. For more detail on the failures of the evaluation process see NRDC "Most Pesticides are Approved by Flawed EPA Process" at <http://www.nrdc.org/health/pesticides/files/flawed-epa-approval-process-IB.pdf> As with the other documents linked with these comments, this is to be considered part of CATs' comment to the present procedure.

Determinations under the Endangered Species Act are extremely limited for real life, field studies and observations and almost entirely lacking hard data for all but highly controlled studies under a regimen that serves as an inadequate screen, as demonstrated by the Lappe and NRDC reports. New understanding of imazapyr's effects in the environment, for example, may become available over time but a full understanding is not currently available. For this and other reasons regular reevaluation of pesticide used by MRC is necessary for updates to the HCP and must be a requirement for an HCP that would cover more than five years of MRC forestry operation.

For these reasons, also, the federal and state agencies are required to conduct an independent evaluation of the use of herbicides and potential use of other pesticides by MRC in its forestry operations and under the HCP.

With a forty to eighty year HCP as proposed, the time lapse for pesticide science becomes a critical issue, even when the agencies have done an adequate evaluation based on understanding of the chemicals as is known at the time of the evaluation. The "rapid pace of herbicide research" must be acknowledged and considered in context of the length of time involved in adapting the HCP and timber operation plan and the responsibility of the agencies to protect the environment and public resources.

The lead agencies for this effort must go back to the drawing table and redo the PTEIR/EIS, the timber operations plan and the HCP, taking the impacts of herbicide use by MRC into consideration and bringing under the regulation of the federal and state agencies.

Sincerely,

A handwritten signature in cursive script that reads "Patty Clary". The signature is written in black ink and is positioned above the typed name and title.

Patricia Clary
Executive Director