**Section 302.633 The Wild and Domestic Animal Protection Criterion**

The Wild and Domestic Animal Protection Criterion (WDAPC) is the concentration of a substance that, if not exceeded, protects Illinois wild and domestic animals from adverse effects, such as functional impairment or pathological lesions, resulting from ingestion of surface waters of the State or ingestion of aquatic organisms taken from surface waters of the State.

a) For those substances for which a NOAEL has been derived from studies of mammalian or avian species exposed to the substance via oral routes including gavage, the lowest NOAEL among species must be used in calculating the WDAPC. Additional considerations in selecting NOAEL include:

1) If the NOAEL is given in milligrams of toxicant per liter of water consumed (mg/L), before calculating the WDAPC, the NOAEL must be multiplied by the daily average volume of water consumed by the test animals in liters per day (L/d) and divided by the average weight of the test animals in kilograms (kg).

2) If the NOAEL is given in milligrams of toxicant per kilogram of food consumed (mg/kg), before calculating the WDAPC, the NOAEL must be multiplied by the average amount of food in kilograms consumed daily by the test animals (kg/d) and divided by the average weight of the test animals in kilograms (kg).

3) If the animals used in a study were not exposed to the toxicant each day of the test period, the NOAEL must be multiplied by the ratio of days of exposure to the total days in the test period.

4) If more than one NOAEL is available for the same animal species, the geometric mean of the NOAELs must be used to calculate the WDAPC.

b) For those substances for which a NOAEL is not available but the lowest observed adverse effect level (LOAEL) has been derived from studies of animal species exposed to the substance via oral routes including gavage, one-tenth of the LOAEL must be substituted for the NOAEL.

c) The LOAEL must be selected in the same manner as that specified for the NOAEL in subsection (a).

d) The WDAPC, measured in milligrams per liter (mg/L), is calculated according to the equation:

 WDAPC = [0.1 NOAEL x Wt]/[W + (F x BCF)]

Where:

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| NOAEL is derived from mammalian or avian studies as specified in subsections (a) and (b), and is measured in units of milligrams of substance per kilogram of body weight per day (mg/kg-d);  |
| Wt | = | Average weight in kilograms (kg) of the test animals;  |
| W | = | Average daily volume of water in liters consumed per day (L/d) by the test animals; |
| F | = | Average daily amount of food consumed by the test animals in kilograms (kg/d); |
| BCF | = | Aquatic life Bioconcentration Factor with units of liter per kilogram (L/kg), as derived in Sections 302.660 through 302.666; and |
| The 0.1 represents an uncertainty factor to account for species variability. |

e) If no studies pertaining to the toxic substance in question can be found by the Agency, no criterion can be determined.

(Source: Amended at 47 Ill. Reg. 4437, effective March 23, 2023)