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October 22, 2023

US Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington DC 2046-0001

RE: Docket EPA-HQ-OPP-2023-0365, Draft Herbicide Strategy Framework

Dear Director Matuszko,

These comments are submitted on behalf of the Western IPM Center.

Thank you for the opportunity to comment on the Herbicide Strategy framework for mitigation of risks to threatened and endangered species as a result of drift, run-off and erosion from herbicide applications. I appreciate the considerable effort that EPA has put into creation of this framework, and the attempts at providing flexibility for growers and applicators to select mitigations that work best for their operations.

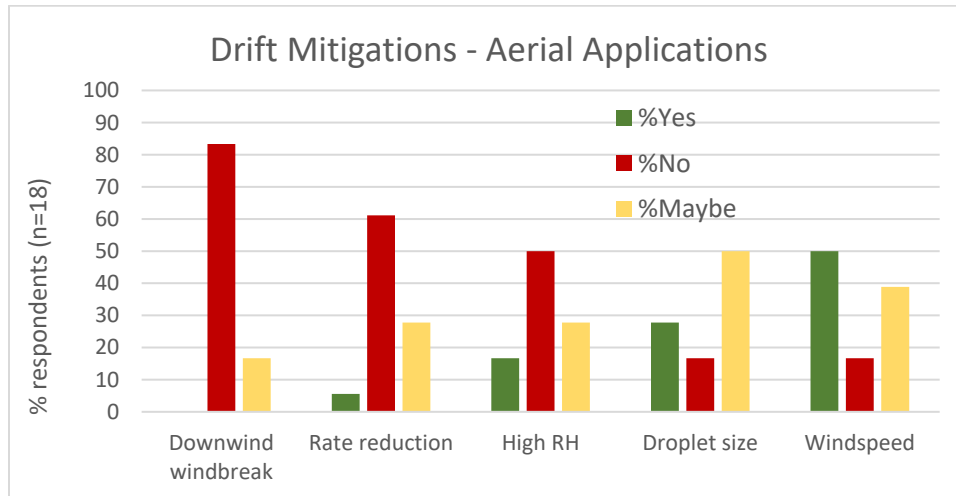
The comments that follow are based primarily on results from a grower survey, as well as conversations with regional university extension personnel. My goal is to provide aggregate data from the Pacific Northwest region to help provide a picture of mitigation menu feasibility, possible hurdles with implementation, additional suggestions from growers for EPA consideration, and educational needs for successful adoption of the Herbicide Strategy and Bulletins Live! Two.

Background on grower survey

The grower survey was conducted on the Qualtrics platform from September 30th to October 20th, 2023. The link distributed to growers and applicators through email by commodity boards and other list-servs. Respondents were from Oregon and Washington. Approximately 160 people responded to the survey; however, not all respondents were shown all questions. For example, if a respondent indicated that their uses of herbicides were in forestry, they were not shown questions regarding the Herbicide Strategy mitigations because the draft Herbicide Strategy did not cover this use. All respondents were surveyed over Bulletins Live! Two (BLT). Consequently, the number of responses vary and are provided for each area.

Drift mitigation

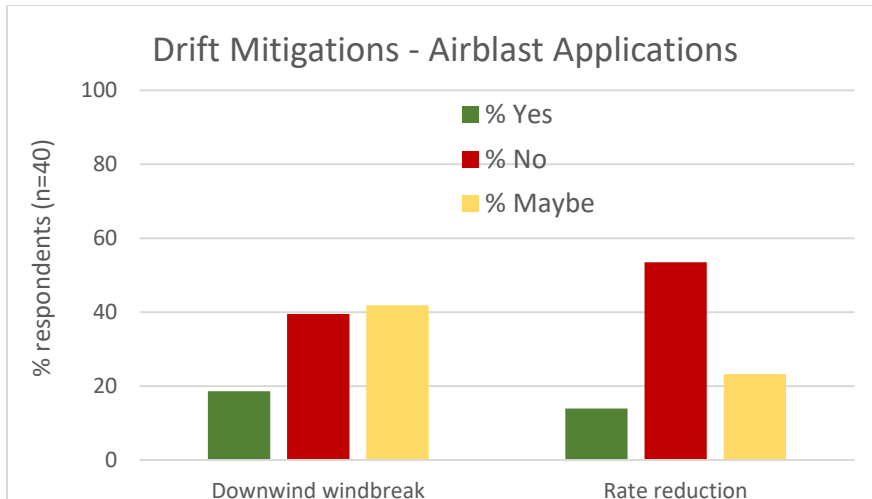
Eighteen respondents indicated they apply herbicides aerially. The use of downwind windbreaks, rate reductions, or treatment during high relative humidity were largely not seen as feasible mitigations. Over three quarters of these respondents thought that increasing droplet size or treating during lower wind-speeds was maybe or absolutely feasible.



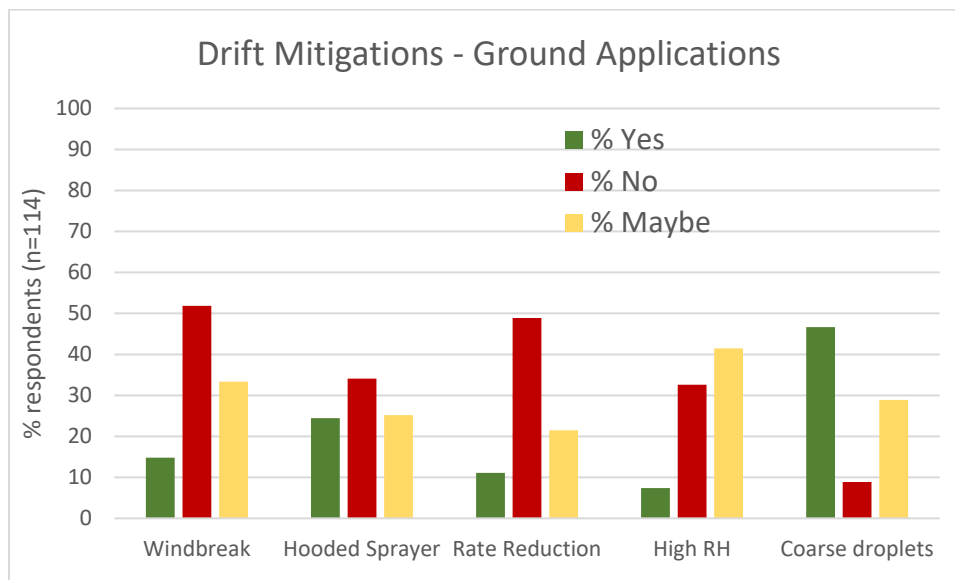
Forty respondents indicated they applied herbicides with an airblast sprayer. However, several of the cropping systems that growers identified would not typically apply herbicides via airblast sprayer. Thus, these results should be generalized to airblast applications of pesticides in general, and not herbicides specifically.

Respondents were provided the following definition of windbreak or hedgerow: row of broad-leaved trees or shrubs, no noticeable gaps, height higher than sprayer release height. Approximately 60% of respondents indicated that this mitigation was maybe or absolutely feasible. One concern about windbreaks is the establishment time for a newly planted windbreak. For those growers who indicated that windbreaks were maybe feasible, it may take several years to reach a height at or above an airblast sprayer release height.

Fewer than half of respondents felt that rate reduction for application via airblast was feasible.



114 respondents rated the feasibility of mitigations for ground applications. As with aerial and airblast applications, most respondents felt they could not implement windbreaks or a.i. rate reductions. 75% of respondents felt that use of coarse droplets was maybe or definitely feasible. Over half of growers also felt that hooded sprayers were possible.

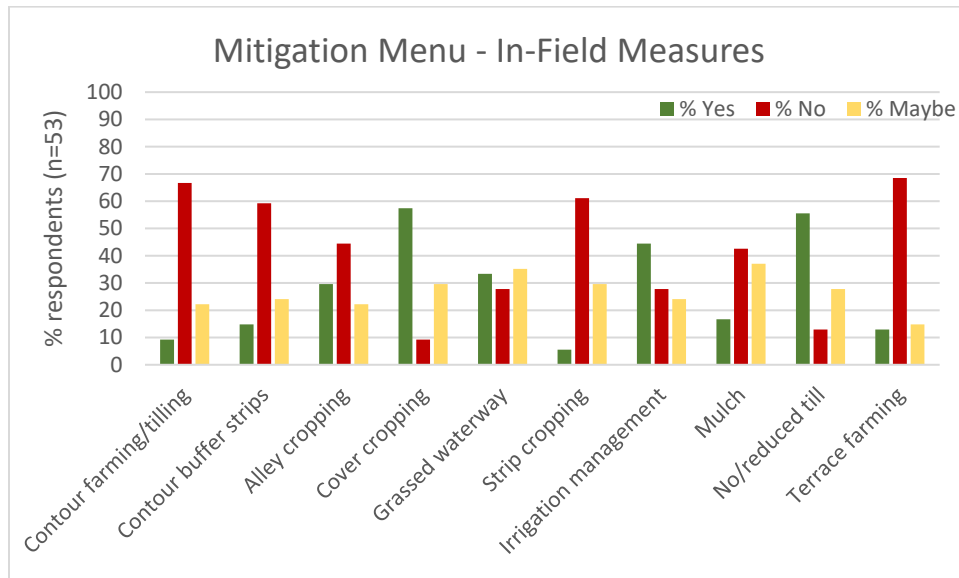
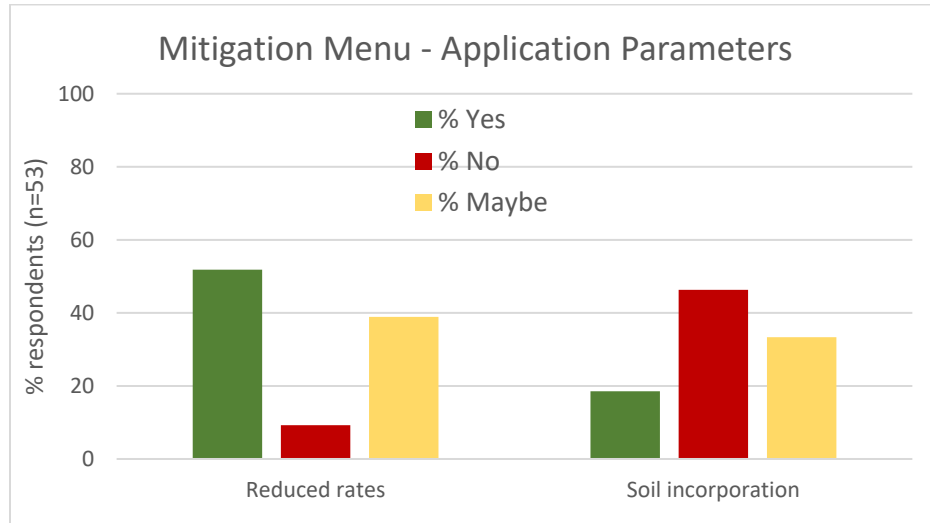


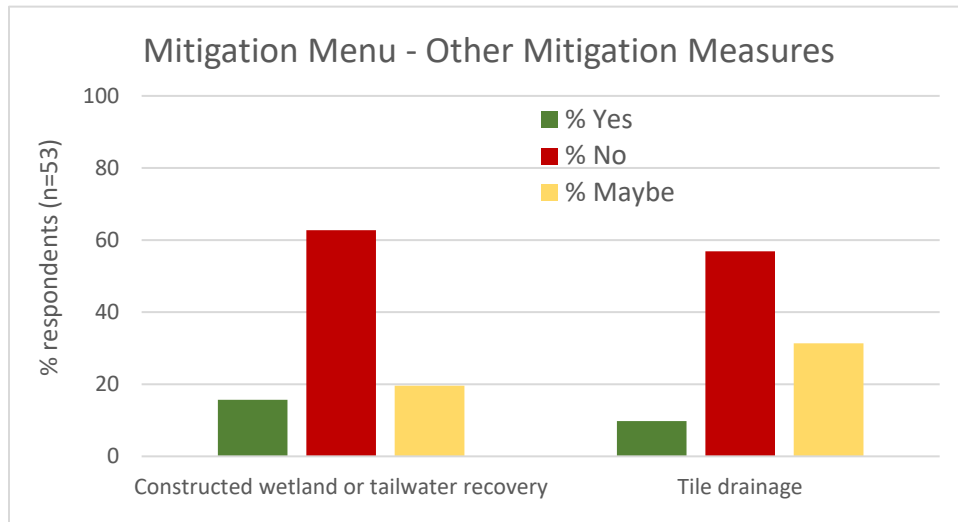
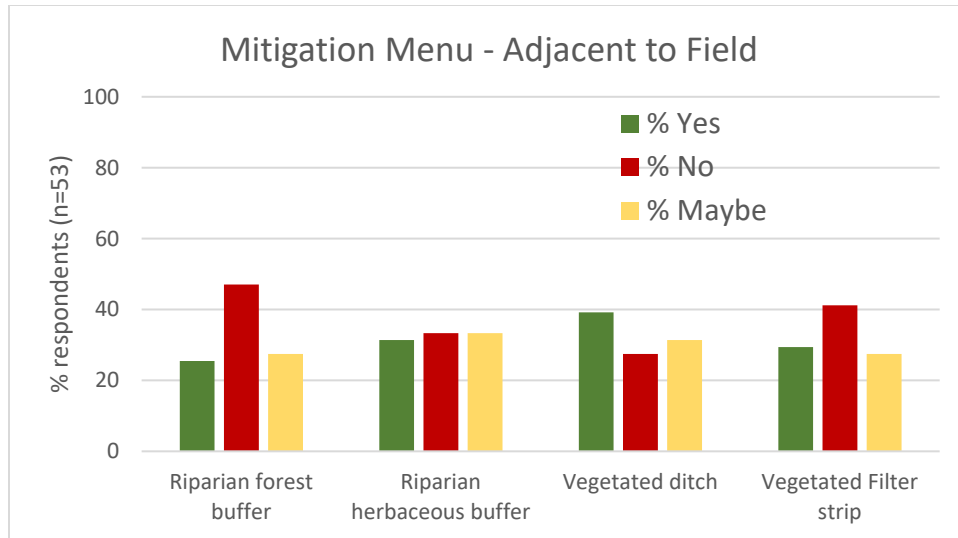
Runoff and erosion mitigation

53 respondents indicated whether the run-off and erosion mitigation measures were feasible for their operation or not.

Items under the 'Field Characteristics' are unable to be modified much by the grower. Only between 4-8 growers indicated their fields met at least one of the qualifications under the Field Characteristics category.

The following charts show the percent of respondents that felt they could incorporate the following mitigation practices on their operations:





Points achievable

45 growers completed the entire mitigation menu and also specified the crop they had in mind during completion. Growers answered Yes, No, or Maybe to whether they could implement the mitigations, but were not provided with the number of points the mitigations would be worth. Cropping systems represented in the responses include: hazelnut, winegrape, grass and clover grown for seed, tree fruit (cherry, apple, and pear), hops, wheat, and blueberry. The two most frequently listed cropping systems are hazelnut and grass and clover grown for seed, and I will present the information these growers provided.

When the number of points associated with the 'Yes' responses were calculated, hazelnut growers (n= 11) indicated they could achieve from between 0 and 20 mitigation points. When the number of points associated with the 'Yes' and 'Maybe' responses were calculated together,

hazelnut growers indicated they could achieve from between 7 and 23 mitigation points. Of the 11 hazelnut responses, 9 of the growers could achieve over 10 mitigation points with the 'Yes' and 'Maybe' responses combined.

A similar trend was observed with the points associated with the 'Yes' responses from grass/clover grown for seed (n=10), with the number of achievable points ranging from between 0 and 15. When the number of points associated with the 'Yes' and 'Maybe' responses were calculated together, growers indicated they could achieve from between 6 and 29 points. Of the 10 grass/clover seed responses, 8 of the growers could achieve over 10 mitigation points with the 'Yes' and 'Maybe' responses combined.

While the other cropping systems didn't have enough responses to examine in aggregate, the point totals roughly mirrored what was seen in hazelnut and grass/clover grown for seed.

Before sending the survey to growers, I expected the number of achievable points to be lower. As with the survey results that I submitted via comment to the ESA Workplan Update (Lightle 2023), the breadth of the mitigation menu does, overall, seem to provide enough options for most growers. That being said, the points calculated above rely heavily on 'Maybe' responses, indicating that growers do not currently have these mitigations in place in their fields. Implementing these mitigations, especially more than one of them, will come at considerable expense to growers.

Grower suggestions for alternative mitigations for EPA to consider

Respondents were asked to suggest other mitigation strategies that they use or would be able to adopt that they felt EPA should consider. Some of their suggestions related to drift mitigation, while others related to runoff and erosion mitigation. Suggestions were:

- Drift reducing spray nozzles
- Drift reducing adjuvants
- Treating during times of year where rain is unlikely. Areas east of I-395 receive a mitigation point for being "western agriculture" with low rain; however, rain during the summer is also uncommon in western Oregon and Washington growing regions
- Growing crops without irrigation (dryland farming)
- Release height for ground applications
- Application during certain times of the day. For example, night applications are common to reduce pesticide impacts on pollinating insects
- Producing a crop which is a cover crop in other systems. For example, clover seed
- Smart or intelligent sprayer technologies
- Reduced ground speed during applications
- Application of herbicides via weed "wipers"

Growers also were interested in the option of receiving mitigation points for attending educational presentations about things they can do to reduce drift, run-off, and erosion. Continued education about how to implement these strategies leads to increased grower

knowledge that will ultimately result in applicators who are adopting more mitigation strategies simply because they have better information on the benefits and how to successfully do so.

Exemptions

1,000 foot exemption

A 1,000 foot exemption from habitat types would be highly beneficial to certain parts of Oregon and Washington (for example, the Willamette Valley), which have entire growing regions falling within at least one of the PULAs. However, growers raised concerns with being responsible for knowing whether or not their field is within 1,000 feet of a qualifying habitat. This is especially true for custom applicators who don't know the surrounding landscape of a field. The BLT system should incorporate the habitats and mark the 1,000ft area directly onto the map so that growers and applicators can easily ascertain whether a field is impacted or not. The Herbicide Strategy will already be incredibly difficult to implement as currently proposed, and not including this in BLT creates more confusion about affected fields and shifts even more work onto the grower to figure out what is applicable to them, and what isn't. EPA, in conjunction with USFWS, should be responsible for incorporating exactly where the mitigation measures are required into BLT.

Alternative certification options

Respondents were asked which conservation programs they participate in or are aware of for their industry. A list of programs for EPA to consider is:

- Salmon-Safe
- LIVE (Low Input Viticulture and Enology)
- County Soil and Water Conservation Districts or NRCS
 - Shortcomings with these organizations are long wait lists, limited funding, and strict qualifications
 - Programs are not continuous over the years, so would need to provide a method for having previously worked with the agency
- Working with certified agronomists or CCAs
- Farm Service Agency Highly Erodable Lands programs
- Turfgrass Water Conservation Alliance
- Good Bines (through Hops Growers of America)
- Farm Service Agency Conservation Reserve Enhancement Program
- USDA Organic
- Participation in local watershed council programs
- Oregon Tilth
- Sustainability in Practice (SIP)
- Food Alliance
- University extension services

Many of these programs require implementation of conservation practices in order to become certified. For example, Salmon-Safe currently has funding from EPA to do watershed protection work in the interior Columbia Basin. Their certification process includes on-site, field specific

conservation plans that are must be implemented, and is valid for three years. They also have specific procedures in place for growers who need to utilize a pesticide with a high environmental risk profile.

Given the number of potential options that growers and respondents identified, EPA should be prepared to create a list of guidelines that a conservation group must meet, AND have a mechanism for those groups to become approved or similarly recognized.

Several survey respondents were not aware of a conservation program they could enroll in, but would be interested in working with one in order to streamline compliance with the ESA mitigation requirements. At the same time, an equal number of respondents felt that their own training and experience was sufficient and working with a third party would not be necessary for them. Clear guidelines on qualifying conservation organizations or agronomist certifications would be highly beneficial as an option for growers who need additional training or education to come into compliance.

Bulletins Live! Two

Growers were provided an image of a label with the proposed BLT language, asked to read the language, and answer questions about the Bulletins Live! Two system and their concerns. There were 95 respondents who completed this section of the survey. Respondents were allowed to select as many answers as they felt applied to them.

Overall, 66% of respondents indicated they are concerned that the label language provided on BLT will be too complicated or confusing. As an educator, this was also a large concern of my own when reading the Herbicide Strategy framework.

10%-15% of respondents reported hurdles to access of BLT. Ten percent of growers couldn't find the link to the BLT application from the website listed on the label language (<https://www.epa.gov/espp>). This was a concern identified during the grower survey conducted for the ESA Workplan Update, as well (Lightle 2023).

Another 15% of respondents reported either having no access to internet, or can only access the internet via a mobile device. These users would face significant hurdles to accessing the additional label language on the BLT application. 15% of respondents were concerned because they didn't understand the record keeping requirements that they would be responsible for with ESPPs downloaded from BLT.

10% of respondents reported that they are custom applicators, and that the Herbicide Framework leaves too much about the application site out of their control. One commenter worried about the liability that their company would be opened up to by working on sites that they might be unfamiliar with.

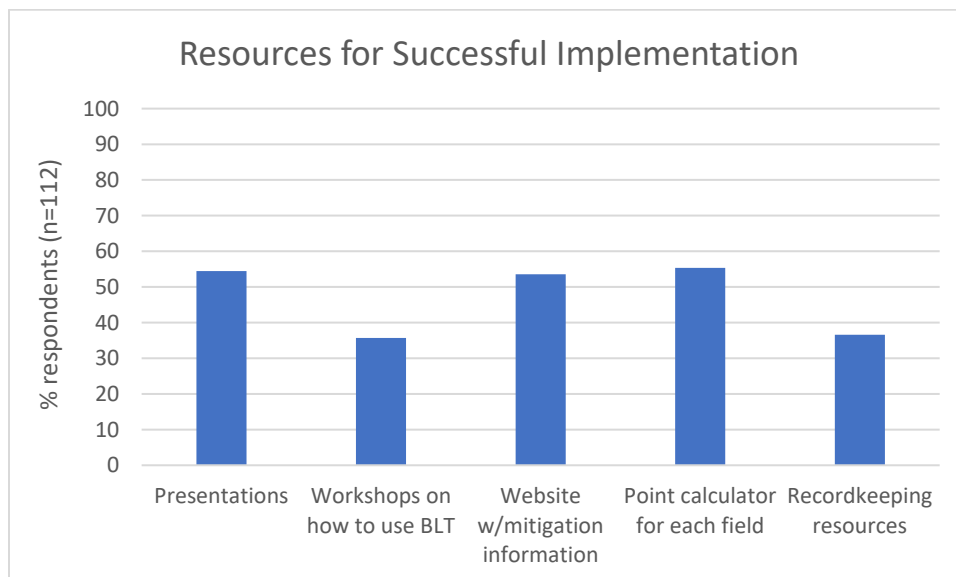
Another 10% of respondents indicated that they didn't think that BLT applied to them at all, because they rely on custom applicators to manage their pest control plans. This group of growers would need outreach to understand how they are responsible for the land-aspects of the requirements. Between these growers, and the custom applicators (above paragraph), 20% of

respondents will need education on their responsibilities and the types of conversations that need to occur between custom applicators and the grower.

Finally, growers were given the option to enter in other concerns. 10% of respondents indicated that they are concerned because they don't know which pesticides may be needed 6 months in advance. Given that this was a 'write-in' response and not a pre-written response, this indicates to me that there is considerable confusion about the way the label language is written, and this is another area where education is required.

Educational needs

Growers were asked what resources they felt were needed to successfully implement the Herbicide Strategy requirements. There were 112 respondents, who could select as many options as they felt would be helpful.



Over half of respondents wanted information provided in the form of educational presentations. Over half of respondents also wanted online resources, such as a website that described the mitigation requirements and how to be in compliance, or a calculator where they could input the mitigations they have in place and see how many points they have accumulated. Other educational needs identified are workshops on using BLT, and resources on how to be in compliance with record-keeping.

Costs

While growers were asked directly about costs, I was not provided any specific dollar amounts on the costs to implement the Herbicide Strategy. However, it is clear that the costs will be significant. Costs that growers identified will be incurred include:

- Increased costs in record-keeping and compliance
- Need to hire additional staff solely to manage BLT compliance
- Significant costs with implementation of large mitigation measures
- Costs with maintenance of established mitigation measures (e.g. hedgerows)
- Significant investments in new equipment (e.g. a no-till drill, irrigation systems, hooded sprayers, etc)
- Need to hire specialists to understand the requirements
- Removal of acreage from production to install options from the mitigation menu

Three respondents indicated their profit margin is so tight that they felt they may need to leave agriculture due to the additional costs.

Grower comments

Below, I am providing statements of concern from growers that were submitted to me over the course of this survey period. Each quote is from a different survey respondent.

“The points requirement may limit the ability to treat “one-time” pest problems that growers don’t face often. If their land doesn’t meet requirements when they need to apply, they could lose their whole crop!”

“While these measures seem somewhat feasible on owned property, on lease or rented land what keeps the landlord from changing the landscape and kicking me out of compliance?”

“Owned v. leased land could be a challenge in relation to agreements with landlords on production practices.”

“Growers in the Willamette Valley are having to continually change crops, cropping plans, application methods etc. due to weather events. The addition of mitigation layers not already addressed in our current crop labels continues to infringe on profitable farming.”

“Keep this simple! Internet links are useless because mixing/loading areas are often remote.”

“Increased requirements continue to elevate office and paperwork. Confusion about requirements can lead to non-compliance and decision fatigue. Implementing large buffer areas removes farmable ground from production, and decreases farmable acres in the area. Also consider fields that are different owners and managers but are adjoined. Would requirements put the burden on one farmer but not the other? This could unevenly impact the community.”

“This is a ridiculous amount of detail for one acre u-pick blueberry field. There must be some practical limit to the size of operation that would be

subject to this guidance. There needs to be an exemption based on size of the operation. This will be burdensome enough for large commercial operations. For small holders it is unthinkable, regulatory over-reach."

"This will take a considerable amount of time to run all the different options and print and keep them in a book and organized. When plans change new records will need to be created."

"Working ground to plant crops for erosion control next to waterways could put a grower in violation of a state dept that oversees ditches/creeks. Not controlling weeds next to water ways could cause invasive weeds to multiply exponentially."

"Most water retention and hedgerow plans would be costly to implement or slow to grow, and would not adapt well to dynamic cropping systems."

"I work to be a good steward. I don't spray when it is windy or conditions are poor. I don't worry about run-off as rains during the primary spraying times are effectively non-existent."

"When a Special Local Needs label is in play, I find that information along with the pesticide label, usually on the manufacturer's website. I want all information in the same place. If there are additional or evolving requirements beyond the legal label, then put them all in the same place please."

"Cover crops are tough because the snow geese and duck population wipe it out every year. We trade ground more with other crop produce whose crops require less spraying. A grass field for hay for example. We limit our surface ditching to only crops that need to make it through the winter. We like to fall V-ripping as it helps in water conservation for the following year's crops. We use the best-rated spray tips for the chemicals we use. Chemical additives are added to every tank mix to prevent drifting. We use a local network of weather stations in the area to more accurately judge to wind. We are a century-old farm that has been a good steward of the ground which is why I like to think we still exist. Unfunded or poorly mandates are tough on farmers who face many changes. I would hope the EPA would tackle problems one at a time and allow the farmers to adapt."

"I believe that some education is in order and it is a good thing to tighten up our care for the earth. This should be done reasonably and should do no harm to those of us (most of us) who want the land to be better because we farmed it. This rule making that is based on litigation and a minority's desires is irresponsible and vindictive. It should not be the reason for us to be better--rather we should do it because it is the right thing to do."

“I currently plant cover crops, have vegetative buffers around my orchard, have tilled my orchard, have grass waterways for the tile system, direct surface water into tile lines, capture surface water before it enters my orchard, practice minimal tillage operations, spot and hand as appropriate. All without the benefit of a consultant, expert or any government program. I obviously do NOT need an expert to tell me how to prevent erosion. I am doing great already. The EPA needs to understand that soil erosion is the bane of all good farmers and they need to let us practice what we already know is beneficial and practical.”

“Reduce the complexity. Even with training resources, the program is too complex for implementation.”

“As a producer in the Willamette Valley I have always worked to be a good steward of the land that I manage. I am always concerned when new regulations are being proposed that will take time and resources away from my farm and my family. The biggest downfall too many of the regulations is that they raise my cost of production and reduce my ability to be competitive in the marketplace.”

Summary

Because of the breadth of the Herbicide Strategy, it is difficult to truly estimate the impacts on agricultural operations. However, the following is apparent:

- Growers are most concerned about the costs and complexity of the program
- While the survey data collected here indicates that many affected fields in the PNW are likely to be able to reach 9 or more mitigation points, the costs to achieve this are, in some cases, staggering
 - Growers need a phase-in time in order to implement measures that are not able to be immediately established (i.e. tailwater infrastructure, hedgerow establishment, etc)
 - Funding for implementation of required mitigations is also crucial for economic viability
- Additional funding for education and training on BLT is critical for successfully implementing this label system
- Simplification of BLT so that a bulletin will last a growing season, a quarter or half a year, instead of needing to be acquired for each month of application, will cut down on record-keeping requirements for producers
- Fields that are leased may have additional hurdles in compliance with mitigation measures because the landowner may not agree to modifications such as hedgerow planting
- Custom applicators, and growers that rely on custom applicators, may not understand who is responsible for compliance

- This could be an equity issue if non-compliance is at issue: if custom applicators are not native English-language speakers or don't have the security to turn down a job, they may be more vulnerable to non-compliance
- In comments, growers were concerned about regulatory overreach, and strongly indicated a preference for education on practices, rather than regulatory requirements
 - Investment by EPA and other agencies into education on implementation will help with voluntary compliance
 - Growers should receive a mitigation point for ongoing education into qualifying topics
- Growers need development of simple, straightforward internet resources to define acceptable mitigations and help calculate the accumulated points
- EPA should clearly define requirements of 3rd party conservation/certification groups that would enable compliance with ESA measures
 - Growers indicated a diverse group of organizations with which they already work
 - Some growers indicated they are willing to pay for the services of these groups to ensure compliance
- EPA, in conjunction with USFWS, should be responsible for incorporating exactly where the mitigation measures are required into BLT, rather than placing the burden on growers to know whether a field is within 1,000 feet of habitat

Thank you for the opportunity to comment. Please feel free to contact me with additional questions.

Respectfully,



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To compile comments, input is actively solicited from stakeholders throughout the Pacific Northwest in an effort to convey use patterns, benefits, potential impacts, and the availability and efficacy of alternatives. These comments largely reflect expert testimony from stakeholders, including research and extension experts as well as farmers and commodity groups. The comments do not imply endorsement by Oregon State University or the Western IPM Center.

Lightle (2023). Comment submitted by the Western IPM Center. EPA-HQ-OPP-2022-0908-0111.