Proposal No. 2 7 - 1 2 4

Proposal for Task Force Consideration at the ISSC 2027 Biennial Meeting *(Tab to go to next field)*	1. a. ☐ Growing Area b. ☐ Harvesting/Handling/Distribution c. ☑ Administrative
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9. Proposal Subject	NSSP PSP Bioassay Checklist: Part II 2.4 Calculation of toxicity for MBA
10. Specific NSSP Guide Reference	NSSP 2023 Revision: Section IV Guidance Documents – Chapter III Laboratory
11. Text of Proposal/ Requested Action	This proposal requests a revision to NSSP PSP Bioassay Checklist linked in the NSSP 2023 Revision: Part II 2.4 Calculation of toxicity for MBA. Current text: *Part II 2.4.5 The toxicity of each sample is calculated as follows:* *µg STX eq/100 g of sample = MCMU x CF x DF x 200 except when less than 100 grams of sample is used for analysis.* *In this case an adjustment for sample weight must be made such that the formula for calculating sample toxicity becomes:* *µg STX eq/100 grams of sample = MCMU x CF x DF x 200/Adjusted weight of the acidified sample x 200.* *Where:* *MCMU=Median Corrected Mouse Unit for the sample* *CF=Laboratory Conversion Factor* *DF=Dilution Factor (if additional dilution is required)* The calculation provided for cases when less than 100 grams of sample is used for analysis is incorrect. The PSP Bioassay Checklist requires a strict 1:1 ratio between sample weight (g) and acid volume (mL) added (2.2.3). The final weight (g) is adjusted as needed due to evaporative losses to the pre-boiling weight (2.2.10). In the primary equation, when 100 g of sample is used for analysis: µg STX eq/100 g of sample = MCMU x CF x DF x 200 • MCMU x CF x DF generates the µg STX eq. in a 1 mL injection (volume injected into each mouse). • The 200 multiplier extrapolates the STX eq in 1 mL (0.5g eq) of extract to 200 g (100g eq). When this proportional scaling is maintained, as required, the final calculation remains unchanged because the total extract weight divided by sample mass **will always reduce to 2.**

	However, to explicitly reflect using <100 g in the calculation, the formula could be corrected to µg STX eq/100 g of sample = MCMU x CF x DF x (Total Extract Weight (g) / Sample Mass (g)) × 100 grams
12. Public Health Significance	The calculation in its current form substantially overestimates the toxin level in samples and can prevent harvest. Although this does not pose a public health risk, it can cause significant negative impacts to the aquaculture industry and economic harm to local communities.
13. Cost Information	N/A
14. Changes Needed to Guidance (if proposed change is adopted)	Proposed revision to the PSP Bioassay Checklist: *Part II 2.4.5 The toxicity of each sample is calculated as follows:* *µg STX eq/100 g of sample = MCMU x CF x DF x 200* *except when less than 100 grams of sample is used for analysis.* ~~*In this case an adjustment for sample weight must be made such that the formula for calculating sample toxicity becomes:*~~ ~~*µg STX eq/100 grams of sample = MCMU x CF x DF x 200/Adjusted weight of the acidified sample x 200.*~~ *To document the use of less than 100 g, use the following calculation:* *µg STX eq/100 g of sample = MCMU x CF x DF x (Total Extract Weight (g) / Sample Mass (g)) × 100 grams* *Where:* *MCMU=Median Corrected Mouse Unit for the sample* *CF=Laboratory Conversion Factor* *DF=Dilution Factor (e.g. 1:1 dilution, DF=2)*