[redacted]

Katie Isacksen
Siuslaw National Forest
3200 Jefferson Way
Corvallis OR 97331

Dear Ms. Isacksen,

I would like to submit a written comment regarding invasive weed management plans for the Siuslaw National Forest. Developing a comprehensive approach to treating invasive weeds is a good idea; however, given the variety of weeds, landscapes, and topographies, I imagine that each project site will still need specific strategies.

Identifying and prioritizing which plant species should be managed is critically important. "Once an invasive species becomes established, it is rarely possible to eradicate." (https://www.doi.gov/blog/invasive-species-finding-solutions-stop-their-spread). For example, Himalayan blackberry seeds are spread by birds, which is why they are commonly found under perching sites, such as along fence rows and under power lines. Many people pick blackberries to eat and make preserves out of them. If they're sprayed with an herbicide, these individuals will be poisoned. This alert is posted on https://solvepestproblems.oregonstate.edu/weeds/himalayan-blackberry:

> **Only eat wild edible plants you correctly identify. Thoroughly wash before eating. Only eat wild blackberries from your own property. Don't eat blackberries from plants that have been sprayed with chemicals or growing on roadsides. Consider whether the soil where the plant is growing has been contaminated.**

If swaths of land are sprayed with herbicides via backpack sprayers and drones, other edible food sources (e.g., salmon berries, mushrooms) will undoubtedly also become contaminated. "Proposed activities may occur in all management areas including Wilderness, Wild and Scenic River corridors, Research Natural Areas and National Recreation." The herbicides listed are known to leach into groundwater and/or can contaminate surface waters (see attached comments from Carol VanStrum). Indeed, "… the actions clearly [must] outweigh the potential harm caused by invasive species." It seems that, if herbicides are used, the objective "to reduce adverse impacts from invasive and native species, pests, and diseases" is diametrically opposed to the objective: "to restore and maintain healthy watersheds and diverse habitats" (US Forest Service National Strategic Plan, USDA 2007).

The current proposal would amend the existing Siuslaw Forest Plan to *add* 4 additional chemicals to herbicide formulation options, bringing the total number of chemicals that could be applied to forested lands to 14. I am strongly opposed to this. Instead, I encourage the Forest Service to work with local communities and organizations on implementing the other methods listed (e.g., manual, biological, mechanical) to control invasive weeds.

The proposed action plan states, "Fluazifop targets grasses which makes it a valuable tool in treating butterfly habitat." This is ironic, because Mallick et al. (2023) found that herbicides adversely affect butterfly species – specifically fluzifop-pbutyl, along with sethoxydim, glyphosate, and imazapyr, which are all on the plan's herbicide list. Additionally, triclopyr is "very toxic to aquatic life with long lasting effects" and aminopyralid methyl has "a biodegradation half-life of 462 to 990 days in sediment-water systems". Herbicide sprays can have devastating consequences on both the local wildlife and the surrounding environment. A recent study detected pesticides (e.g., hexazinone and atrazine) used in forestry management practices in 38% of the bivalves samples along the Oregon Coast (Scully-Engelmeyer et al. 2021). Pesticides used in forestry practices have been linked to behavioral abnormalities in salmon (e.g., swimming performance, seaward migration, adult returns), compromised immune systems, endocrine disruption (Ewing, 1999).

The first proposed action described in the plan is prevention: "Prevention is, by far, the most effective means of controlling invasive plant species." Similarly, it would be so much easier to prevent contamination of Siuslaw Forest lands with herbicides! The State of Oregon Pesticide Management Plan for Water Quality Protection states "Prevention of water contamination is a major component of effective resource management." Many of the herbicides proposed for use

in the control of invasive weeds are listed in the plan's appendix B listing "Oregon Pesticides of Interest: potential to occur at concentrations approaching or exceeding a Federal, State, or Tribal human health or environmental reference point." Moreover, it is very challenging to monitor water quality, yet based on the research cited above, it is clear that herbicides HAVE contaminated our forests and water systems.

I urge you to severely restrict the use of, or ideally avoid using, herbicides in the management of invasive weeds. Creating new, more insidious problems in an effort to eliminate an existing problem does not make sense. Thank you for your consideration.

Sincerely,

Ursula Bechert, DVM, PhD

Submitted by Carol Van Strum
Five Rivers, Oregon 97390

The Forest Service asks for "Preliminary public feedback on invasive weed management options" for preparation of its NEPA and NFMA documents:
Siuslaw Integrated Invasive Species Project.pdf
Draft Proposed Action.pdf

Included in those options is the use of herbicides, disturbing evidence of the Forest Service reverting to thoroughly discredited unlawful behavior banned by the federal courts forty years ago:
**Save Our Ecosystems v. Clark**: Nos. 83-3908 *et al.* (9th Cir. January 27, 1984):
9. More and more chemicals are added to our environment daily without adequate information about the long-range effects on health and environment. The EPA, in effect, acknowledges that data on the herbicides in this case are inadequate since the registration is conditional under an exception to the normal registration process. *See* 7 U.S.C. § 136a(c)(7).
...13. EPA's data is partial at best, and suspect at worst, because of the testing scandals. The availability of the data of the chemical companies is also in question. See Monsanto Co. v. EPA, 564 F. Supp. 552 …
… on that data. These two positions appear irreconcilable. Any data relied upon in an EIS must be made available to the public. See California v. Block, 690 F.2d 753, 765 (9th Cir.1982); 40 C.F.R. § 1502.21.

As the Forest Service has little or no independently sourced information on any of its proposed poisons and relies on EPA registration, the Forest Service must at the very least include in its NEPA and NFMA documents the following information:

- The current EPA registration status of each product with particular emphasis on **conditional registration;**
- For any chemical that is conditionally registered, the Forest Service must identify what testing or other data are missing from the registration.
- Copies of or links to any and all peer-reviewed, independently funded and conducted toxicity, persistence, and environmental studies conducted by or for the U.S. Forest Service of each proposed product, its metabolites and break-down products, its inert ingredients, **AND especially any and all toxicity studies of any combination of two or more proposed products;**
- Copies of or links to any and all peer-reviewed toxicity, persistence, and environmental studies conducted by nonindustry-funded research of each proposed product, its metabolites and breakdown products, its inert ingredients, **AND especially any and all toxicity studies of the combination of two or more proposed products;**
- Copies of or links to any studies, analyses, or reference to the presence of any PFAS "forever chemicals" in any active or inert ingredient of any of the proposed products, an important need as PFAS have been found in more than 60 percent of registered pesticides, see https://www.theguardian.com/environment/article/2024/jul/23/pfas-pesticides-epa-research: at least 60% of active ingredients approved for use in common pesticides over the last 10 years are PFAS, and about 40% overall. Moreover, companies are not required to disclose when PFAS are used as an inert ingredient.

See also:
https://ehp.niehs.nih.gov/doi/10.1289/EHP13954
https://ehp.niehs.nih.gov/doi/full/10.1289/EHP15445?utm_campaign=Monthly+TOC+Alert&utm_medium=email&utm_source=SendGrid
https://ehp.niehs.nih.gov/doi/full/10.1289/EHP11512
https://ehp.niehs.nih.gov/doi/full/10.1289/EHP10634

- Copies of or links to any and all peer-reviewed toxicity, persistence, and environmental studies conducted by anyone anywhere of **the combination of two or more proposed products, for example:**

**https://medicalxpress.com/news/2024-07-cancer-pesticides-cases.html**
comparing cancer effects of exposure to multiple pesticides to cancer from smoking:
The impact of pesticide use on cancer incidence rivaled that of smoking. The strongest association was among non-Hopkins lymphoma, leukemia, and bladder cancer. In these types of cancers, the effects of pesticide exposure were more pronounced than the effects of smoking.

"We present a list of major pesticide contributors for some specific cancers, but **we highlight strongly that it is the combination of all of them and not just a single one that matters**," (emphasis added)
See also: https://boerenlandvogels.nl/sites/default/files/Final%20version%20of%20TAP%20review.pdf, Pesticides and human chronic diseases: Evidences, mechanisms, and perspectives

- Detailed contour maps and explanations for each projected spray site showing all surface and groundwater sources within or down-slope from the site;
- Proposed detailed plans for after-spray monitoring soil and both surface and groundwater for contaminants of the proposed products used, and the time frame for such monitoring;
- Any and all data on each endangered or threatened species of mammal, amphibian, reptile, fish, bird, plant, insect, or other organism within a mile of the proposed spraying;
- Site-specific history of any previous application[s] of herbicides on each target site by the Forest Service or any other entity in the past 60 years, and current testing for residues, PFAS, and dioxins on any previously sprayed site;
- Detailed information about all aspects of a drone application for each proposed site, including but not limited to those described in https://www.farmprogress.com/technology/what-to-know-before-making-a-spray-drone-pesticide-application, with particular attention to the need for safety precautions and procedures for possible crashes or dumping of herbicide.

Before creating and implementing a flight plan, inspect the field properly for any obstacles or any other operational considerations that will require the drone to stop or veer from the planned flight route. I**n most cases, using only background maps (aerial/satellite imagery) is not reliable enough to avoid all possible obstacles in the field so in-field checks before take-off are must for safe operations** and to avoid any damage to the spray drone.
Loss of signal between the drone and remote controller is common when flying large fields or tall crops like corn and creates significant crash risks for the operators. Utilizing signal transmitters like DJI relay can reduce the risk of drone losing the connection with the controller in these situations where the drone is out of sight. It is also important to set up the base on high ground so the drone is in the visual line of sight as much as possible during application.

If the Forest Service is unable or unwilling to provide all of the above information, no chemical poisons should be proposed or used for this project.

Note that all of the proposed product labels warn against contaminating ground or surface water. Given the very uneven and usually steep terrain in the Siuslaw, it's well-nigh impossible to apply any of the proposed poisons without having it run off or drain into ground water or surface water:

**aminopyralid**
https://www.epa.gov/pesticides/epa-addresses-ecological-risks-posed-aminopyralid
https://www.corteva.us/content/dam/dpagco/corteva/na/us/en/products/us-land-management/DF_Aminopyralid_Family_of_Herbicides_Broch.pdf
https://www3.epa.gov/pesticides/chem_search/ppls/081927-00082-20201019.pdf
" Not for Sale, Sale into, Distribution, and/or Use in Nassau and Suffolk counties of New York State."
This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. ...
...Manure and urine from animals consuming grass or hay treated with this product may contain enough aminopyralid to cause injury to sensitive broadleaf plants. Do not aerially apply this product within 50 feet …
… with, any broadleaf crop or other desirable broadleaf plants.... Avoid application under conditions that may allow spray drift because very small quantities of spray may seriously injure susceptible crops ….
Trees adjacent to or in a treated area can occasionally be affected by root uptake of this product. Do not apply Alligare Aminopyralid 2SL Herbicide within the root zone of desirable trees

**fluazifop-p-butyl**, Fusilade, Syngenta
https://www.solutionsstores.com/fluazifop
(by most international regulatory agencies' definitions, the active ingredient is a PFAS and what inerts, including any PFAS it contains, is unknown)

https://pubchem.ncbi.nlm.nih.gov/compound/fluazifop-p-butyl
GHS Classification Tree Hazard Statement CodesH200: Physical Hazards
H226: Flammable liquid and vapor [Warning Flammable liquids]

- GHS Classification Tree Hazard Statement CodesH300: Health Hazards

H317: May cause an allergic skin reaction [Warning Sensitization, Skin]

- GHS Classification Tree Hazard Statement CodesH300: Health Hazards

H361: Suspected of damaging fertility or the unborn child [Warning Reproductive toxicity]

- GHS Classification Tree Hazard Statement CodesH300: Health Hazards

H361d: Suspected of damaging the unborn child [Warning Reproductive toxicity]

- GHS Classification Tree Hazard Statement CodesH400: Environmental Hazards

H400: Very toxic to aquatic life [Warning Hazardous to the aquatic environment, acute hazard]

**clethodim** Shadow, UPL Corporation Limited Group Company. 24-UPL-1549
https://www3.epa.gov/pesticides/chem_search/ppls/070506-00484-20240411.pdf
...ENVIRONMENTAL HAZARDS DO NOT apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. DO NOT apply where runoff is likely to occur. DO NOT apply …
… Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift. PHYSICAL OR CHEMICAL HAZARDS Combustible. DO NOT use or store near heat or open flame.

**indaziflam**, Dow Chemical
https://www3.epa.gov/pesticides/chem_search/ppls/000264-01105-20110726.pdf
..." This product is toxic to fish, aquatic invertebrates, and plants. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean water mark. Do not …
… and characteristics associated with chemicals detected in ground water. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow."

**chlorsulfuron,** Bayer
https://www3.epa.gov/pesticides/chem_search/ppls/000432-01561-20201005.pdf
...GROUND WATER ADVISORY Chlorsulfuron is known to leach through soil into groundwater under certain conditions as a result of label use. This chemical may leach into groundwater if used in areas where soils are …
… sediment. NON-TARGET ORGANISM ADVISORY This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated area.

**clopyralid**
https://www3.epa.gov/pesticides/chem_search/ppls/035935-00057-20221207.pdf
HAZARDS TO HUMANS AND DOMESTIC ANIMALS DANGER Corrosive. Causes Irreversible Eye Damage. Harmful If Absorbed Through Skin Or Inhaled. Avoid contact with skin, eyes or clothing. Do not get in eyes or on clothing. Wear goggles or face shield when handling. Avoid breathing dust. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.
For use only on non-residential turf such as athletic and recreational sports fields, cemeteries, golf courses, industrial sites, noncropland, parks, rights-of-way, and roadsides. Turfgrass and lawn uses are restricted to non-residential sites. Note: In the states of California, Oregon and Washington, turfgrass and lawn uses are restricted to golf courses only.

**glyphosate (Roundup)**
https://www3.epa.gov/pesticides/chem_search/ppls/042750-00061-20231205.pdf
A cursory search will also bring up the THOUSANDS of lawsuits brought against Monsanto/Bayer for non-Hodgkin's lymphoma caused by glyphosate/Roundup.

**imazapic**
https://www3.epa.gov/pesticides/chem_search/ppls/071368-00099-20150528.pdf
Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate. This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of

this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

**imazapyr**
https://www3.epa.gov/pesticides/chem_search/ppls/081927-00024-20110805.pdf
DO NOT use on food or feed crops. DO NOT use on Christmas trees. DO NOT apply this product within one-half mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within one-half mile of an active potable water intake in a standing body of water, such as a lake, pond or reservoir.

**metsulfuron methyl**
https://labelsds.com/images/user_uploads/Manor%20Label%205-10-19.pdf
https://www3.epa.gov/pesticides/chem_search/ppls/066222-00050-20011004.pdf (CONDITIONAL REGISTRATION)
...Injury to or loss of desirable trees or other plants may result from failure to observe the followng: Do not apply Metsulfuron Methyl 60DF Herbicide (except as recommended), or drain or flush equipment on or …
… with their roots. Do not use on lawns, walks, driveways, tennis courts, or similar areas. • Prevent drift of spray to desirable plants. • Do not contaminate any body of water including irrigation water
https://www3.epa.gov/pesticides/chem_search/ppls/000279-09593-20191126.pdf
...Metsulfuron Methyl is known to leach through soil into groundwater under certain conditions as a result of label use. Metsulfuron Methyl may leach into groundwater if used in areas where soils are permeable, …
… the forage and habitat of non-target organisms by minimizing spray drift. For further guidance and instructions on how to minimize spray drift, refer to the Spray Drift Management section of this label
https://www3.epa.gov/pesticides/chem_search/ppls/000352-00439-20071108.pdf
This herbicide is injurious to plants at extremely low concentrations. Nontarget plants may be adversely affected from drift and run-off.

**picloram**
https://assets.greenbook.net/L107372.pdf
...This pesticide is toxic to some plants at very low concentrations. Non-target plants may be adversely affected if pesticide is allowed to drift from areas of application. ... his chemical is known to leach …
… in-field canals or ditch es that drain to surface water, areas not separated from adjacent surface waters with vegetative filter strips, and areas over-laying tile drainage systems that drain to surface water
https://s3-us-west-1.amazonaws.com/agrian-cg-fs1-production/pdfs/Tordon_22K_Label1h.pdf

**sethoxydim**
https://www3.epa.gov/pesticides/chem_search/ppls/000228-00619-20100518.pdf
For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. ENDANGERED SPECIES CONCERNS The use of any pesticide in a manner that may kill or otherwise harm an endangered species or adversely modify their habitat is a violation of Federal law.
https://assets.greenbook.net/00-05-03-10-07-2024-Poast_Herbicide_-_label.pdf

**sulfometuron methyl**
https://assets.greenbook.net/L107346.pdf
...DO NOT apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. DO NOT contaminate water when disposing of equipment washwater or rinsate. …
… onto cropland. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from treated areas.

**triclopyr**
https://www3.epa.gov/pesticides/chem_search/ppls/081927-00011-20210628.pdf
...This pesticide is toxic to fish. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment …

… associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

**CONCLUSION**

The Forest Service should withdraw herbicides from its list of options for controlling invasive species if it cannot provide the information listed above, as well as provide detailed plans and procedures for ensuring no contamination of surface or groundwater, no contamination of endangered, threatened, or non-target species, and no damage to non-target plants will occur.