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Submitted via SmartComments

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## Comment on [1] 2025-2027 Draft Triennial Standards Review Workplan

Dear Ms. Charles:

In 2023, the Minnesota Department of Agriculture (MDA) Ambient Monitoring Program tested rivers and streams from across the state for 186 pesticides or pesticide degradates (pesticide analytes). The MDA detected 70 pesticide analytes in surface waters, 66 of which do not have promulgated water quality standards developed by the Minnesota Pollution Control Agency (MPCA) (Exhibit A). The MDA annually requests that standards be developed for all pesticides and pesticide degradates detected in surface waters that do not have water quality standards. The MDA recognizes that the Water Standards Unit may not have the resources to develop standards for all pesticide analytes listed in Exhibit A and analytes may need to be prioritized.

The MDA considers the neonicotinoid insecticides clothianidin and imidacloprid to be of particularly high priority for standard development; however, clothianidin and imidacloprid are currently listed in Group 2 of the [Draft Water Quality Standards Work Plan for 2025 to 2027](#). **The MDA recommends that the MPCA move clothianidin and imidacloprid into Group 1 of the Water Quality Standards Work Plan for 2025 to 2027.** The move to Group 1 is supported by the available surface water quality monitoring data. Both clothianidin and imidacloprid continue to be detected in Minnesota's surface waters at concentrations above their respective Environmental Protection Agency (EPA) chronic freshwater invertebrate Aquatic Life Benchmarks (Exhibit B). The 90<sup>th</sup> percentile concentrations for both clothianidin and imidacloprid have also been found to routinely exceed the EPA chronic benchmarks. These insecticides are broadly detected in the rivers and streams of western and southern Minnesota, and concentrations are often sustained above the EPA chronic benchmark for more than 21 days (See the [MDA's annual water quality monitoring reports](#) for duration assessments and additional detection summaries). In 2020, following extensive review of monitoring and use data, the Commissioner of Agriculture designated clothianidin and imidacloprid as "[surface water pesticides of concern](#)," which further demonstrates the high priority of these insecticides for standard development.

We continue to appreciate the partnership the MPCA has developed with the MDA on matters of promulgated water quality standards derivation and review. Thank you for this opportunity to comment.

Kind regards,

A handwritten signature in cursive script that reads "Trisha Leaf".

Trisha Leaf  
Manager, Pesticide Non-point Section  
Pesticide and Fertilizer Management Division

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## Exhibit A

**Pesticide and pesticide degradates detected in surface water by the Minnesota Department of Agriculture in 2023 and their respective Environmental Protection Agency Aquatic Life Benchmarks (analytes with available promulgated standards not included)**

Pesticide Analyte	Maximum Concentration Detected (ng/L)	EPA ALB - Lowest Value <sup>1</sup> (ng/L)	EPA ALB Type <sup>2</sup>
2,4-D	5,410	79,200	Chronic (f)
Acetochlor ESA	5,470	9,900,000	Chronic (n)
Acetochlor OXA	7,090	–	–
Alachlor ESA	686	3,600,000	Chronic (n)
Alachlor OXA	70	>47,500,000	Acute (i)
Aminopyralid	478	1,360,000	Chronic (f)
Deisopropylatrazine	186	2,500,000	Chronic (n)
Desethylatrazine	397	1,000,000	Chronic (n)
Didealkylatrazine	283	>50,000,000	Acute (f)(i)
Hydroxyatrazine	289	>1,500,000	Acute (f)
Azoxystrobin	451	44,000	Chronic (i)
Bentazon	91	4,500,000	Chronic (n)
Bicyclopyrone	35	13,000	Chronic (v)
Bromoxynil	723	2,500	Chronic (i)
Carbaryl	40	500	Chronic (i)
Carbendazim	40.5	990	Chronic (f)
Clethodim sulfoxide	453	–	–
Clopyralid	1,700	4,700,000	Chronic (i)
Cloransulam-methyl	114	990	Chronic (v)
Clothianidin <sup>3</sup>	112	50	Chronic (i)
Deethylcyanazine	83.6	–	–
Deethylcyanazine acid	25.4	–	–
Dicamba	33,900	61,000	Chronic (n)
Dichlobenil	621	30,000	Chronic (v)
Dichlorprop	259	77,000	Chronic (n)
Dimethenamid	1,520	8,900	Chronic (v)
Dimethenamid ESA	241	–	–
Dimethenamid OXA	125	–	–
Diuron	28.2	130	Chronic (v)
EPTC	34.1	40,000	Chronic (f)
Ethofumesate	8,410	300,000	Chronic (i)
Flumetsulam	131	3,100	Chronic (v)
Flutriafol	27.7	310,000	Chronic (i)

Pesticide Analyte	Maximum Concentration Detected (ng/L)	EPA ALB - Lowest Value <sup>1</sup> (ng/L)	EPA ALB Type <sup>2</sup>
Fluxapyroxad	25	22,000	Chronic (f)
Fomesafen	884	92,000	Chronic (n)
Glyphosate	11,300	11,900,000	Chronic (v)
Imazapic	14.7	6,220	Chronic (v)
Imazapyr	620	24,000	Chronic (v)
Imazethapyr	76.2	8,100	Chronic (v)
Imidacloprid <sup>3</sup>	178	10	Chronic (i)
Isoxaflutole DKN	542	75,000	Chronic (v)
MCPA	1,320	20,000	Chronic (v)
MCPP	127	14,000	Chronic (n)
Mesotrione	649	4,800	Chronic (v)
Metalaxyl	25.3	1,200,000	Chronic (i)
Metolachlor ESA	6,630	24,000,000	Acute (f)
Metolachlor OXA	2,320	7,700,000	Acute (i)
Metribuzin	607	8,100	Chronic (n)
Metribuzin DA	82.8	–	–
Metsulfuron-methyl	27.8	360	Chronic (v)
Nicosulfuron	217	43,000,000	Chronic (i)
Piperonyl butoxide	486	7,800	Chronic (f)
Prometon	653	98,000	Chronic (n)
Propazine	114	24,800	Chronic (n)
Propiconazole	273	15,000	Chronic (f)
Pydiflumetofen	388	42,000	Chronic (i) [Calculated] <sup>4</sup>
Pyroxasulfone	169	380	Chronic (n)
Pyroxasulfone M1	81.8	–	–
Saflufenacil	122	42,000	Chronic (n)
Sulfentrazone	1,180	28,800	Chronic (v)
Sulfentrazone-3-carboxylic acid	483	–	–
Tebuconazole	79	11,000	Chronic (f)
Tembotrione	129	5,200	Chronic (v)
Tetraconazole	16.8	80,000	Chronic (f)
Thiamethoxam	95.6	740	Chronic (i)
Triclopyr	8,290	26,000	Chronic (f)

<sup>1</sup> Environmental Protection Agency Aquatic Life Benchmark (EPA ALB) values are taken from [www.epa.gov/pesticide-science-and-assessing-pesticide-risks/aquatic-life-benchmarks-and-ecological-risk](http://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/aquatic-life-benchmarks-and-ecological-risk). Only the lowest numeric ALB value is listed for each analyte. ALB values listed match those that appear in the MDA's [Water Quality Monitoring Report](#) published in June 2024. Any changes to ALBs since June 2024 are not

reflected in Exhibit A, but the MDA will use EPA's most recent ALB values to evaluate future surface water detections. In the absence of an applicable ALB for pesticide degradates, the parent pesticide value is used as directed by the USEPA/OPP.

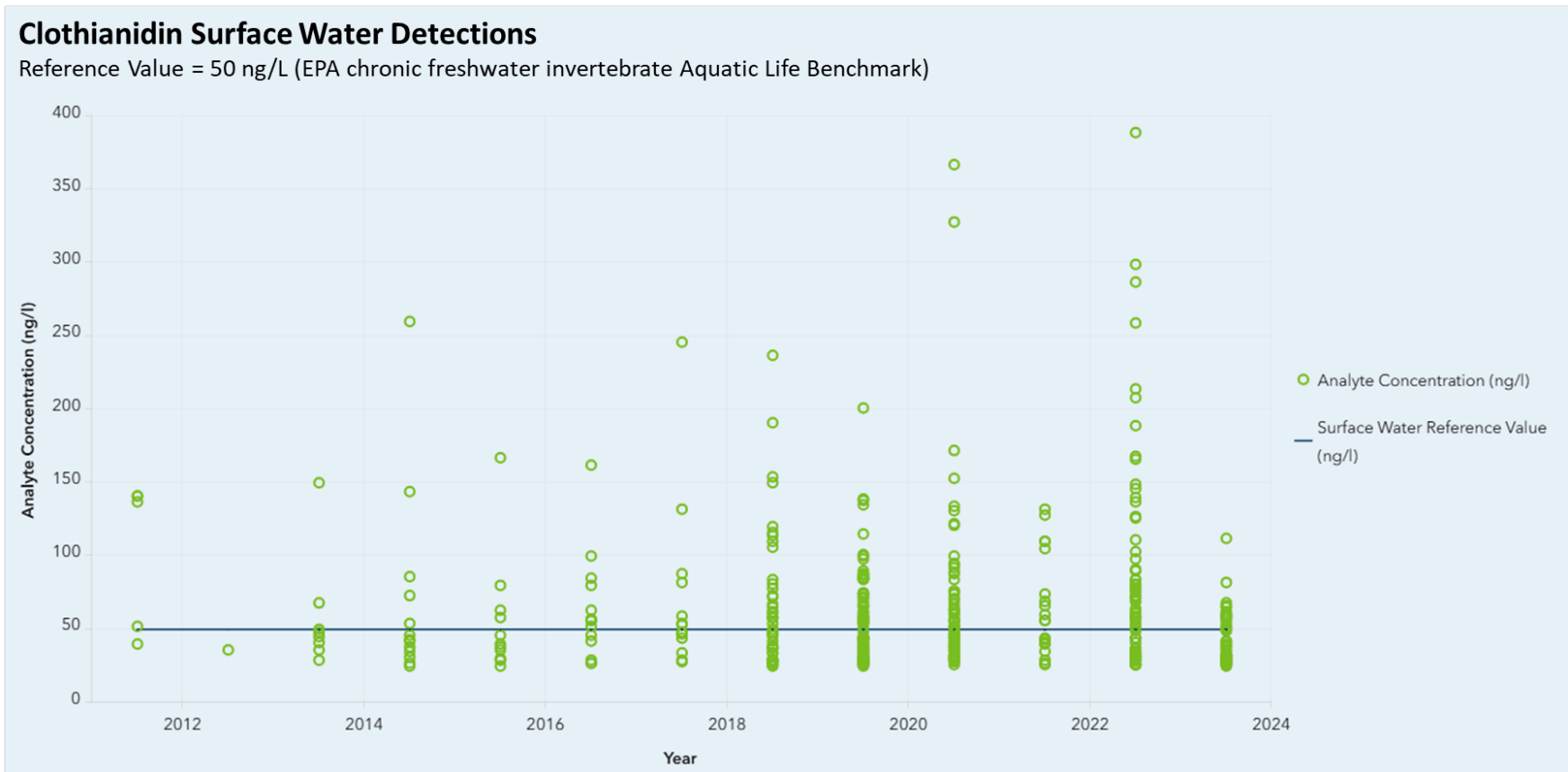
<sup>2</sup> f – fish; i – invertebrate; n – non-vascular plant; v – vascular plant. Non-vascular and vascular plant values are considered chronic values by the MDA based on the typical timeframe of the toxicity studies.

<sup>3</sup> Designated by the Commissioner of Agriculture as "[Surface Water Pesticide of Concern](#)" in Minnesota.

<sup>4</sup> In the absence of an applicable ALB value for a pesticide compound, the MDA calculated the value from USEPA/OPP toxicity data.

## Exhibit B

### MDA detections of clothianidin and imidacloprid in surface water versus available reference values



# Imidacloprid Surface Water Detections

Reference Value = 10 ng/L (EPA chronic freshwater invertebrate Aquatic Life Benchmark)

