Los Alamos National Laboratory

ECORISK Database Release 4.1

(September 2017)

ESL and EcoPRG History Summary
by ECORISK Database Release*

***If you have a specific question(s) that this document does not address adequately, you may contact the database manager for additional help answering your question(s).**

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Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
October 1998 – Beta Release	Original ESL models were as follows: Soil ESLs for Bird Receptors: American kestrel (Avian intermediate carnivore), American kestrel (Avian top carnivore), American robin (Avian insectivore) for 46 non-radionuclides and 18 radionuclides (See Table 2). Soil ESLs for Mammalian Receptors: Deer mouse (Mammalian omnivore), Desert cottontail (Mammalian herbivore), Red fox (Mammalian top carnivore), Vagrant shrew (Mammalian insectivore) for 102 non-radionuclides and 18 radionuclides (See Table 3). Soil ESLs for Invertebrate Receptor: Earthworm (Soil-dwelling invertebrate) for 37 non-radionuclides and 18 radionuclides (See Table 4). Soil ESLs for Plant Receptor: Generic plant (Terrestrial autotroph - producer) for 41 non-radionuclides and 18 radionuclides (See Table 5). Sediment and Water ESLs for 12 radionuclides for Aquatic Community Organism Receptors: Aquatic snails (Aquatic herbivore - grazer), Daphnids (Aquatic omnivore/ herbivore), Fish (Aquatic intermediate carnivore), and Algae (Aquatic autotroph – producer). (See Table 6). BACK TO TOP

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
June 1999 – Release 1.0	Addition of sediment ESLs for 19 radionuclides and or 49 non-radionuclides for the new bird receptor, Violet-green Swallow (Avian aerial insectivore). Addition of sediment ESLs for 19 radionuclides and or 106 non-radionuclides for the new Mammal receptor, Occult little brown myotis bat (Mammalian aerial insectivore). Addition of 85 sediment ESLs for non-radionuclides ESLs for the new aquatic community organism receptor. Addition of 7 radionuclides (Cesium-134, Cobalt-60, Europium-152, Radium-228, Sodium-22, Thorium-228, Thorium-230) for sediment and water for aquatic community organism receptors. Addition of non-radionuclide and radionuclide ESLs (19 rad, 48 non-rad) for soil for the new Bird receptors, American robin (Avian omnivore) and American robin (Avian herbivore). Addition of non-radionuclide and radionuclide ESLs for water for all bird (19 rad, 48 non-rad) and mammal (19 rad, 106 non-rad) receptors. Addition of 3 ESLs for soil for Boron, Fluoride and Radium-228 for all applicable bird receptors. Addition of 3 ESLs for soil for Boron, Fluoride, Strontium (stable), Dichlorobenzene[1,4-], and Radium-228 for all applicable mammal receptors. Addition of 2 ESLs for soil for Trinitrotoluene[2,4,6-], and Radium-228 for the earthworm receptor. Addition of 3 ESLs for soil for Amino-2, 6-dinitrotoluene[4-], Boron, and Radium-228 for the generic plant receptor. Numerous ESL updates. Documentation of specific reasons for updates not available at this time. General documentation of reasons for ESL updates indicated that the radionuclide ESL models underwent extensive revisions and the non-radionuclide ESLs were multiplied by a factor of 0.3 per the recommendation of NMED. BACK TO TOP

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
April 2000 – Release 1.1	Addition of 5 ESLs for water for Tetrachlorodibenzodioxin[2,3,7,8-], Dinitrotoluene[2,6-], Fluoride, Pentachloronitrobenzene, and Dichloroethene[1,1-] for the aquatic community organism receptor. Addition of soil and water ESLs for Dinitrobenzene[1,3-] for all applicable bird receptors. Addition of a soil ESL for Dibenzofuran for the desert cottontail receptor. Deletion of sediment ESLs for Butanone[2-], Chloroform, Dichloroethane[1,2-], Dichloroethene[cis-1,2-], Dinitrotoluene[2,6-], and Nitrobenzene for the aquatic community organism receptor. The Chloroform ESL was deleted because the toxicity data it was based on was deemed unsuitable. Reasons for other deletions not available at this time. Deletion of water ESL for Dichloroethene[cis-1,2-] for the aquatic community organism. Reason for deletion not available at this time. Numerous ESL updates. Documentation of specific reasons for ESL updates is not available at his time. General reasons for ESL updates are described below. Some ESLs were updated based on reasons documented in the December 1999 Interim ESLs memorandum (Ref ID 1484) and included: 1) the 0.3 factor was removed from the non-radionuclide ESL equations, 2) a correction to the water ESLs to account for a units conversion problem was made (values were multiplied by 1000), 3) all ESL values were rounded down to two significant figures and 4) the aquatic community organism receptor ESL for chlordane was revised. Some ESLs were updated due to the availability of new PTSE derived CS TRVs to replace secondary data source TRVs in ESL calculations. PTSE CS TRVs derived included Amino-2,6-dinitrotoluene[4-]/ Plant, Amino-4,6-dinitrotoluene[2-]/ Plant, Boron/ Bird, /Mammal and /Plant; Chromium (total)/ Bird and /Mammal, Fluoride/ Bird and / Mammal, Manganese/ Bird, / Mammal and / Plant; Nitroglycerine/ Mammal, Strontium (stable)/ Mammal, Trinitrotoluene[2,4,6-]/ Earthworm, /Mammal and /Plant; Uranium/ Bird, / Mammal and / Plant; and Vanadium/ Bird and / Mammal. Some ESLs were updated due to quality assurance issues including correction of errors in ESL calculations/parameters, rounding of values or reporting of data.

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
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Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
September 2000 – Release 1.2	Addition of soil, sediment and water ESLs for Dichloroethane[1,2-] for all applicable bird and mammal receptors because new PTSE derived TRVs were available. Addition of soil, sediment and water ESLs for Lead-210, Neptunium-237, Thorium-229, Uranium-233, and Uranium-236 for all applicable bird, mammal, earthworm, generic plant and aquatic community organism receptors. Addition of soil ESLs for HMX and RDX for the earthworm receptor. Reason for addition not available at this time. Addition of a water ESL for Dinitrobenzene[1,3-] for the aquatic community organism receptor. Reason for addition not available at this time. Deletion of soil, sediment and water ESLs for Chloro-3-methylphenol[4-] for all applicable bird, mammal, and aquatic community organism receptors. Reasons for deletions not available at this time. Deletion of soil, sediment and water ESLs for Tetrachloroethane[1,1,2,2-] for all applicable mammal, and aquatic community organism receptors. Reasons for deletions not available at this time. Deletion of sediment ESLs for Dinitrobenzene[1,3-], Iron, Polychlorinated Biphenyls, Dimethyl Phthalate, and Phenol for the aquatic community organism receptor. Deletion of water ESLs for Calcium, Nitrate (expressed as NO3), and Dichloroethene[1,1-] for the aquatic community organism receptor. Reasons for deletions not available at this time. Deletion of the soil ESL or Dibenzofuran for the desert cottontail receptor. Reason for deletion not available at this time. Numerous ESL updates. Some ESLs were updated because new PTSE derived CS TRVs were available to replace secondary data source TRVs. PTSE CS TRVs available included Acetone/Bird, Barium Bird, Barium/Mammal, Barium/Plant, HMX/Invertebrate, HMX/Mammal, Lead/Mammal, Lead/Bird, Lead/Invertebrate, Lead/Plant, RDX/Invertebrate, RDX/Mammal, Silver/Bird, Silver/Plant,1,3,5-Trinitrobenzene/ Mammal, Thallium/Plant, Zinc/Bird, Zinc Invertebrate.

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	Other ESLs were updated for quality assurance issues including correction of errors in ESL calculations/parameters, rounding of values or reporting of data. BACK TO TOP

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
September 2001 – Release 1.3	Addition of soil ESL for Chromium (total) for the earthworm receptor due to the availability of a new internally approved secondary data source TRV. Addition of soil ESL for DDT[4,4'-] for the generic plant receptor due to the availability of a new internally approved secondary data source TRV. Addition of water ESL for Dichloroethene[1,1-] for the aquatic community organism receptor due to the availability of a new internally approved secondary data source TRV. Numerous ESL updates. Some ESLs were updated because new PTSE derived CS TRVs were available to replace secondary data source TRVs. PTSE CS TRVs available included DDE[4,4'-]/Bird, DDE[4,4'-]/Mammal, DDT[4,4'-]/Bird, DDT[4,4'-]/Mammal, DDT[4,4'-]/Plant, Aroclor-1016, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260/Mammal; Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260/Bird; and Aroclor-1254/Plant. Other ESLs were updated for quality assurance issues including correction of errors in ESL calculations/parameters, rounding of values or reporting of data. BACK TO TOP
March 2002 – Release 1.4	Numerous ESL updates. Radionuclide ESLs, except Tritium, were updated due to revision of TF_plant and TF_invert from a dry weight basis to a fresh weight basis assuming 85% and 61% moisture content of plant and invertebrate diets, respectively (Ref ID 0561). This revision was required for units to cancel correctly in the ESL model equations. Radionuclide ESLs for Tritium were updated due to revision of TF_plant and TF_invert to assume equilibrium between the tritium in soil moisture and tissue waters. The value is calculated by dividing the moisture in tissues by the moisture in soil where 61% moisture content of invertebrates is based on beetles (Ref ID 0561, Table 4-1, p. 4-13) and 85% moisture content of plant material is based on leaves (Ref ID 0561, Table 4-2, p.4-14) and soil moisture of 10% is based on an average soil moisture found in the Los Alamos area. This revision was required for units to cancel correctly in the ESL model equations.

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	Radionuclide ESLs were also updated due to the revision of TF_flesh, which was revised because it is calculated from TF_plant and TF_invert, which were revised as explained above. This revision was required for units to cancel correctly in the ESL model equations. Radionuclide ESLs were also update due to the revision of all receptor intake rates from a dry weight basis to a fresh weight basis where the moisture content of invertebrates is assumed to be 61% (beetles (Ref ID 0561, Table 4-1, p. 4-13)), of plant materials is assumed to be 85% (leaves (Ref ID 0561, Table 4-2, p.4-14)), and flesh is assumed to be 68% (mammals - mice, voles, rabbits (Ref ID 0561,Table 4-1, p. 4-13). This revision was required for units to cancel correctly in the ESL model equations. Radionuclide ESLs were also updated due to the replacement of TF_beef with TF_blood in ESL models. TF(blood) is calculated by multiplying TF(beef) by I(food) or in the case of water intake, I(water). TF(blood) is required in all radionuclide ESL models for wildlife, and TF(beef) was used as a surrogate measure to estimate body burdens for internal dose calculations. TF(beef) has been replaced by TF(blood) in all these models so that the units in these models cancel properly. Internal dose calculations require a TF that models the transfer of radionuclides from food to blood. Other reasons for ESL updates include the rounding of ESL model parameters to 3 significant digits for reporting consistency as well addressing quality assurance issues. BACK TO TOP

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
September 2002 – Release 1.5	Addition of soil, sediment and water ESLs for Trinitrotoluene[2,4,6-] for all applicable bird receptors due to the availability of a new PTSE derived CS TRV. Addition of soil ESL for Tetrachloroethene for the generic plant receptor due to the availability of a new PTSE derived CS TRV. Numerous ESL updates. Some ESLs were updated due to the availability of new PTSE derived CS TRVs to replace secondary data source TRVs in ESL calculations. Applicable PTSE TRVs derived included Tetrachlorodibenzodioxin[2,3,7,8-]/Bird, Mammal, and Plant; Antimony/Mammal, Cadmium/Bird, Mammal and Invertebrate; Copper/Bird and Mammal; Mercury (inorganic) /Bird, Mammal and Invertebrate; Nickel /Bird, Mammal and Invertebrate; Selenim/Invertebrate, Zinc/Mammal and Plant; Tetrachloroethene/Mammal, Trichloroethane[1,1,1-]/Mammal, Trichloroethene/Mammal, and Xylene (total)/Bird. Some ESLs were updated due to quality assurance issues for TRVs. Specific details of issues are not available at this time. BACK TO TOP
November 2003 – Release 2.0	Addition of soil ESLs for Antimony, Barium, and Beryllium for the earthworm receptor due to the availability of EPA Eco-SSL TRVs. Deletion of the soil ESL for Trinitrotoluene[2,4,6-] for the earthworm receptor because the toxicity data it was based on was deemed unsuitable. Deletion of soil ESLs for Aluminum for all applicable bird, mammal and generic plant receptors because EPA Eco-SSL uses a soil pH of less than 5.5 as an indicator of toxicity instead of an Aluminum soil concentration. Numerous ESL updates. Some ESLs were updated due to the availability of new PTSE derived GMM TRVs to replace PTSE derived CS TRVs or secondary data source TRVs in ESL calculations. Applicable PTSE GMM TRVs included, Aroclor-1016, Aroclor-1242, Aroclor-1254, Aroclor-1260, DDT[4,4'-], Di-n-Butyl Phthalate, Nickel, RDX, and Tetrachlorodibenzodioxin[2,3,7,8-] for food exposure for Mammals; Antimony, Cadmium, and Lead for drinking water exposure for Mammals; Aroclor-1260,

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	Barium, Boron, Copper, DDE[4,4'-], Nickel, and Zinc for food exposure for Birds; Aroclor-1254, Boron, and Di-n-Butyl Phthalate for soil exposure for Plants; and Zinc for soil exposure for Invertebrates. Some ESLs were updated due to the availability of EPA Eco-SSL TRVs to replace PTSE or secondary data source TRVs in ESL calculations. Applicable EPA Eco-SSL TRVs available included Antimony, Barium, Beryllium, Cadmium, Cobalt, Lead, and Dieldrin for food exposure for Mammals; Cadmium, Cobalt, Lead, and Dieldrin for food exposures for Birds; Antimony, Barium, Beryllium, Cadmium, and Lead for soil exposure for Invertebrates; and Cadmium, Cobalt, and Lead for soil exposure for Plants. Some ESLs were updated due to the availability of EPA NRWQC CCC TRVs to replace other secondary data source TRVs. Applicable EPA NRWQC CCC TRVs available included Selenium and Mercury (inorganic) for water exposure for the aquatic community organism receptor. Other ESLs were updated due to addressing data quality assurance issues or because the previously used toxicity data the ESLs were based on was deemed unsuitable and was revised appropriately to make it suitable. Specific details of issues are not available at this time. BACK TO TOP

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
September 2004 – Release 2.1	A mammalian screening receptor used in soil and water ESL models for a mammalian insectivore in the database has changed. The vagrant shrew (*Sorex vagrans*) in New Mexico has been reclassified as the montane shrew, also known as the dusky shrew, (*Sorex monticolus*) by Eastern New Mexico University (see http://fwie.fw.vt.edu/states/nmex_main/species/050725.htm for more information). However, this the ESLs for the vagrant shrew are applicable to the montane shrew because the short-tailed shrew data that was used as surrogates for parameters in the vagrant shrew ESL models are applicable for the montane shrew as a mammalian insectivore. As a result, only the ESL screening receptor common and scientific name has changed. Addition of soil ESL for HMX for the generic plant receptor due to the availability of a new Tier 2 TRV (PTSE GMM TRV). Addition of soil ESL for Trinitrotoluene[2,4,6-] for the earthworm receptor due to the availability of a new Tier 3 TRV (PTSE CS TRV). Addition of sediment and soil ESLs for RDX for all applicable bird receptors due to the availability of a new Tier 2 TRV (PTSE GMM TRV). Addition of sediment, soil and water ESLs for Thallium for all applicable bird receptors due to the availability of a newly approved Tier 4 TRV (secondary data source CS TRV). Addition of 16 air ESLs for Acetone, Benzene, Carbon, Tetrachloride, Chloroform, Chloromethane, Dichlorodifluoromethane, Dichloroethane[1,1-], Dichloroethane[1,2-], Dichloroethene[1,1-], Methylene Chloride, Tetrachloroethene, Toluene, Trichloroethane[1,1,1-], Trichloroethene, Trichlorofluoromethane, and Xylene (Total) for the new Mammal receptor, Botta's Pocket Gopher (Burrowing mammal). These ESL were added due to the availability of new Tier 2 TRVs (PTSE GMM TRVs). Deletion of sediment, soil and water ESLs for Tetrachlorodibenzodioxin[2,3,7,8-] for all applicable bird receptors due to discontinued use of previous Tier 3 (CS) TRV that was deemed unsuitable because it was based on an non-oral exposure (i.p. injection). Numerous ESL updates. Naphthalene soil and sediment ESLs for all applicable bird receptors updated due to the previous Tier 4 TRV (secondary data source CS TRV) being replaced by a new Tier 2 TRV (PTSE GMM TRV).

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	Chromium (+6) soil, sediment and water ESLs for all applicable bird receptors updated due to the previous Tier 4 (CS) TRV being replaced by a new Tier 3 TRV (PTSE CS TRV). Chromium (total) soil, sediment and water ESLs are based on Chromium (+6) toxicity data and because the oral chromium (+6) TRV for birds was updated (see previous paragraph), the corresponding chromium (total) ESLs for birds were updated accordingly based on the new chromium (+6) data. HMX soil ESL for the earthworm receptor updated due to the previous Tier 3 TRV (PTSE CS TRV) being replaced by a new Tier 2 TRV (PTSE GMM TRV). RDX soil ESL for the earthworm receptor updated due to the previous Tier 3 TRV (PTSE CS TRV) being replaced by a new Tier 3 TRV (PTSE CS TRV). Trinitrotoluene[2,4,6-] soil ESL for the generic plant receptor updated due to the Tier 3 TRV (PTSE CS TRV) being replaced by a new Tier 2 TRV (PTSE GMM TRV). Plutonium-241 water ESL for the vagrant shrew receptor updated due to the revision of the ESL model parameter, TF_blood, which was corrected for a previous rounding error. All ESL for radionuclides in sediment for aquatic receptors were revised based on the guidance of DOE-STD-1153-2002 to not include internal dose for aquatic organisms exposed to radionuclides in sediment. The ESL model parameter, DCF_int_fw, was set to 0 to incorporate this guidance. BACK TO TOP

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
September 2005 – Release 2.2	**New ESLs** Sediment and water ESLs for iron for aquatic community organisms due to this analyte being added as a new LANL exposure concern. Water ESLs for perchlorate ion for mammalian and avian receptors due to development of a New Tier 2 (GMM) TRV and New Tier 3 (CS) TRV, respectively. Soil and sediment ESLs for mammalian receptors for BHC[alpha-] due to the development of a New Tier 3 (CS) TRV. Soil ESLs for the earthworm for fluoranthene, phenanthrene and pyrene due to the development of New Tier 3 (CS) TRVs. Soil ESL for the generic plant for naphthalene due to the development of a New Tier 3 (CS) TRV. **ESL Updates** Revision of various Transfer Factors (TF) for soil-to-plant and soil-to invertebrate for both inorganic and organic analytes based on the most current EPA EcoSSL bioaccumulation data or models (ID 1401), which resulted in the revision of the calculated soil-to-flesh TF and as well as numerous ESL updates. Inorganic TFs were replaced with more comprehensive empirical values, median values from the empirical data set. Organic TFs for soil-to-invertebrates were revised based on a more appropriate bioaccumulation model (BAFww = (Kww/Kd)/0.16 where logKww = 0.87*logKow-2.0 and Kd = foc*Koc where foc is 1%, or 0.01.) cited in the 2005 EPA EcoSSL bioaccumulation data report (REF ID1401, Table 5 and dry to fresh weight ratio (0.16) for earthworms from Ref ID 1574), except for Dieldrin, DDT[4,4’-], and DDE[4,4’-], which were based on the median of comprehensive empirical data sets. Organic TFs for soil-to-plants were revised based on a more appropriate bioaccumulation model (BAF=10^(-0.4057LogKow+1.781) r2 =0.3226, n=228,p<0.0001) cited in the 2005 EPA EcoSSL bioaccumulation data report (REF ID1401). Furthermore, various TRVs were also updated and this contributed to the ESL updates. TRV updates include replacement of: Tier 1 TRVs with new Tier 1 TRVs from EPA from EcoSSL 2005 data Tier 3 or 4 TRVs with new Tier 1 TRVs from EPA EcoSSL 2005 data Tier 3 or 4 TRVs with new Tier 2 TRVs Tier 3 TRVs with a more appropriate Tier 3 TRVs Below is a list of the 99 analytes updated grouped based on type of revisions* A.) TF

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	revisions only, B.) TF and TRV revisions, and C.) TRV revisions only. **Detailed information on changes available from the "What's New In this Release" screen in the Ecorisk Database - section Change Type, ESLs, Update).* **A.) TF REVISONS ONLY** **HIGH EXPLOSIVES/ Sediment and Soil ESLs** Amino-2,6-dinitrotoluene[4-] Amino-4,6-dinitrotoluene[2-] Dinitrobenzene[1,3-] Dinitrotoluene[2,4-] Dinitrotoluene[2,6-] HMX Nitroglycerine Nitrotoluene[2-] Nitrotoluene[3-] Nitrotoluene[4-] PETN RDX Tetryl Trinitrobenzene[1,3,5-] Trinitrotoluene[2,4,6-] **INORGANICS/ Sediment and Soil ESLs** Aluminum (sediment) Arsenic Barium Cadmium Chromium (total) Copper Manganese Mercury (inorganic) Nickel Selenium (soil) Silver Strontium (stable) Uranium Zinc **POLYAROMATIC HYDROCARBONS/ Sediment and Soil ESLs** Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene (soil) Benzo(a)pyrene (soil) Benzo(b)fluoranthene (soil) Benzo(g,h,i)perylene Benzo(k)fluoranthene (soil) Chrysene (soil) Dibenzo(a,h)anthracene (soil)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	Fluoranthene
	Fluorene
	Indeno(1,2,3-cd)pyrene (soil)
	Methylnaphthalene[2-]
	Naphthalene
	Phenanthrene (soil)
	Pyrene
	POLYCHLORINATED BIPHENYLS/ Soil ESLs
	Aroclor-1016
	Aroclor-1242
	Aroclor-1248
	Aroclor-1254
	Aroclor-1260
	PESTICIDES/ Sediment and Soil ESLs
	BHC[beta-]
	BHC[gamma-]
	Chlordane[alpha-]
	Chlordane[gamma-]
	DDE[4,4'-]
	DDT[4,4'-]
	Dieldrin
	Endosulfan
	Endrin
	Heptachlor (soil)
	Kepone
	Methoxychlor[4,4'-]
	Toxaphene (Technical Grade)
	SEMI-VOLATILE ORGANIC COMPOUNDS/ Sediment and Soil ESLs
	Benzoic Acid
	Bis(2-ethylhexyl)phthalate
	Butyl Benzyl Phthalate
	Chlorobenzene
	Chlorophenol[2-]
	Dimethyl Phthalate
	Di-n-Butyl Phthalate
	Di-n-octylphthalate
	Nitrobenzene
	Pentachloronitrobenzene
	Phenol
	VOLATILE ORGANIC COMPOUNDS/ Sediment and Soil ESLs
	Acetone
	Benzene
	Butanone[2-]
	Chloroform
	Dichlorobenzene[1,4-]
	Dichloroethane[1,1-]
	Dichloroethane[1,2-]
	Dichloroethene[1,1-]
	Dichloroethene[cis/trans-1,2-]

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	Methylene Chloride Tetrachloroethene Toluene Trichlorobenzene[1,2,4-] Trichloroethane[1,1,1-] Trichloroethene Xylene (Total) **B.) TF REVISIONS & TRV REVISIONS** **INORGANICS/ Sediment and Soil ESLs** Antimony (sediment) Barium Beryllium Cadmium Chromium (total) Cobalt Lead Vanadium **PESTICIDES/ Sediment and Soil ESLs** DDT[4,4'-] Dieldrin **SEMI-VOLATILE ORGANIC COMPOUNDS/ Sediment and Soil ESLs** Pentachlorophenol **C.) TRV REVISIONS ONLY** **DIOXIN/FURANS/ Soil ESLs** Tetrachlorodibenzodioxin[2,3,7,8-] **INORGANICS/ Sediment, Soil and Water ESLs** Antimony (soil) Arsenic (soil) Barium (soil) Cadmium (soil) Chromium (total) (soil and water) Chromium(+6) Lead (soil) Vanadium (soil) **POLYAROMATIC HYDROCARBONS/ Sediment and Soil ESLs** Fluorene (soil) **SEMI-VOLATILE ORGANIC COMPOUNDS/ Sediment and Soil ESLs** Pentachlorophenol Other Changes: Documentation and value for DCF_int_fw for aquatic receptors (algae, aquatic snail, daphnid and generic fish) for water Rad ESL model. This change did not affect ESLs, it was only a documentation error after from the previous release that was made after ESLs had been calculated. Added TF_beef_fw for BHC[alpha-]. Needed to calculate ESL for this new

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Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
October 2008 – Release 2.3	**New ESLs** Soil and Sediment ESLs for DDD[4,4'-] [a], Diethyl Phthalate, Methyl-2-pentanone[4-], Methylphenol[2-], and Aldrin due to these analytes being added as a new LANL exposure concerns. Soil ESLs for Manganese and Anthracene [a] for the earthworm due to availability of New Tier 1 TRV and New Tier 2 (GMM) TRV, respectively. **ESL Updates** Revision of the equation used to calculate the Transfer Factor (TF) for soil-to-flesh for both inorganic and organic analytes, which resulted in the revision of the calculated soil-to-flesh TF and as well as numerous ESL updates. The equation is now: TF_flesh_dw equals TF_beef_fw * [I_foodcomposite_fw * MAX(TF_plant_dw * {1 - MC_plant}, TF_invert_dw * {1 - MC_invert}) + I_soilcomposite_dw]/ (1-MC_flesh) Previous equation: TF_flesh_dw equals TF_beef_fw * [I_foodcomposite_fw * If(TF_invert_dw > TF_plant_dw, TF_invert_dw * {1 - MC_invert}, TF_plant_dw * (1-MC_plant)) + I_soilcomposite_dw]/ (1-MC_flesh) Where: I_soilcomposite_dw is the maximum dry weight intake of soil (0.00281 kg-dry soil/d) for prey species (American robin, deer mouse, desert cottontail and shrew) of the red fox and American kestrel MAX is maximum MC_plant is the moisture content of plant matter, which is assumed to be 85% (leaves (Ref ID 0561, Table 4-2, p.4-14)) MC_invert is the moisture content of invertebrates, which is assumed to be 61% (beetles (Ref ID 0561, Table 4-1, p. 4-13)) MC_flesh is the moisture content of flesh, which is assumed to be 68% (mammals - mice, voles, rabbits and birds – passerines (Ref ID 0561, Table 4-1, p. 4-13) TF_beef_fw is the food to beef transfer factor (mg-COPC/kg-fresh beef per mg-COPC/d) Furthermore, various TRVs were also updated and this contributed to the ESL updates. TRV updates include replacement of: Tier 1 TRVs with new Tier 1 TRVs from EPA from EcoSSL 2005 data Tier 3 or 4 TRVs with new Tier 1 TRVs from EPA EcoSSL 2005 data Tier 3 or 4 TRVs with new Tier 2 TRVs

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	Tier 3 TRVs with a more appropriate Tier 3 TRVs Below is a list of the analytes updated grouped based on type of revisions* A.) TF revisions only, B.) TF and TRV revisions and C.) TRV revisions only. **Detailed information on changes available from the "What's New In this Release" screen in the Ecorisk Database - section Change Type, ESLs, Update).* **<u>A.) TF REVISONS ONLY</u>** **HIGH EXPLOSIVES** Nitrotoluene[3-] (soil) RDX (soil) **INORGANICSs** Barium (soil) Cyanide (total) (soil) **POLYAROMATIC HYDROCARBONS** Benzo(a)anthracene (soil) Chrysene (soil) **SEMI-VOLATILE ORGANIC COMPOUNDS** Carbazole (soil) **VOLATILE ORGANIC COMPOUNDS** Chloroform (soil) Dichloroethane[1,1-] (soil) **<u>B.) TF REVISIONS & TRV REVISIONS</u>** **NONE** **<u>C.) TRV REVISIONS ONLY</u>** **INORGANICS** Chromium(+6) (sediment, soil) Copper (sediment, soil) Manganese (sediment, soil) Nickel (sediment, soil) Selenium (sediment, soil) Silver (sediment, soil) Zinc (sediment, soil) **POLYAROMATIC HYDROCARBONS** [a] Benzo(a)pyrene (sediment, soil) Fluoranthene (soil) Fluorene (soil) Naphthalene (sediment, soil) Phenanthrene soil) Pyrene (soil) **PESTICIDES** [a] DDE[4,4'-] (sediment, soil) DDT[4,4'-] (sediment, soil)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	[a] TRVs developed for PAHs and DDT and metabolites DDE and DDD were done according to the following methods: TRVs_Methods_LANL&EcoSSLData Other Changes: Updated documentation for Aluminum ESL for soil by removing an ESL value of > 5 and indicating in notes "pH dependent. Aluminum is identified as a COPC only at sites where the soil pH is less than 5.5. Added TF_plant_dw, TF_invert_dw, TF_beef_fw and TF_flesh_dw for DDD[4,4'-], Diethyl Phthalate, Methyl-2-pentanone[4-], Methylphenol[2-], and Aldrin. Needed to calculate ESLs for these new LANL exposure concerns. Updated interface screens:
	Brand new Anayte Search menu screen with concise instructions that shows menu for searching for ESLs by analyte and accessed via the updated Main Menu screen. Contains the same buttons that were originally on old Main Menu screen and leads to the same Analyte Search Result screens.
	Brand new Contact Information screen that shows point of contact information for Ecorisk Db. Accessed via a button on the updated Home screen.
	Updated Home screen to reduce clutter of information. Contains button to access contact information, ESL search menus and report menus, what's new in this release information, and a button to exit the Db.
	Updated Main Menu screen to reduce clutter of information. Contains button to new screens that show ESL search menus (by analyte or by screening receptor), and summary and custom report menus. Also contains buttons to see the existing screens for ESL radionuclide and non-radionuclide model information.
	Updated Custom Report Menu screen that now has a design similar to the other search menus (e.g., Screening Receptor Search menu) and concise instructions. Contains the same buttons that were on Old Main Menu screen. Accessed via the updated Main Menu screen.
	Updated Primary Toxicty Study (PTS) Description screen that now shows vertical scroll bars that were missing in some fields. Recommended update.
	Updated Primary Toxicity Value (PTV) Evaluation screen that now shows more information to aid in understanding better how the PTV confidence ratings are determined. More specifically, this form now shows Maximum weighted scores for the different exposure scenarios (i.e., bird or mammal, oral ingestion; mammal, inhalation; and plant or invertebrate). Recommended update.
	Brand new Screening Receptor Search menu screen with concise instructions that shows menu for searching for ESLs by screening receptor and accessed via the updated Main Menu screen. Contains the same buttons that were originally on old main Menu screen and leads to the same Receptor Search Result screens.
	Brand new Summary Reports Menu screen with concise instructions that shows menu for summary reports and accessed via the updated Main Menu Screen. Contains the same buttons that were originally on old main Menu screen but improved in presentation.

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	Updated Select TRV Summary Report Criteria screen in which redundancy was removed (the same sentence was repeated twice). Recommended update.
	Updated Weighting Factor Description screen that now explains in more detail what is done with the weighting factors and why. Recommended update.

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Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
December 2009 – Release 2.4	In this release of the database, ESLs/TRVs were added for chemicals for which no toxicity data was previously available. Online toxicity databases were searched for relevant existing TRVs or for primary toxicity data and/or references from which TRVs could be derived for these chemicals (see EcoriskDbR2.4_ToxicityData_ResourceSummary_SoilESLs_112409.xls for details of search results). Of those 40 chemicals of concern, 11 chemicals now have LANL peer reviewed/ approved TRVs/ESLs incorporated into this release of the database, 5 chemicals have interim ESLs/ TRVs because LANL peer reviewed/ approved values could not be obtained in time for this release of the database (see Interim_SoilESLs_R2.4_111309.xls), 13 chemicals have surrogate ESLs/TRVs (see Interim_SoilESLs_R2.4_111309.xls) based on chemicals already in the database, and the remaining 12 chemicals still have no ESL at this time. Note – The sum of the numbers adds up to 41 instead of 40 because Hexanone[2-] has both an incorporated ESL (for birds) and an interim ESL (for mammals). Below is a summary of the ESLs/ TRVs incorporated into Release 2.4 of the Ecorisk Database, as well as other relevant data or interface changes. **New ESLs** Soil and Sediment ESLs for birds due to availability of new TRVs: • Molybdenum • Hexachlorobenzene • Hexanone[2-] Soil and Sediment ESLs for mammals due to availability of new TRVs: • Lithium • Carbon Disulfide • Hexachlorobenzene • Dichlorobenzene[1,2-] • Dichlorobenzene[1,3-] • Vinyl Chloride Soil ESL for earthworm due to availability of new TRVs: • Chloroaniline[4-] • Hexachlorobenzene • Styrene Soil ESL for plant due to availability of new TRVs: • Chloroaniline[4-] • Hexachlorobenzene • Styrene Alternative screening approach for Iron for plant based on EPA EcoSSL's report • See http://www.epa.gov/ecotox/ecossl/pdf/eco-ssl_iron.pdf Sediement ESL for aquatic community organism due to availability of a new

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	TRVs: • Molybdenum **ESL Updates** Soil ESLs for deer mouse, desert cottontail and red fox due to TF updates: • Methylphenol[2-] **New TRVs** Tier 2 (Geometric Mean) oral diet TRVs from LANL were developed with the PTSE Process for the following chemicals and receptor groups: • Lithium/ mammal Tier 3 (Critical Study) oral diet TRVs from LANL were developed with the PTSE Process for the following chemicals and receptor groups: • Hexanone[2-]/ bird Tier 4 (based on secondary data) oral diet TRVs from ORNL were identified for the following chemicals and receptor groups: • Lithium/ plant • Molybdenum/ plant • Molybdenum/ bird • Styrene/ earthworm • Vinyl Chloride/ mammal Tier 4 (based on secondary data) oral diet TRVs from EPA ECOTOX were identified for the following chemicals and receptor groups: • Carbon Disulfide/ mammal • Chloroaniline[4-]/ earthworm • Chloroaniline[4-]/ plant • Dichlorobenzene[1,2-]/ mammal • Dichlorobenzene[1,3-]/ mammal • Hexachlorobenzene/ bird • Hexachlorobenzene/ mammal • Hexachlorobenzene/ earthworm • Hexachlorobenzene/ plant • Styrene/ plant **TRV Updates** The use status of various TRVs changed for the following reasons: • Vinyl chloride/ mammal oral diet TRV records deleted due to availability of updated toxicity information for oral diet TRV from same data source (ORNL).

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	• Vinyl chloride/ mammal drinking water TRV no longer used because primary toxicity data is for oral diet exposure, which is no longer considered an appropriate TRV surrogate for a drinking water exposure. • Carbon Tetrachloride/ mammal oral TRVs no longer used because currently not an exposure concern for this exposure pathway. • Molybdenum/ aquatic community organism sediment TRV selected for use because this chemical is now a chemical of concern. **New TFs** All New TFs (except where noted otherwise) were acquired for the following chemicals because these chemicals are new exposure concerns: • Carbon Disulfide • Chloroaniline[4-] • Dichlorobenzene[1,2-] • Dichlorobenzene[1,3-] • Hexachlorobenzene • Hexanone[2-] • Styrene • Vinyl Chloride • Lithium (only TF_invert and TF_flesh) • Molybdenum (only TF_invert and TF_flesh) **TF Updates** TFs for the following chemicals were updated: • Methylphenol[2-] – all TFs updated due to availability of more appropriate data • Molybdenum – TF_beef and TF_plant updated due to availability of more appropriate data **Interface Updates** • Added “Other Reports” links to the “Menu” screen to allow access to other files on the Ecorisk Db from within the database interface including;

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
October 2010 – Release 2.5	In this release of the database, ESLs/TRVs were added for chemicals for which no toxicity data was previously available. Online toxicity databases were searched for relevant existing TRVs or for primary toxicity data and/or references from which TRVs could be derived for x chemicals (see EcoriskDbR2.5_ToxicityData_ResourceSummary_SoilESLs_101310.xls for details of search results). In this release of the database, an additional 11 new chemicals now have LANL peer reviewed/ approved TRVs/ESLs incorporated into this release of the database, no chemicals have interim ESLs/ TRVs at this time, 13 chemicals have surrogate ESLs/TRVs (see Interim_SoilESLs_R2.5_101310.xls) based on chemicals already in the database, and the remaining 8 chemicals from the original data gap list still have no ESLs at this time. **New ESLs** Soil and Sediment ESLs for birds due to availability of new TRVs: • Benz(a)anthracene • Diphenylamine • Iodomethane • Pyrene Soil and Sediment ESLs for mammals due to availability of new TRVs: • Carbazole • Nitroaniline[2-] • Benzyl alcohol • Hexanone[2-] • Trichlorofluoromethane Soil ESL for plant due to availability of new TRVs: • Methylphenol[2-] • Methylphenol[3-] **ESL Updates** Water ESL for aquatic community organism due to retraction of previous TRV and replacement with available alternative TRV: • Beryllium **New TRVs** Tier 2 (Geometric Mean) oral diet TRVs from LANL were developed with the PTSE Process for the following chemicals and receptor groups: • Hexanone[2-]/Mammal • Trichlorofluoromethane/Mammal Tier 3 (Critical Study) oral diet TRVs from LANL were developed with the PTSE Process for the following chemicals and receptor groups:

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	• Benzyl alcohol/Mammal • Carbazole/Mammal • Nitroaniline[2-]/Mammal Tier 4 (based on secondary data) oral diet TRVs from identified for the following chemicals and receptor groups: • Diphenylamine/Bird • Iodomethane/Bird • Benz(a)anthracene/Bird • Pyrene/Bird • Methylphenol[2-]/Plant • Methylphenol[3-]/Plant **TRV Updates** The use status of various TRVs changed for the following reasons: • Beryllium/Aquatic community organism water TRV deleted due to retraction of value by publishing data source. TRV replaced with available alternative value. **New TFs** All New TFs (except where noted otherwise) were acquired for the following chemicals because these chemicals are new exposure concerns: • Benzyl alcohol • Diphenylamine • Iodomethane • Nitroanilin[2-] **TF Updates** TFs for the following chemicals were updated: • Carbazole – TF_beef updated due to availability of more appropriate data • Trichlorofluoromethane – TF_plant updated due to availability of more appropriate data **Interface Updates** None.

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes

October 2011 – Release 3.0	BACK TO TOP
	
	In this release of the database, LOAEL/LOEC-based food TRVs and soil ESLs were added for all chemicals in the database where toxicity data was available to do so. NOAEL/NOEC-based TRV/ESL updates were also made as necessary based on a quality assurance review of the data.
	
	New NOAEL/NOEC-based ESLs
	• No new values
	NOAEL/NOEC-based ESL Updates
	• Deletion of soil ESLs for plants due to retraction of previous TRV because toxicity data is under review:
	  o Aldrin
	  o Rdx
	  o Tetryl
	  o Lithium
	  o Molybdenum
	• Deletion of soil ESLs for plants and earthworms due to retraction of previous TRV because toxicity data is under review:
	  o Chromium (total)
	• Deletion of water ESLs for aquatic community organisms due to retraction of previous TRV because toxicity data is under review:
	  o Chromium (+6)
	• Updates to soil, sediment and water ESLs for mammals due to the availability of a more relevant TRV:
	  o Amino-2,6-dinitrotoluene[4-]
	  o Amino-4,6-dinitrotoluene[2-]
	  o Dimethyl Phthalate
	  o Di-n-octylphthalate
	  o Dinitrotoluene[2,4-]
	  o Dinitrotoluene[2,6-]
	  o Nitrobenzene
	  o Nitrotoluene[2-]
	  o Nitrotoluene[3-]
	  o Nitrotoluene[4-]
	  o Methylnaphthalene[2-]
	  o PETN
	• Updates to soil and sediment ESLs for chromium (total) for birds and mammals because the TRV is now based on chromium (+3) toxicity data instead of chromium (+6) TRV multiplied by 7 because the former is the

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes

	predominant form in the environment for these two media.
	• Updates to water ESLs for chromium (total) for birds, mammals and aquatic community organisms because the TRV is now based on chromium (+6) toxicity data instead of chromium (+6) TRV multiplied by 7 because the former is the predominant form in the environment for these two media.
	• Update to sediment ESL for aquatic community organisms due to correction of existing TRV:
	    o Iron
	• Updates to soil and sediment ESLs for birds due to correction of existing TRV:
	    o Benzo(a)anthracene
	• Updates to soil and sediment ESLs for mammals due to correction of existing TRV:
	    o Carbazole
	• Updates to soil ESL for plants due to correction of existing TRV:
	    o Styrene
	Minimum ESL Updates
	• Lithium/soil due to retraction of plant TRV, which was the receptor with the minimum ESL in the previous release of the database. Montane shrew has the new minimum ESL.
	New NOAEL/NOEC-based TRVs
	• Bird and mammals/ food (Tier 1):
	    o Chromium (total)
	• Mammals/ food and water (Tier 4):
	    o Amino-2,6-dinitrotoluene[4-]
	    o Amino-4,6-dinitrotoluene[2-]
	    o Dimethyl Phthalate
	    o Di-n-octylphthalate
	    o Dinitrotoluene[2,4-]
	    o Dinitrotoluene[2,6-]
	    o Nitrobenzene
	    o Nitrotoluene[2-]
	    o Nitrotoluene[3-]
	    o Nitrotoluene[4-]
	    o Methylnaphthalene[2-]
	    o PETN
	• Aquatic community organisms/ water (Tier 4):
	    o Chromium (total)
	New NOAEL/NOEC-based TRV Updates
	• The use status of food and water TRVs for mammals changed from YES to

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	NO due to replacement by a more relevant TRV: o Amino-2,6-dinitrotoluene[4-] o Amino-4,6-dinitrotoluene[2-] o Dimethyl Phthalate o Di-n-octylphthalate o Dinitrotoluene[2,4-] o Dinitrotoluene[2,6-] o Nitrobenzene o Nitrotoluene[2-] o Nitrotoluene[3-] o Nitrotoluene[4-] o Methylnaphthalene[2-] o PETN • The use status of food and water TRVs for birds changed from YES to NO due to replacement by a more relevant TRV: o Chromium (total) • The use status of the soil TRV for plants changed from YES to NO due to replacement by a more relevant TRV: o Styrene • The following TRVs were updated due to data entry or calculation corrections: o Benzo(a)anthracene/Food/Bird o Carbazol/Food/Mammal o Styrene/Soil/Plant o Iron/Sediment/Aquatic community organism • The following TRVs were deleted or use status was changed from YES to NO due to toxicity data being under review: o Aldrin/Soil/Plant (deleted) o RDX/Soil/Plant o Tetryl/Soil/Plant o Chromium (total)/Soil/Plant and Invertebrate o Chromium (+6)/Sediment/Aquatic community organism • The use status of food TRVs for mammals changed from YES to NO due to replacement by a more relevant TRV and the TRV was updated due to a calculation correction: o Chromium (total) • The soil TRVs for plants were updated due to a calculation correction and their use status was also changed from YES to NO due to the toxicity data set being under review: o Lithium

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	○ Molybdenum **New TFs** • No new values **TF Updates** • No updated values **Interface Updates** • New and updated summary report designs that allow easier access to toxicity data for export to other applications for data mining or analysis purposes. • Addition of LOAEL/LOEC-based TRV/soil ESL fields to interface screens and reports.

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes

October 2012 – Release 3.1	In this release of the database, LOAEL/LOEC-based water and sediment TRVs and ESLs were added for all chemicals for all receptors in the database where toxicity data was available to do so. NOAEL/NOEC-based TRV/ESL updates for water and sediment for birds and mammals were also made as necessary based on a quality assurance review of the data. In addition to the quality assurance review of the data, a literature search was performed for the aquatic community organism toxicity data for water and sediment ESLs for all chemicals, in order to identify more suitable data. LANL's Screening Level Ecological Risk Assessment (SLERA) methods, revision 3 (LA-UR-12-24152, ER ID 226715), which is forthcoming (in October) presents the details of the data sources utilized to update the aquatic ESLs.
	
	New NOAEL/NOEC-based ESLs
	• Recent literature review for toxicity data for sediment for aquatic community organisms filled data gap.
	    o Uranium
	NOAEL/NOEC-based ESL Updates
	• Deletion of sediment ESLs for aquatic community organisms due to retraction of previous TRV because toxicity data was found to be unsuitable because it represents a marine environment:
	    o Antimony
	    o Benzoic acid
	• Updates to sediment ESLs for aquatic community organisms due to the availability of a more relevant TRV:
	    • Acenaphthene
	    • Acenaphthylene
	    • Aluminum
	    • Anthracene
	    • Aroclor-1016
	    • Aroclor-1242
	    • Aroclor-1248
	    • Aroclor-1254
	    • Aroclor-1260
	    • Arsenic
	    • Barium
	    • Benzene
	    • Benzo(a)anthracene
	    • Benzo(a)pyrene

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	• Benzo(b)fluoranthene • Benzo(g,h,i)perylene • BHC[beta-] • BHC[gamma-] • Butyl Benzyl Phthalate • Cadmium • Chlordane[alpha-] • Chlordane[gamma-] • Chlorobenzene • Chlorophenol[2-] • Chromium (total) • Chrysene • Copper • DDE[4,4'-] • DDT[4,4'-] • Dibenzo(a,h)anthracene • Dibenzofuran • Dichlorobenzene[1,4-] • Dichloroethane[1,1-] • Dichloroethene[1,1-] • Dichloroethene[cis/trans-1,2-] • Dieldrin • Di-n-Butyl Phthalate • Endosulfan • Endrin • Fluoranthene • Fluorene • Heptachlor • Indeno(1,2,3-cd)pyrene • Lead • Manganese • Mercury (inorganic) • Methylene Chloride • Methylnaphthalene[2-] • Naphthalene

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	- Nickel - Pentachlorophenol - Phenanthrene - Pyrene - Selenium - Silver - Tetrachlorodibenzodioxin[2,3,7,8-] - Tetrachloroethene - Toluene - Toxaphene (Technical Grade) - Trichlorobenzene[1,2,4-] - Trichloroethane[1,1,1-] - Trichloroethene - Xylene (Total) - Zinc • Updates to sediment ESLs for birds and mammals for aluminum due to the availability of a more relevant ESL based on the pH ESL reported by EPA EcoSSL. • Updates to water ESLs for aquatic community organisms due to the availability of a more relevant TRV: - Acenaphthene - Acenaphthylene - Acetone - Aluminum - Anthracene - Antimony - Aroclor-1242 - Aroclor-1248 - Aroclor-1254 - Aroclor-1260 - Barium - Benzene - Benzo(b)fluoranthene - Benzo(g,h,i)perylene - Benzo(k)fluoranthene

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	• Benzoic Acid • Beryllium • BHC[beta-] • BHC[gamma-] • Boron • Butanone[2-] • Butyl Benzyl Phthalate • Cadmium • Chloride • Chlorobenzene • Chloroform • Chlorophenol[2-] • Chrysene • DDE[4,4'-] • DDT[4,4'-] • Dibenzo(a,h)anthracene • Dibenzofuran • Dichloroethane[1,1-] • Dichloroethane[1,2-] • Dichloroethene[1,1-] • Dichloroethene[cis/trans-1,2-] • Dimethyl Phthalate • Di-n-Butyl Phthalate • Dinitrobenzene[1,3-] • Dinitrotoluene[2,4-] • Dinitrotoluene[2,6-] • Di-n-octylphthalate • Fluoranthene • Fluoride • Heptachlor • Indeno(1,2,3-cd)pyrene • Lead • Manganese • Methylene Chloride • Methylnaphthalene[2-]

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	- Molybdenum - Naphthalene - Nickel - Nitrobenzene - Pentachlorophenol - Phenol - Pyrene - Silver - Strontium (stable) - Tetrachlorodibenzodioxin[2,3,7,8-] - Tetrachloroethene - Thallium - Toluene - Trichlorobenzene[1,2,4-] - Trichloroethane[1,1,1-] - Trichloroethene - Uranium - Xylene (Total) - Zinc - Updates to water ESLs for the red fox and the occult little brown myotis bat due to correction of data entry error: - Di-n-Butyl Phthalate **Minimum ESL Updates** - None. **New NOAEL/NOEC-based TRVs** - Filled data gap for Aquatic Community Organism: - Uranium - Recent literature review identified new sediment TRVs for Aquatic Community Organisms: - Acenaphthene - Acenaphthylene - Aluminum - Anthracene - Antimony - Aroclor-1016 - Aroclor-1242

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	• Aroclor-1248 • Aroclor-1254 • Aroclor-1260 • Arsenic • Barium • Benzene • Benzo(a)anthracene • Benzo(a)pyrene • Benzo(b)fluoranthene • Benzo(g,h,i)perylene • Benzo(k)fluoranthene • BHC[beta-] • BHC[gamma-] • Butyl Benzyl Phthalate • Cadmium • Chlordane[alpha-] • Chlordane[gamma-] • Chlorobenzene • Chlorophenol[2-] • Chromium (total) • Chrysene • Copper • Cyanide (total) • DDE[4,4'-] • DDT[4,4'-] • Dibenzo(a,h)anthracene • Dichlorobenzene[1,4-] • Dichloroethane[1,1-] • Dichloroethene[1,1-] • Dichloroethene[cis/trans-1,2-] • Dieldrin • Di-n-Butyl Phthalate • Endosulfan • Endrin • Fluoranthene

Table 1. ESL Changes by Ecorisk Database Release

<table>
<tr><th>Ecorisk Database Release</th><th>ESL Changes</th></tr>
<tr><td></td><td>

Fluorene
Heptachlor
Indeno(1,2,3-cd)pyrene
Iron
Lead
Manganese
Mercury (inorganic)
Methylene Chloride
Methylnaphthalene[2-]
Naphthalene
Nickel
Pentachlorophenol
Phenanthrene
Pyrene
Selenium
Silver
Tetrachlorodibenzodioxin[2,3,7,8-]
Tetrachloroethene
Toluene
Toxaphene (Technical Grade)
Trichlorobenzene[1,2,4-]
Trichloroethane[1,1,1-]
Trichloroethene
Uranium
Xylene (Total)
Zinc

Recent literature review identified new water TRVs for Aquatic Community Organisms:

Acenaphthene
Acenaphthylene
Acetone
Aluminum
Anthracene
Antimony
Aroclor-1016

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Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	• Aroclor-1242 • Aroclor-1248 • Aroclor-1254 • Aroclor-1260 • Arsenic • Barium • Benzene • Benzo(a)anthracene • Benzo(a)pyrene • Benzo(b)fluoranthene • Benzo(g,h,i)perylene • Benzo(k)fluoranthene • Benzoic Acid • Beryllium • BHC[beta-] • BHC[gamma-] • Bis(2-ethylhexyl)phthalate • Boron • Butanone[2-] • Butyl Benzyl Phthalate • Cadmium • Chlordane[alpha-] • Chlordane[gamma-] • Chloride • Chlorobenzene • Chloroform • Chlorophenol[2-] • Chromium (total) • Chromium(+6) • Chrysene • Cobalt • Copper • Cyanide (total) • DDE[4,4'-] • DDT[4,4'-]

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	• Dibenzo(a,h)anthracene • Dibenzofuran • Dichlorobenzene[1,4-] • Dichloroethane[1,1-] • Dichloroethane[1,2-] • Dichloroethene[1,1-] • Dichloroethene[cis/trans-1,2-] • Dieldrin • Dimethyl Phthalate • Di-n-Butyl Phthalate • Dinitrobenzene[1,3-] • Dinitrotoluene[2,4-] • Dinitrotoluene[2,6-] • Di-n-octylphthalate • Endosulfan • Endrin • Fluoranthene • Fluorene • Fluoride • Heptachlor • Indeno(1,2,3-cd)pyrene • Iron • Lead • Manganese • Mercury (inorganic) • Mercury (methyl) • Methoxychlor[4,4'-] • Methylene Chloride • Methylnaphthalene[2-] • Molybdenum • Naphthalene • Nickel • Nitrobenzene • Pentachloronitrobenzene • Pentachlorophenol

Table 1. ESL Changes by Ecorisk Database Release

<table>
<tr><th>Ecorisk Database Release</th><th>ESL Changes</th></tr>
<tr><td></td><td>

Phenanthrene
Phenol
Pyrene
Selenium
Silver
Strontium (stable)
Tetrachlorodibenzodioxin[2,3,7,8-]
Tetrachloroethene
Thallium
Toluene
Toxaphene (Technical Grade)
Trichlorobenzene[1,2,4-]
Trichloroethane[1,1,1-]
Trichloroethene
Uranium
Vanadium
Xylene (Total)
Zinc

New NOAEL/NOEC-based TRV Updates
The use status of sediment TRVs for Aquatic Community Organisms changed from YES to NO due to replacement by a more relevant TRV:

Acenaphthene
Acenaphthylene
Aluminum
Anthracene
Antimony
Aroclor-1016
Aroclor-1242
Aroclor-1248
Aroclor-1254
Aroclor-1260
Arsenic
Barium
Benzene
Benzo(a)anthracene

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</table>

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	• Benzo(a)pyrene • Benzo(b)fluoranthene • Benzo(g,h,i)perylene • Benzo(k)fluoranthene • Benzoic Acid • BHC[beta-] • BHC[gamma-] • Butyl Benzyl Phthalate • Cadmium • Chlordane[alpha-] • Chlordane[gamma-] • Chlorobenzene • Chlorophenol[2-] • Chromium (total) • Chrysene • Copper • Cyanide (total) • DDE[4,4'-] • DDT[4,4'-] • Dibenzo(a,h)anthracene • Dichlorobenzene[1,4-] • Dichloroethane[1,1-] • Dichloroethene[1,1-] • Dichloroethene[cis/trans-1,2-] • Dieldrin • Di-n-Butyl Phthalate • Endosulfan • Endrin • Fluoranthene • Fluorene • Heptachlor • Indeno(1,2,3-cd)pyrene • Iron • Lead • Manganese

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	◦ Mercury (inorganic) ◦ Methylene Chloride ◦ Methylnaphthalene[2-] ◦ Naphthalene ◦ Nickel ◦ Pentachlorophenol ◦ Phenanthrene ◦ Pyrene ◦ Selenium ◦ Silver ◦ Tetrachlorodibenzodioxin[2,3,7,8-] ◦ Tetrachloroethene ◦ Toluene ◦ Toxaphene (Technical Grade) ◦ Trichlorobenzene[1,2,4-] ◦ Trichloroethane[1,1,1-] ◦ Trichloroethene ◦ Xylene (Total) ◦ Zinc • The use status of water TRVs for Aquatic Community Organisms changed from YES to NO due to replacement by a more relevant TRV: ◦ Acenaphthene ◦ Acenaphthylene ◦ Acetone ◦ Aluminum ◦ Anthracene ◦ Antimony ◦ Aroclor-1016 ◦ Aroclor-1242 ◦ Aroclor-1248 ◦ Aroclor-1254 ◦ Aroclor-1260 ◦ Arsenic ◦ Barium ◦ Benzene

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	• Benzo(a)anthracene • Benzo(a)pyrene • Benzo(b)fluoranthene • Benzo(g,h,i)perylene • Benzo(k)fluoranthene • Benzoic Acid (previous value was also corrected) • Beryllium • BHC[beta-] • BHC[gamma-] • Bis(2-ethylhexyl)phthalate • Boron • Butanone[2-] • Butyl Benzyl Phthalate • Cadmium • Calcium • Chlordane[alpha-] • Chlordane[gamma-] • Chloride • Chloro-3-methylphenol[4-] • Chlorobenzene • Chloroform • Chlorophenol[2-] • Chromium (total) • Chromium(+6) • Chrysene • Cobalt • Copper • Cyanide (total) • DDE[4,4'-] • DDT[4,4'-] • Dibenzo(a,h)anthracene • Dibenzofuran • Dichlorobenzene[1,4-] • Dichloroethane[1,1-] • Dichloroethane[1,2-]

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	• Dichloroethene[1,1-] • Dichloroethene[cis/trans-1,2-] • Dichloroethene[cis-1,2-] • Dieldrin • Dimethyl Phthalate • Di-n-Butyl Phthalate • Dinitrobenzene[1,3-] • Dinitrotoluene[2,4-] • Dinitrotoluene[2,6-] • Di-n-octylphthalate • Endosulfan • Endrin • Fluoranthene • Fluorene • Fluoride • Heptachlor • Indeno(1,2,3-cd)pyrene • Iron • Lead • Manganese • Mercury (inorganic) • Mercury (methyl) • Methoxychlor[4,4'-] • Methylene Chloride • Methylnaphthalene[2-] • Molybdenum • Naphthalene • Nickel • Nitrobenzene • Pentachloronitrobenzene • Pentachlorophenol • Phenanthrene • Phenol • Pyrene • Selenium

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	- Silver - Strontium (stable) - Tetrachlorodibenzodioxin[2,3,7,8-] - Tetrachloroethane[1,1,2,2-] - Tetrachloroethene - Thallium - Toluene - Toxaphene (Technical Grade) - Trichlorobenzene[1,2,4-] - Trichloroethane[1,1,1-] - Trichloroethene - Uranium - Vanadium - Xylene (Total) - Zinc - The use status of the sediment TRV for Aluminum bird and mammal receptors changed from YES to NO due to replacement by a more relevant TRV; TRV/ESL based on pH as is the case for soil. **New TFs** - No new values. **TF Updates** - No updated values. **Interface Updates** - Updated water and sediment ESL derivation screens to be current with revision 3 of the SLERA.

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
October 2014 – Release 3.2	In release 3.2 of the ECORISK database, TRVs were updated/added for some high explosive and inorganic chemicals for plants, invertebrates and birds. Transfer Factors were updated/added for many radionuclides, high explosives, organics and inorganics. Receptor parameters for the American kestrel and desert cottontail were also made based on review of the data. The latest TRV Methods document was linked to the database interface and extraneous linked documents removed.

New NOAEL/NOEC-based ESLs

Recent literature review for toxicity data, transfer factor data and receptor data for soil ESLs resulted in new ESLs for the following:

Analyte Name	ESL Receptor
Amino-2,6-dinitrotoluene[4-]	Earthworm (Soil-dwelling invertebrate)
Amino-2,6-dinitrotoluene[4-]	Generic plant (Terrestrial autotroph - producer)
Amino-4,6-dinitrotoluene[2-]	Earthworm (Soil-dwelling invertebrate)
Amino-4,6-dinitrotoluene[2-]	Generic plant (Terrestrial autotroph - producer)
Dinitrotoluene[2,4-]	Earthworm (Soil-dwelling invertebrate)
Dinitrotoluene[2,4-]	Generic plant (Terrestrial autotroph - producer)
Dinitrotoluene[2,6-]	American kestrel (Avian intermediate carnivore)
Dinitrotoluene[2,6-]	American kestrel (Avian top carnivore)
Dinitrotoluene[2,6-]	American robin (Avian herbivore)
Dinitrotoluene[2,6-]	American robin (Avian insectivore)
Dinitrotoluene[2,6-]	American robin (Avian omnivore)
Dinitrotoluene[2,6-]	Earthworm (Soil-dwelling invertebrate)
HMX	Earthworm (Soil-dwelling invertebrate)
Nitroglycerine	Earthworm (Soil-dwelling invertebrate)
Nitroglycerine	Generic plant (Terrestrial autotroph - producer)
RDX	Generic plant (Terrestrial autotroph - producer)
Trinitrobenzene[1,3,5-]	Earthworm (Soil-dwelling invertebrate)
Antimony	Generic plant (Terrestrial autotroph - producer)
Beryllium	Generic plant (Terrestrial autotroph - producer)

NOAEL/NOEC-based ESL Updates

Table 1. ESL Changes by Ecorisk Database Release

<table>
<tr><th>Ecorisk Database Release</th><th>ESL Changes</th></tr>
<tr><td></td><td>Recent literature review for toxicity data, transfer factor data and receptor data for soil ESLs resulted in updated ESLs for the following:

Analyte Group	Analyte Name	ESL Receptor
D/F	Tetrachlorodibenzodioxin[2,3,7,8-]	Desert cottontail (Mammalian herbivore)
D/F	Tetrachlorodibenzodioxin[2,3,7,8-]	Red fox (Mammalian top carnivore)
HE	Amino-2,6-dinitrotoluene[4-]	Deer mouse (Mammalian omnivore)
HE	Amino-2,6-dinitrotoluene[4-]	Desert cottontail (Mammalian herbivore)
HE	Amino-2,6-dinitrotoluene[4-]	Generic plant (Terrestrial autotroph - producer)
HE	Amino-2,6-dinitrotoluene[4-]	Montane shrew (Mammalian insectivore)
HE	Amino-2,6-dinitrotoluene[4-]	Red fox (Mammalian top carnivore)
HE	Amino-4,6-dinitrotoluene[2-]	Deer mouse (Mammalian omnivore)
HE	Amino-4,6-dinitrotoluene[2-]	Desert cottontail (Mammalian herbivore)
HE	Amino-4,6-dinitrotoluene[2-]	Generic plant (Terrestrial autotroph - producer)
HE	Amino-4,6-dinitrotoluene[2-]	Montane shrew (Mammalian insectivore)
HE	Amino-4,6-dinitrotoluene[2-]	Red fox (Mammalian top carnivore)
HE	Dinitrobenzene[1,3-]	American kestrel (Avian intermediate carnivore)
HE	Dinitrobenzene[1,3-]	American kestrel (Avian top carnivore)
HE	Dinitrobenzene[1,3-]	Desert cottontail (Mammalian herbivore)
HE	Dinitrobenzene[1,3-]	Red fox (Mammalian top carnivore)
HE	Dinitrotoluene[2,4-]	Deer mouse (Mammalian omnivore)
HE	Dinitrotoluene[2,4-]	Desert cottontail (Mammalian herbivore)
HE	Dinitrotoluene[2,4-]	Red fox (Mammalian top carnivore)
HE	Dinitrotoluene[2,6-]	Deer mouse (Mammalian omnivore)
HE	Dinitrotoluene[2,6-]	Desert cottontail (Mammalian herbivore)
HE	Dinitrotoluene[2,6-]	Red fox (Mammalian top carnivore)
HE	HMX	Deer mouse (Mammalian omnivore)
HE	HMX	Desert cottontail (Mammalian herbivore)
HE	HMX	Earthworm (Soil-dwelling invertebrate)
HE	HMX	Montane shrew (Mammalian insectivore)
HE	HMX	Red fox (Mammalian top carnivore)
HE	Nitroglycerine	Desert cottontail (Mammalian herbivore)

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Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes		
	HE	Nitroglycerine	Red fox (Mammalian top carnivore)
	HE	Nitrotoluene[2-]	Desert cottontail (Mammalian herbivore)
	HE	Nitrotoluene[2-]	Red fox (Mammalian top carnivore)
	HE	Nitrotoluene[3-]	Desert cottontail (Mammalian herbivore)
	HE	Nitrotoluene[3-]	Red fox (Mammalian top carnivore)
	HE	Nitrotoluene[4-]	Desert cottontail (Mammalian herbivore)
	HE	Nitrotoluene[4-]	Red fox (Mammalian top carnivore)
	HE	PETN	Desert cottontail (Mammalian herbivore)
	HE	PETN	Red fox (Mammalian top carnivore)
	HE	RDX	American kestrel (Avian intermediate carnivore)
	HE	RDX	American kestrel (Avian top carnivore)
	HE	RDX	American robin (Avian herbivore)
	HE	RDX	American robin (Avian insectivore)
	HE	RDX	American robin (Avian omnivore)
	HE	RDX	Deer mouse (Mammalian omnivore)
	HE	RDX	Desert cottontail (Mammalian herbivore)
	HE	RDX	Earthworm (Soil-dwelling invertebrate)
	HE	RDX	Montane shrew (Mammalian insectivore)
	HE	RDX	Red fox (Mammalian top carnivore)
	HE	Tetryl	Deer mouse (Mammalian omnivore)
	HE	Tetryl	Desert cottontail (Mammalian herbivore)
	HE	Tetryl	Red fox (Mammalian top carnivore)
	HE	Trinitrobenzene[1,3,5-]	Deer mouse (Mammalian omnivore)
	HE	Trinitrobenzene[1,3,5-]	Desert cottontail (Mammalian herbivore)
	HE	Trinitrobenzene[1,3,5-]	Red fox (Mammalian top carnivore)
	HE	Trinitrotoluene[2,4,6-]	American kestrel (Avian intermediate carnivore)
	HE	Trinitrotoluene[2,4,6-]	American kestrel (Avian top carnivore)
	HE	Trinitrotoluene[2,4,6-]	American robin (Avian herbivore)
	HE	Trinitrotoluene[2,4,6-]	American robin (Avian insectivore)
	HE	Trinitrotoluene[2,4,6-]	American robin (Avian omnivore)
	HE	Trinitrotoluene[2,4,6-]	Deer mouse (Mammalian omnivore)
	HE	Trinitrotoluene[2,4,6-]	Desert cottontail (Mammalian herbivore)
	HE	Trinitrotoluene[2,4,6-]	Montane shrew (Mammalian insectivore)
	HE	Trinitrotoluene[2,4,6-]	Red fox (Mammalian top carnivore)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes		
	INORG	Antimony	Deer mouse (Mammalian omnivore)
	INORG	Antimony	Desert cottontail (Mammalian herbivore)
	INORG	Antimony	Generic plant (Terrestrial autotroph - producer)
	INORG	Antimony	Montane shrew (Mammalian insectivore)
	INORG	Antimony	Red fox (Mammalian top carnivore)
	INORG	Arsenic	American kestrel (Avian intermediate carnivore)
	INORG	Arsenic	American kestrel (Avian top carnivore)
	INORG	Arsenic	Desert cottontail (Mammalian herbivore)
	INORG	Arsenic	Red fox (Mammalian top carnivore)
	INORG	Barium	American kestrel (Avian intermediate carnivore)
	INORG	Barium	American kestrel (Avian top carnivore)
	INORG	Barium	Desert cottontail (Mammalian herbivore)
	INORG	Beryllium	Desert cottontail (Mammalian herbivore)
	INORG	Beryllium	Generic plant (Terrestrial autotroph - producer)
	INORG	Boron	American kestrel (Avian intermediate carnivore)
	INORG	Boron	American kestrel (Avian top carnivore)
	INORG	Boron	Desert cottontail (Mammalian herbivore)
	INORG	Cadmium	American kestrel (Avian intermediate carnivore)
	INORG	Cadmium	American kestrel (Avian top carnivore)
	INORG	Cadmium	Desert cottontail (Mammalian herbivore)
	INORG	Cadmium	Red fox (Mammalian top carnivore)
	INORG	Chromium (total)	American kestrel (Avian intermediate carnivore)
	INORG	Chromium (total)	American kestrel (Avian top carnivore)
	INORG	Chromium (total)	Desert cottontail (Mammalian herbivore)
	INORG	Chromium(+6)	American kestrel (Avian intermediate carnivore)
	INORG	Chromium(+6)	American kestrel (Avian top carnivore)
	INORG	Chromium(+6)	Desert cottontail (Mammalian herbivore)
	INORG	Chromium(+6)	Red fox (Mammalian top carnivore)
	INORG	Cobalt	American kestrel (Avian intermediate carnivore)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes		
	INORG	Cobalt	American kestrel (Avian top carnivore)
	INORG	Cobalt	Desert cottontail (Mammalian herbivore)
	INORG	Cobalt	Red fox (Mammalian top carnivore)
	INORG	Copper	American kestrel (Avian intermediate carnivore)
	INORG	Copper	American kestrel (Avian top carnivore)
	INORG	Copper	Desert cottontail (Mammalian herbivore)
	INORG	Copper	Red fox (Mammalian top carnivore)
	INORG	Cyanide (total)	American kestrel (Avian intermediate carnivore)
	INORG	Cyanide (total)	American kestrel (Avian top carnivore)
	INORG	Cyanide (total)	Desert cottontail (Mammalian herbivore)
	INORG	Cyanide (total)	Red fox (Mammalian top carnivore)
	INORG	Fluoride	American kestrel (Avian intermediate carnivore)
	INORG	Fluoride	American kestrel (Avian top carnivore)
	INORG	Fluoride	American robin (Avian insectivore)
	INORG	Fluoride	American robin (Avian omnivore)
	INORG	Fluoride	Deer mouse (Mammalian omnivore)
	INORG	Fluoride	Desert cottontail (Mammalian herbivore)
	INORG	Fluoride	Montane shrew (Mammalian insectivore)
	INORG	Fluoride	Red fox (Mammalian top carnivore)
	INORG	Lead	American kestrel (Avian intermediate carnivore)
	INORG	Lead	American kestrel (Avian top carnivore)
	INORG	Lead	Desert cottontail (Mammalian herbivore)
	INORG	Lithium	Desert cottontail (Mammalian herbivore)
	INORG	Lithium	Red fox (Mammalian top carnivore)
	INORG	Manganese	American kestrel (Avian intermediate carnivore)
	INORG	Manganese	American kestrel (Avian top carnivore)
	INORG	Manganese	Desert cottontail (Mammalian herbivore)
	INORG	Mercury (inorganic)	American kestrel (Avian intermediate carnivore)
	INORG	Mercury (inorganic)	American kestrel (Avian top carnivore)
	INORG	Mercury (inorganic)	Desert cottontail (Mammalian herbivore)
	INORG	Mercury (inorganic)	Red fox (Mammalian top carnivore)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes		
	INORG	Mercury (methyl)	American kestrel (Avian intermediate carnivore)
	INORG	Mercury (methyl)	American kestrel (Avian top carnivore)
	INORG	Mercury (methyl)	Desert cottontail (Mammalian herbivore)
	INORG	Mercury (methyl)	Red fox (Mammalian top carnivore)
	INORG	Molybdenum	American kestrel (Avian intermediate carnivore)
	INORG	Molybdenum	American kestrel (Avian top carnivore)
	INORG	Nickel	American kestrel (Avian intermediate carnivore)
	INORG	Nickel	American kestrel (Avian top carnivore)
	INORG	Nickel	Desert cottontail (Mammalian herbivore)
	INORG	Selenium	American kestrel (Avian intermediate carnivore)
	INORG	Selenium	American kestrel (Avian top carnivore)
	INORG	Selenium	Desert cottontail (Mammalian herbivore)
	INORG	Selenium	Red fox (Mammalian top carnivore)
	INORG	Silver	American kestrel (Avian intermediate carnivore)
	INORG	Silver	American kestrel (Avian top carnivore)
	INORG	Silver	Desert cottontail (Mammalian herbivore)
	INORG	Silver	Red fox (Mammalian top carnivore)
	INORG	Strontium (stable)	Desert cottontail (Mammalian herbivore)
	INORG	Thallium	American kestrel (Avian intermediate carnivore)
	INORG	Thallium	American kestrel (Avian top carnivore)
	INORG	Thallium	American robin (Avian insectivore)
	INORG	Thallium	American robin (Avian omnivore)
	INORG	Thallium	Deer mouse (Mammalian omnivore)
	INORG	Thallium	Desert cottontail (Mammalian herbivore)
	INORG	Thallium	Generic plant (Terrestrial autotroph - producer)
	INORG	Thallium	Montane shrew (Mammalian insectivore)
	INORG	Thallium	Red fox (Mammalian top carnivore)
	INORG	Titanium	Desert cottontail (Mammalian herbivore)
	INORG	Titanium	Red fox (Mammalian top carnivore)
	INORG	Uranium	American kestrel (Avian intermediate

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes		
			carnivore)
	INORG	Uranium	American kestrel (Avian top carnivore)
	INORG	Uranium	Desert cottontail (Mammalian herbivore)
	INORG	Vanadium	American kestrel (Avian intermediate carnivore)
	INORG	Vanadium	American kestrel (Avian top carnivore)
	INORG	Vanadium	Desert cottontail (Mammalian herbivore)
	INORG	Vanadium	Generic plant (Terrestrial autotroph - producer)
	INORG	Zinc	American kestrel (Avian intermediate carnivore)
	INORG	Zinc	Desert cottontail (Mammalian herbivore)
	INORG	Zinc	Red fox (Mammalian top carnivore)
	PAH	Acenaphthene	Desert cottontail (Mammalian herbivore)
	PAH	Acenaphthene	Red fox (Mammalian top carnivore)
	PAH	Acenaphthylene	Desert cottontail (Mammalian herbivore)
	PAH	Acenaphthylene	Red fox (Mammalian top carnivore)
	PAH	Anthracene	Desert cottontail (Mammalian herbivore)
	PAH	Anthracene	Red fox (Mammalian top carnivore)
	PAH	Benzo(a)anthracene	American kestrel (Avian intermediate carnivore)
	PAH	Benzo(a)anthracene	American kestrel (Avian top carnivore)
	PAH	Benzo(a)anthracene	Desert cottontail (Mammalian herbivore)
	PAH	Benzo(a)anthracene	Red fox (Mammalian top carnivore)
	PAH	Benzo(a)pyrene	Desert cottontail (Mammalian herbivore)
	PAH	Benzo(a)pyrene	Red fox (Mammalian top carnivore)
	PAH	Benzo(b)fluoranthene	Desert cottontail (Mammalian herbivore)
	PAH	Benzo(b)fluoranthene	Red fox (Mammalian top carnivore)
	PAH	Benzo(g,h,i)perylene	Desert cottontail (Mammalian herbivore)
	PAH	Benzo(g,h,i)perylene	Red fox (Mammalian top carnivore)
	PAH	Benzo(k)fluoranthene	Desert cottontail (Mammalian herbivore)
	PAH	Benzo(k)fluoranthene	Red fox (Mammalian top carnivore)
	PAH	Chrysene	Desert cottontail (Mammalian herbivore)
	PAH	Chrysene	Red fox (Mammalian top carnivore)
	PAH	Dibenzo(a,h)anthracene	Desert cottontail (Mammalian herbivore)
	PAH	Dibenzo(a,h)anthracene	Red fox (Mammalian top carnivore)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes		
	PAH	Fluoranthene	Desert cottontail (Mammalian herbivore)
	PAH	Fluoranthene	Red fox (Mammalian top carnivore)
	PAH	Fluorene	Desert cottontail (Mammalian herbivore)
	PAH	Fluorene	Red fox (Mammalian top carnivore)
	PAH	Indeno(1,2,3-cd)pyrene	Desert cottontail (Mammalian herbivore)
	PAH	Indeno(1,2,3-cd)pyrene	Red fox (Mammalian top carnivore)
	PAH	Methylnaphthalene[2-]	Desert cottontail (Mammalian herbivore)
	PAH	Methylnaphthalene[2-]	Red fox (Mammalian top carnivore)
	PAH	Naphthalene	American kestrel (Avian intermediate carnivore)
	PAH	Naphthalene	American kestrel (Avian top carnivore)
	PAH	Naphthalene	Desert cottontail (Mammalian herbivore)
	PAH	Naphthalene	Red fox (Mammalian top carnivore)
	PAH	Phenanthrene	Desert cottontail (Mammalian herbivore)
	PAH	Phenanthrene	Red fox (Mammalian top carnivore)
	PAH	Pyrene	American kestrel (Avian top carnivore)
	PAH	Pyrene	Desert cottontail (Mammalian herbivore)
	PAH	Pyrene	Red fox (Mammalian top carnivore)
	PCB	Aroclor-1016	Desert cottontail (Mammalian herbivore)
	PCB	Aroclor-1016	Red fox (Mammalian top carnivore)
	PCB	Aroclor-1242	American kestrel (Avian intermediate carnivore)
	PCB	Aroclor-1242	American kestrel (Avian top carnivore)
	PCB	Aroclor-1242	Desert cottontail (Mammalian herbivore)
	PCB	Aroclor-1242	Red fox (Mammalian top carnivore)
	PCB	Aroclor-1248	American kestrel (Avian intermediate carnivore)
	PCB	Aroclor-1248	American kestrel (Avian top carnivore)
	PCB	Aroclor-1248	Desert cottontail (Mammalian herbivore)
	PCB	Aroclor-1248	Red fox (Mammalian top carnivore)
	PCB	Aroclor-1254	American kestrel (Avian intermediate carnivore)
	PCB	Aroclor-1254	American kestrel (Avian top carnivore)
	PCB	Aroclor-1254	Desert cottontail (Mammalian herbivore)
	PCB	Aroclor-1254	Red fox (Mammalian top carnivore)
	PCB	Aroclor-1260	American kestrel (Avian intermediate carnivore)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes		
	PCB	Aroclor-1260	American kestrel (Avian top carnivore)
	PCB	Aroclor-1260	Desert cottontail (Mammalian herbivore)
	PCB	Aroclor-1260	Red fox (Mammalian top carnivore)
	PEST	Aldrin	Desert cottontail (Mammalian herbivore)
	PEST	Aldrin	Red fox (Mammalian top carnivore)
	PEST	BHC[alpha-]	Desert cottontail (Mammalian herbivore)
	PEST	BHC[alpha-]	Red fox (Mammalian top carnivore)
	PEST	BHC[beta-]	American kestrel (Avian intermediate carnivore)
	PEST	BHC[beta-]	American kestrel (Avian top carnivore)
	PEST	BHC[beta-]	Desert cottontail (Mammalian herbivore)
	PEST	BHC[beta-]	Red fox (Mammalian top carnivore)
	PEST	BHC[gamma-]	American kestrel (Avian intermediate carnivore)
	PEST	BHC[gamma-]	American kestrel (Avian top carnivore)
	PEST	BHC[gamma-]	Desert cottontail (Mammalian herbivore)
	PEST	BHC[gamma-]	Red fox (Mammalian top carnivore)
	PEST	Chlordane[alpha-]	American kestrel (Avian intermediate carnivore)
	PEST	Chlordane[alpha-]	American kestrel (Avian top carnivore)
	PEST	Chlordane[alpha-]	Desert cottontail (Mammalian herbivore)
	PEST	Chlordane[alpha-]	Red fox (Mammalian top carnivore)
	PEST	Chlordane[gamma-]	American kestrel (Avian intermediate carnivore)
	PEST	Chlordane[gamma-]	American kestrel (Avian top carnivore)
	PEST	Chlordane[gamma-]	Desert cottontail (Mammalian herbivore)
	PEST	Chlordane[gamma-]	Red fox (Mammalian top carnivore)
	PEST	DDD[4,4'-]	American kestrel (Avian intermediate carnivore)
	PEST	DDD[4,4'-]	American kestrel (Avian top carnivore)
	PEST	DDD[4,4'-]	Desert cottontail (Mammalian herbivore)
	PEST	DDD[4,4'-]	Red fox (Mammalian top carnivore)
	PEST	DDE[4,4'-]	American kestrel (Avian intermediate carnivore)
	PEST	DDE[4,4'-]	American kestrel (Avian top carnivore)
	PEST	DDE[4,4'-]	Desert cottontail (Mammalian herbivore)
	PEST	DDE[4,4'-]	Red fox (Mammalian top carnivore)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes		
	PEST	DDT[4,4'-]	American kestrel (Avian intermediate carnivore)
	PEST	DDT[4,4'-]	American kestrel (Avian top carnivore)
	PEST	DDT[4,4'-]	Desert cottontail (Mammalian herbivore)
	PEST	DDT[4,4'-]	Red fox (Mammalian top carnivore)
	PEST	Dieldrin	American kestrel (Avian intermediate carnivore)
	PEST	Dieldrin	American kestrel (Avian top carnivore)
	PEST	Dieldrin	Desert cottontail (Mammalian herbivore)
	PEST	Dieldrin	Red fox (Mammalian top carnivore)
	PEST	Endosulfan	American kestrel (Avian intermediate carnivore)
	PEST	Endosulfan	American kestrel (Avian top carnivore)
	PEST	Endosulfan	Desert cottontail (Mammalian herbivore)
	PEST	Endosulfan	Red fox (Mammalian top carnivore)
	PEST	Endrin	American kestrel (Avian intermediate carnivore)
	PEST	Endrin	American kestrel (Avian top carnivore)
	PEST	Endrin	Desert cottontail (Mammalian herbivore)
	PEST	Endrin	Red fox (Mammalian top carnivore)
	PEST	Heptachlor	American kestrel (Avian intermediate carnivore)
	PEST	Heptachlor	American kestrel (Avian top carnivore)
	PEST	Heptachlor	Desert cottontail (Mammalian herbivore)
	PEST	Heptachlor	Red fox (Mammalian top carnivore)
	PEST	Kepone	American kestrel (Avian top carnivore)
	PEST	Kepone	Desert cottontail (Mammalian herbivore)
	PEST	Kepone	Red fox (Mammalian top carnivore)
	PEST	Methoxychlor[4,4'-]	American kestrel (Avian top carnivore)
	PEST	Methoxychlor[4,4'-]	Desert cottontail (Mammalian herbivore)
	PEST	Methoxychlor[4,4'-]	Red fox (Mammalian top carnivore)
	PEST	Toxaphene (Technical Grade)	American kestrel (Avian intermediate carnivore)
	PEST	Toxaphene (Technical Grade)	American kestrel (Avian top carnivore)
	PEST	Toxaphene (Technical Grade)	Desert cottontail (Mammalian herbivore)
	PEST	Toxaphene (Technical Grade)	Red fox (Mammalian top carnivore)
	SVOC	Benzoic Acid	Desert cottontail (Mammalian herbivore)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes		
	SVOC	Benzoic Acid	Red fox (Mammalian top carnivore)
	SVOC	Bis(2-ethylhexyl)phthalate	American kestrel (Avian intermediate carnivore)
	SVOC	Bis(2-ethylhexyl)phthalate	American kestrel (Avian top carnivore)
	SVOC	Bis(2-ethylhexyl)phthalate	Desert cottontail (Mammalian herbivore)
	SVOC	Bis(2-ethylhexyl)phthalate	Red fox (Mammalian top carnivore)
	SVOC	Butyl Benzyl Phthalate	Desert cottontail (Mammalian herbivore)
	SVOC	Butyl Benzyl Phthalate	Red fox (Mammalian top carnivore)
	SVOC	Carbazole	Desert cottontail (Mammalian herbivore)
	SVOC	Carbazole	Red fox (Mammalian top carnivore)
	SVOC	Chlorobenzene	Desert cottontail (Mammalian herbivore)
	SVOC	Chlorobenzene	Red fox (Mammalian top carnivore)
	SVOC	Chlorophenol[2-]	American kestrel (Avian intermediate carnivore)
	SVOC	Chlorophenol[2-]	American kestrel (Avian top carnivore)
	SVOC	Chlorophenol[2-]	Desert cottontail (Mammalian herbivore)
	SVOC	Chlorophenol[2-]	Red fox (Mammalian top carnivore)
	SVOC	Diethyl Phthalate	Desert cottontail (Mammalian herbivore)
	SVOC	Diethyl Phthalate	Red fox (Mammalian top carnivore)
	SVOC	Dimethyl Phthalate	Desert cottontail (Mammalian herbivore)
	SVOC	Dimethyl Phthalate	Red fox (Mammalian top carnivore)
	SVOC	Di-n-Butyl Phthalate	American kestrel (Avian intermediate carnivore)
	SVOC	Di-n-Butyl Phthalate	American kestrel (Avian top carnivore)
	SVOC	Di-n-Butyl Phthalate	Desert cottontail (Mammalian herbivore)
	SVOC	Di-n-Butyl Phthalate	Red fox (Mammalian top carnivore)
	SVOC	Di-n-octylphthalate	Desert cottontail (Mammalian herbivore)
	SVOC	Di-n-octylphthalate	Red fox (Mammalian top carnivore)
	SVOC	Methylphenol[2-]	Desert cottontail (Mammalian herbivore)
	SVOC	Methylphenol[2-]	Red fox (Mammalian top carnivore)
	SVOC	Nitroaniline[2-]	Desert cottontail (Mammalian herbivore)
	SVOC	Nitroaniline[2-]	Red fox (Mammalian top carnivore)
	SVOC	Nitrobenzene	Desert cottontail (Mammalian herbivore)
	SVOC	Nitrobenzene	Red fox (Mammalian top carnivore)
	SVOC	Pentachloronitrobenzene	American kestrel (Avian intermediate carnivore)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes		
	SVOC	Pentachloronitrobenzene	American kestrel (Avian top carnivore)
	SVOC	Pentachloronitrobenzene	Desert cottontail (Mammalian herbivore)
	SVOC	Pentachloronitrobenzene	Red fox (Mammalian top carnivore)
	SVOC	Pentachlorophenol	American kestrel (Avian intermediate carnivore)
	SVOC	Pentachlorophenol	American kestrel (Avian top carnivore)
	SVOC	Pentachlorophenol	Desert cottontail (Mammalian herbivore)
	SVOC	Pentachlorophenol	Red fox (Mammalian top carnivore)
	SVOC	Phenol	Desert cottontail (Mammalian herbivore)
	SVOC	Phenol	Red fox (Mammalian top carnivore)
	VOC	Acetone	American kestrel (Avian intermediate carnivore)
	VOC	Acetone	American kestrel (Avian top carnivore)
	VOC	Acetone	Desert cottontail (Mammalian herbivore)
	VOC	Acetone	Red fox (Mammalian top carnivore)
	VOC	Benzene	Desert cottontail (Mammalian herbivore)
	VOC	Benzene	Red fox (Mammalian top carnivore)
	VOC	Benzyl Alcohol	Desert cottontail (Mammalian herbivore)
	VOC	Butanone[2-]	Desert cottontail (Mammalian herbivore)
	VOC	Butanone[2-]	Red fox (Mammalian top carnivore)
	VOC	Carbon Disulfide	Desert cottontail (Mammalian herbivore)
	VOC	Chloroform	Desert cottontail (Mammalian herbivore)
	VOC	Chloroform	Red fox (Mammalian top carnivore)
	VOC	Dichlorobenzene[1,2-]	Desert cottontail (Mammalian herbivore)
	VOC	Dichlorobenzene[1,2-]	Red fox (Mammalian top carnivore)
	VOC	Dichlorobenzene[1,3-]	Desert cottontail (Mammalian herbivore)
	VOC	Dichlorobenzene[1,3-]	Red fox (Mammalian top carnivore)
	VOC	Dichlorobenzene[1,4-]	Desert cottontail (Mammalian herbivore)
	VOC	Dichlorobenzene[1,4-]	Red fox (Mammalian top carnivore)
	VOC	Dichloroethane[1,1-]	Desert cottontail (Mammalian herbivore)
	VOC	Dichloroethane[1,1-]	Red fox (Mammalian top carnivore)
	VOC	Dichloroethane[1,2-]	American kestrel (Avian intermediate carnivore)
	VOC	Dichloroethane[1,2-]	American kestrel (Avian top carnivore)
	VOC	Dichloroethane[1,2-]	Desert cottontail (Mammalian herbivore)
	VOC	Dichloroethane[1,2-]	Red fox (Mammalian top carnivore)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes		
	VOC	Dichloroethene[1,1-]	Desert cottontail (Mammalian herbivore)
	VOC	Dichloroethene[1,1-]	Red fox (Mammalian top carnivore)
	VOC	Dichloroethene[cis/trans-1,2-]	Desert cottontail (Mammalian herbivore)
	VOC	Dichloroethene[cis/trans-1,2-]	Red fox (Mammalian top carnivore)
	VOC	Diphenylamine	American kestrel (Avian intermediate carnivore)
	VOC	Diphenylamine	American kestrel (Avian top carnivore)
	VOC	Hexachlorobenzene	American kestrel (Avian intermediate carnivore)
	VOC	Hexachlorobenzene	American kestrel (Avian top carnivore)
	VOC	Hexachlorobenzene	Desert cottontail (Mammalian herbivore)
	VOC	Hexachlorobenzene	Red fox (Mammalian top carnivore)
	VOC	Hexanone[2-]	American kestrel (Avian intermediate carnivore)
	VOC	Hexanone[2-]	American kestrel (Avian top carnivore)
	VOC	Hexanone[2-]	Desert cottontail (Mammalian herbivore)
	VOC	Hexanone[2-]	Red fox (Mammalian top carnivore)
	VOC	Iodomethane	American kestrel (Avian intermediate carnivore)
	VOC	Iodomethane	American kestrel (Avian top carnivore)
	VOC	Methyl-2-pentanone[4-]	Desert cottontail (Mammalian herbivore)
	VOC	Methyl-2-pentanone[4-]	Red fox (Mammalian top carnivore)
	VOC	Methylene Chloride	Desert cottontail (Mammalian herbivore)
	VOC	Methylene Chloride	Red fox (Mammalian top carnivore)
	VOC	Tetrachloroethene	Desert cottontail (Mammalian herbivore)
	VOC	Tetrachloroethene	Red fox (Mammalian top carnivore)
	VOC	Toluene	Desert cottontail (Mammalian herbivore)
	VOC	Toluene	Red fox (Mammalian top carnivore)
	VOC	Trichlorobenzene[1,2,4-]	Desert cottontail (Mammalian herbivore)
	VOC	Trichlorobenzene[1,2,4-]	Red fox (Mammalian top carnivore)
	VOC	Trichloroethane[1,1,1-]	Desert cottontail (Mammalian herbivore)
	VOC	Trichloroethane[1,1,1-]	Red fox (Mammalian top carnivore)
	VOC	Trichloroethene	Desert cottontail (Mammalian herbivore)
	VOC	Trichloroethene	Red fox (Mammalian top carnivore)
	VOC	Trichlorofluoromethane	Desert cottontail (Mammalian herbivore)
	VOC	Trichlorofluoromethane	Red fox (Mammalian top carnivore)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes		
	VOC	Vinyl Chloride	Desert cottontail (Mammalian herbivore)
	VOC	Vinyl Chloride	Red fox (Mammalian top carnivore)
	VOC	Xylene (Total)	American kestrel (Avian intermediate carnivore)
	VOC	Xylene (Total)	American kestrel (Avian top carnivore)
	VOC	Xylene (Total)	Desert cottontail (Mammalian herbivore)
	VOC	Xylene (Total)	Red fox (Mammalian top carnivore)
	RAD	Americium-241	American kestrel (Avian intermediate carnivore)
	RAD	Americium-241	American kestrel (Avian top carnivore)
	RAD	Americium-241	American robin (Avian herbivore)
	RAD	Americium-241	American robin (Avian insectivore)
	RAD	Americium-241	American robin (Avian omnivore)
	RAD	Americium-241	Deer mouse (Mammalian omnivore)
	RAD	Americium-241	Desert cottontail (Mammalian herbivore)
	RAD	Americium-241	Earthworm (Soil-dwelling invertebrate)
	RAD	Americium-241	Generic plant (Terrestrial autotroph - producer)
	RAD	Americium-241	Montane shrew (Mammalian insectivore)
	RAD	Cesium-134	American kestrel (Avian intermediate carnivore)
	RAD	Cesium-134	American kestrel (Avian top carnivore)
	RAD	Cesium-134	American robin (Avian herbivore)
	RAD	Cesium-134	American robin (Avian insectivore)
	RAD	Cesium-134	American robin (Avian omnivore)
	RAD	Cesium-134	Desert cottontail (Mammalian herbivore)
	RAD	Cesium-134	Earthworm (Soil-dwelling invertebrate)
	RAD	Cesium-134	Generic plant (Terrestrial autotroph - producer)
	RAD	Cesium-134	Red fox (Mammalian top carnivore)
	RAD	Cesium-137 + Barium-137	American kestrel (Avian intermediate carnivore)
	RAD	Cesium-137 + Barium-137	American kestrel (Avian top carnivore)
	RAD	Cesium-137 + Barium-137	American robin (Avian herbivore)
	RAD	Cesium-137 + Barium-137	American robin (Avian insectivore)
	RAD	Cesium-137 + Barium-137	American robin (Avian omnivore)
	RAD	Cesium-137 + Barium-137	Deer mouse (Mammalian omnivore)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes		
	RAD	Cesium-137 + Barium-137	Desert cottontail (Mammalian herbivore)
	RAD	Cesium-137 + Barium-137	Earthworm (Soil-dwelling invertebrate)
	RAD	Cesium-137 + Barium-137	Generic plant (Terrestrial autotroph - producer)
	RAD	Cesium-137 + Barium-137	Red fox (Mammalian top carnivore)
	RAD	Cobalt-60	Earthworm (Soil-dwelling invertebrate)
	RAD	Cobalt-60	Generic plant (Terrestrial autotroph - producer)
	RAD	Cobalt-60	Red fox (Mammalian top carnivore)
	RAD	Europium-152	American robin (Avian insectivore)
	RAD	Europium-152	American robin (Avian omnivore)
	RAD	Europium-152	Desert cottontail (Mammalian herbivore)
	RAD	Europium-152	Earthworm (Soil-dwelling invertebrate)
	RAD	Europium-152	Montane shrew (Mammalian insectivore)
	RAD	Europium-152	Red fox (Mammalian top carnivore)
	RAD	Lead-210	American kestrel (Avian intermediate carnivore)
	RAD	Lead-210	American kestrel (Avian top carnivore)
	RAD	Lead-210	American robin (Avian herbivore)
	RAD	Lead-210	American robin (Avian insectivore)
	RAD	Lead-210	American robin (Avian omnivore)
	RAD	Lead-210	Desert cottontail (Mammalian herbivore)
	RAD	Lead-210	Earthworm (Soil-dwelling invertebrate)
	RAD	Lead-210	Generic plant (Terrestrial autotroph - producer)
	RAD	Neptunium-237	American kestrel (Avian intermediate carnivore)
	RAD	Neptunium-237	American kestrel (Avian top carnivore)
	RAD	Neptunium-237	Desert cottontail (Mammalian herbivore)
	RAD	Neptunium-237	Red fox (Mammalian top carnivore)
	RAD	Plutonium-238	American kestrel (Avian intermediate carnivore)
	RAD	Plutonium-238	American robin (Avian herbivore)
	RAD	Plutonium-238	American robin (Avian insectivore)
	RAD	Plutonium-238	American robin (Avian omnivore)
	RAD	Plutonium-238	Deer mouse (Mammalian omnivore)
	RAD	Plutonium-238	Desert cottontail (Mammalian herbivore)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes		
	RAD	Plutonium-238	Earthworm (Soil-dwelling invertebrate)
	RAD	Plutonium-238	Generic plant (Terrestrial autotroph - producer)
	RAD	Plutonium-238	Montane shrew (Mammalian insectivore)
	RAD	Plutonium-238	Red fox (Mammalian top carnivore)
	RAD	Plutonium-239, 240	American kestrel (Avian intermediate carnivore)
	RAD	Plutonium-239, 240	American robin (Avian herbivore)
	RAD	Plutonium-239, 240	American robin (Avian insectivore)
	RAD	Plutonium-239, 240	American robin (Avian omnivore)
	RAD	Plutonium-239, 240	Deer mouse (Mammalian omnivore)
	RAD	Plutonium-239, 240	Desert cottontail (Mammalian herbivore)
	RAD	Plutonium-239, 240	Earthworm (Soil-dwelling invertebrate)
	RAD	Plutonium-239, 240	Generic plant (Terrestrial autotroph - producer)
	RAD	Plutonium-239, 240	Montane shrew (Mammalian insectivore)
	RAD	Plutonium-239, 240	Red fox (Mammalian top carnivore)
	RAD	Plutonium-241	American robin (Avian herbivore)
	RAD	Plutonium-241	American robin (Avian insectivore)
	RAD	Plutonium-241	American robin (Avian omnivore)
	RAD	Plutonium-241	Deer mouse (Mammalian omnivore)
	RAD	Plutonium-241	Earthworm (Soil-dwelling invertebrate)
	RAD	Plutonium-241	Generic plant (Terrestrial autotroph - producer)
	RAD	Plutonium-241	Montane shrew (Mammalian insectivore)
	RAD	Radium-226	American kestrel (Avian intermediate carnivore)
	RAD	Radium-226	American kestrel (Avian top carnivore)
	RAD	Radium-226	American robin (Avian herbivore)
	RAD	Radium-226	American robin (Avian insectivore)
	RAD	Radium-226	American robin (Avian omnivore)
	RAD	Radium-226	Deer mouse (Mammalian omnivore)
	RAD	Radium-226	Desert cottontail (Mammalian herbivore)
	RAD	Radium-226	Earthworm (Soil-dwelling invertebrate)
	RAD	Radium-226	Generic plant (Terrestrial autotroph - producer)
	RAD	Radium-226	Montane shrew (Mammalian insectivore)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes		
	RAD	Radium-226	Red fox (Mammalian top carnivore)
	RAD	Radium-228	American kestrel (Avian intermediate carnivore)
	RAD	Radium-228	American kestrel (Avian top carnivore)
	RAD	Radium-228	American robin (Avian herbivore)
	RAD	Radium-228	American robin (Avian insectivore)
	RAD	Radium-228	American robin (Avian omnivore)
	RAD	Radium-228	Deer mouse (Mammalian omnivore)
	RAD	Radium-228	Desert cottontail (Mammalian herbivore)
	RAD	Radium-228	Earthworm (Soil-dwelling invertebrate)
	RAD	Radium-228	Generic plant (Terrestrial autotroph - producer)
	RAD	Radium-228	Montane shrew (Mammalian insectivore)
	RAD	Radium-228	Red fox (Mammalian top carnivore)
	RAD	Sodium-22	American kestrel (Avian intermediate carnivore)
	RAD	Sodium-22	American kestrel (Avian top carnivore)
	RAD	Sodium-22	Red fox (Mammalian top carnivore)
	RAD	Strontium-90 + Yittrium-90	American kestrel (Avian intermediate carnivore)
	RAD	Strontium-90 + Yittrium-90	American kestrel (Avian top carnivore)
	RAD	Strontium-90 + Yittrium-90	American robin (Avian herbivore)
	RAD	Strontium-90 + Yittrium-90	American robin (Avian insectivore)
	RAD	Strontium-90 + Yittrium-90	American robin (Avian omnivore)
	RAD	Strontium-90 + Yittrium-90	Deer mouse (Mammalian omnivore)
	RAD	Strontium-90 + Yittrium-90	Desert cottontail (Mammalian herbivore)
	RAD	Strontium-90 + Yittrium-90	Earthworm (Soil-dwelling invertebrate)
	RAD	Strontium-90 + Yittrium-90	Generic plant (Terrestrial autotroph - producer)
	RAD	Strontium-90 + Yittrium-90	Red fox (Mammalian top carnivore)
	RAD	Thorium-228	American robin (Avian herbivore)
	RAD	Thorium-228	American robin (Avian omnivore)
	RAD	Thorium-228	Deer mouse (Mammalian omnivore)
	RAD	Thorium-228	Desert cottontail (Mammalian herbivore)
	RAD	Thorium-228	Generic plant (Terrestrial autotroph - producer)
	RAD	Thorium-228	Red fox (Mammalian top carnivore)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes		
	RAD	Thorium-229	American kestrel (Avian intermediate carnivore)
	RAD	Thorium-229	American robin (Avian herbivore)
	RAD	Thorium-229	American robin (Avian omnivore)
	RAD	Thorium-229	Desert cottontail (Mammalian herbivore)
	RAD	Thorium-229	Generic plant (Terrestrial autotroph - producer)
	RAD	Thorium-230	American kestrel (Avian intermediate carnivore)
	RAD	Thorium-230	American kestrel (Avian top carnivore)
	RAD	Thorium-230	American robin (Avian herbivore)
	RAD	Thorium-230	American robin (Avian omnivore)
	RAD	Thorium-230	Deer mouse (Mammalian omnivore)
	RAD	Thorium-230	Desert cottontail (Mammalian herbivore)
	RAD	Thorium-230	Generic plant (Terrestrial autotroph - producer)
	RAD	Thorium-230	Red fox (Mammalian top carnivore)
	RAD	Thorium-232	American kestrel (Avian intermediate carnivore)
	RAD	Thorium-232	American kestrel (Avian top carnivore)
	RAD	Thorium-232	American robin (Avian herbivore)
	RAD	Thorium-232	American robin (Avian omnivore)
	RAD	Thorium-232	Deer mouse (Mammalian omnivore)
	RAD	Thorium-232	Desert cottontail (Mammalian herbivore)
	RAD	Thorium-232	Generic plant (Terrestrial autotroph - producer)
	RAD	Thorium-232	Red fox (Mammalian top carnivore)
	RAD	Tritium	American kestrel (Avian intermediate carnivore)
	RAD	Tritium	American kestrel (Avian top carnivore)
	RAD	Tritium	Desert cottontail (Mammalian herbivore)
	RAD	Tritium	Red fox (Mammalian top carnivore)
	RAD	Uranium-233	American kestrel (Avian intermediate carnivore)
	RAD	Uranium-233	American kestrel (Avian top carnivore)
	RAD	Uranium-233	American robin (Avian herbivore)
	RAD	Uranium-233	American robin (Avian insectivore)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes		
	RAD	Uranium-233	American robin (Avian omnivore)
	RAD	Uranium-233	Deer mouse (Mammalian omnivore)
	RAD	Uranium-233	Desert cottontail (Mammalian herbivore)
	RAD	Uranium-233	Earthworm (Soil-dwelling invertebrate)
	RAD	Uranium-233	Generic plant (Terrestrial autotroph - producer)
	RAD	Uranium-233	Montane shrew (Mammalian insectivore)
	RAD	Uranium-233	Red fox (Mammalian top carnivore)
	RAD	Uranium-234	American kestrel (Avian intermediate carnivore)
	RAD	Uranium-234	American kestrel (Avian top carnivore)
	RAD	Uranium-234	American robin (Avian herbivore)
	RAD	Uranium-234	American robin (Avian insectivore)
	RAD	Uranium-234	American robin (Avian omnivore)
	RAD	Uranium-234	Deer mouse (Mammalian omnivore)
	RAD	Uranium-234	Desert cottontail (Mammalian herbivore)
	RAD	Uranium-234	Earthworm (Soil-dwelling invertebrate)
	RAD	Uranium-234	Generic plant (Terrestrial autotroph - producer)
	RAD	Uranium-234	Montane shrew (Mammalian insectivore)
	RAD	Uranium-234	Red fox (Mammalian top carnivore)
	RAD	Uranium-235	American robin (Avian herbivore)
	RAD	Uranium-235	American robin (Avian insectivore)
	RAD	Uranium-235	American robin (Avian omnivore)
	RAD	Uranium-235	Deer mouse (Mammalian omnivore)
	RAD	Uranium-235	Desert cottontail (Mammalian herbivore)
	RAD	Uranium-235	Earthworm (Soil-dwelling invertebrate)
	RAD	Uranium-235	Generic plant (Terrestrial autotroph - producer)
	RAD	Uranium-235	Montane shrew (Mammalian insectivore)
	RAD	Uranium-235	Red fox (Mammalian top carnivore)
	RAD	Uranium-236	American kestrel (Avian intermediate carnivore)
	RAD	Uranium-236	American kestrel (Avian top carnivore)
	RAD	Uranium-236	American robin (Avian herbivore)
	RAD	Uranium-236	American robin (Avian insectivore)
	RAD	Uranium-236	American robin (Avian omnivore)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes

RAD	Uranium-236	Deer mouse (Mammalian omnivore)
RAD	Uranium-236	Desert cottontail (Mammalian herbivore)
RAD	Uranium-236	Earthworm (Soil-dwelling invertebrate)
RAD	Uranium-236	Generic plant (Terrestrial autotroph - producer)
RAD	Uranium-236	Montane shrew (Mammalian insectivore)
RAD	Uranium-236	Red fox (Mammalian top carnivore)
RAD	Uranium-238	American kestrel (Avian intermediate carnivore)
RAD	Uranium-238	American robin (Avian herbivore)
RAD	Uranium-238	American robin (Avian insectivore)
RAD	Uranium-238	American robin (Avian omnivore)
RAD	Uranium-238	Desert cottontail (Mammalian herbivore)
RAD	Uranium-238	Earthworm (Soil-dwelling invertebrate)
RAD	Uranium-238	Generic plant (Terrestrial autotroph - producer)
RAD	Uranium-238	Red fox (Mammalian top carnivore)

Minimum ESL Updates

Recent literature review for toxicity data, transfer factor data and receptor data for soil ESLs resulted in updated minimum ESLs for the following

Analyte Name
Amino-2,6-dinitrotoluene[4-]
Amino-4,6-dinitrotoluene[2-]
Dinitrotoluene[2,6-]
HMX
Nitroglycerine
RDX
Tetryl
Trinitrobenzene[1,3,5-]
Trinitrotoluene[2,4,6-]
Antimony
Fluoride
Thallium

Table 1. ESL Changes by Ecorisk Database Release

<table>
<tr><th>Ecorisk Database Release</th><th>ESL Changes</th></tr>
<tr><td></td><td>
Vanadium
Aroclor-1260
Dinitrotoluene[2,4-]
Americium-241
Cesium-134
Cesium-137 + Barium-137
Cobalt-60
Europium-152
Lead-210
Plutonium-238
Plutonium-239, 240
Plutonium-241
Radium-226
Radium-228
Sodium-22
Strontium-90 + Yittrium-90
Uranium-233
Uranium-234
Uranium-235
Uranium-236
Uranium-238

New NOAEL/NOEC-based TRVs
Recent literature review identified new soil TRVs based on EcoSSL based methodology from SERDP (REF ID 2006) and TTCP (REF ID 2010) for the following:
• Amino-2,6-dinitrotoluene[4-]/Plant
• Amino-2,6-dinitrotoluene[4-]/Invertebrate
• Amino-4,6-dinitrotoluene[2-]/Plant
• Amino-4,6-dinitrotoluene[2-]/Invertebrate
• Dinitrotoluene[2,4-]/Plant
• Dinitrotoluene[2,4-]/Invertebrate
• HMX/Invertebrate
• Nitroglycerine/Plant
• Nitroglycerine/Invertebrate
</td></tr>
</table>

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	• RDX/Plant Recent literature review identified new toxicological literature to develop LANL PTSE TRVs for the following*: • Antimony/Plant • Beryllium/Plant • Dinitrotoluene[2,6-]/Invertebrate • Dinitrotoluene[2,6-]/Plant • RDX/Invertebrate • Thallium/Plant • Trinitrobenzene[1,3,5-]/Invertebrate • Vanadium/Plant * LANL would like to acknowledge the support from Mark Rigby, PhD of Parsons for providing toxicological literature for high explosives and inorganics. **New NOAEL/NOEC-based TRV Updates** The use status of soil TRVs for Plant and Invertebrates were changed from YES to NO due to replacement by a more relevant TRV: • Amino-2,6-dinitrotoluene[4-]/Plant • Amino-4,6-dinitrotoluene[2-]/Plant • HMX/Invertebrate • Antimony/Invertebrate • Beryllium/Invertebrate • Vanadium/Invertebrate The soil TRVs for Plant and Invertebrates were deleted due to a correction of the data: • RDX/Invertebrate • Thallium/Plant **New TFs** • No new values. **TF Updates** Numerous TF_flesh, TF_beef, TF_blood, TF_invert and TF_plant were updated for inorganic, organic and radionuclide chemicals. • TF_flesh_dw **Analyte Name** Acenaphthene

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	Acenaphthylene
	Acetone
	Aldrin
	Aluminum
	Amino-2,6-dinitrotoluene[4-]
	Amino-4,6-dinitrotoluene[2-]
	Anthracene
	Antimony
	Aroclor-1016
	Aroclor-1242
	Aroclor-1248
	Aroclor-1254
	Aroclor-1260
	Arsenic
	Barium
	Benzene
	Benzo(a)anthracene
	Benzo(a)pyrene
	Benzo(b)fluoranthene
	Benzo(g,h,i)perylene
	Benzo(k)fluoranthene
	Benzoic Acid
	Benzyl Alcohol
	Beryllium
	BHC[alpha-]
	BHC[beta-]
	BHC[gamma-]
	Bis(2-ethylhexyl)phthalate
	Boron
	Butanone[2-]
	Butyl Benzyl Phthalate
	Cadmium
	Carbazole
	Carbon Disulfide
	Chlordane[alpha-]
	Chlordane[gamma-]
	Chloro-3-methylphenol[4-]
	Chloroaniline[4-]
	Chlorobenzene

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	Chloroform
	Chloromethane
	Chlorophenol[2-]
	Chromium (total)
	Chromium(+6)
	Chrysene
	Cobalt
	Copper
	Cyanide (total)
	DDD[4,4'-]
	DDE[4,4'-]
	DDT[4,4'-]
	Dibenzo(a,h)anthracene
	Dibenzofuran
	Dichlorobenzene[1,2-]
	Dichlorobenzene[1,3-]
	Dichlorobenzene[1,4-]
	Dichlorodifluoromethane
	Dichloroethane[1,1-]
	Dichloroethane[1,2-]
	Dichloroethene[1,1-]
	Dichloroethene[cis/trans-1,2-]
	Dieldrin
	Diethyl Phthalate
	Dimethyl Phthalate
	Di-n-Butyl Phthalate
	Dinitrobenzene[1,3-]
	Dinitrotoluene[2,4-]
	Dinitrotoluene[2,6-]
	Di-n-octylphthalate
	Diphenylamine
	Endosulfan
	Endrin
	Fluoranthene
	Fluorene
	Fluoride
	Heptachlor
	Hexachlorobenzene
	Hexanone[2-]

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	HMX
	Indeno(1,2,3-cd)pyrene
	Iodomethane
	Iron
	Kepone
	Lead
	Lithium
	Manganese
	Mercury (inorganic)
	Mercury (methyl)
	Methoxychlor[4,4'-]
	Methyl-2-pentanone[4-]
	Methylene Chloride
	Methylnaphthalene[2-]
	Methylphenol[2-]
	Methylphenol[3-]
	Molybdenum
	Naphthalene
	Nickel
	Nitroaniline[2-]
	Nitrobenzene
	Nitroglycerine
	Nitrotoluene[2-]
	Nitrotoluene[3-]
	Nitrotoluene[4-]
	Pentachloronitrobenzene
	Pentachlorophenol
	PETN
	Phenanthrene
	Phenol
	Pyrene
	RDX
	Selenium
	Silver
	Strontium (stable)
	Styrene
	Tetrachlorodibenzodioxin[2,3,7,8-]
	Tetrachloroethane[1,1,2,2-]

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	Tetrachloroethene Tetryl Thallium Titanium Toluene Toxaphene (Technical Grade) Trichlorobenzene[1,2,4-] Trichloroethane[1,1,1-] Trichloroethene Trichlorofluoromethane Trinitrobenzene[1,3,5-] Trinitrotoluene[2,4,6-] Uranium Vanadium Vinyl Chloride Xylene (Total) Zinc • TF_flesh _fw **Analyte Name** Americium-241 Cesium-134 Cesium-137 + Barium-137 Cobalt-60 Europium-152 Lead-210 Neptunium-237 Plutonium-238 Plutonium-239, 240 Plutonium-241 Radium-226 Radium-228 Sodium-22 Strontium-90 + Yittrium-90 Thorium-228 Thorium-229 Thorium-230 Thorium-232 Tritium Uranium-233

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	Uranium-234 Uranium-235 Uranium-236 Uranium-238 • **TF_beef_fw** **Analyte Name** Acenaphthene Acenaphthylene Acetone Aldrin Amino-2,6-dinitrotoluene[4-] Amino-4,6-dinitrotoluene[2-] Anthracene Aroclor-1016 Aroclor-1242 Aroclor-1248 Aroclor-1254 Aroclor-1260 Benzene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(g,h,i)perylene Benzo(k)fluoranthene Benzoic Acid Benzyl Alcohol BHC[alpha-] BHC[beta-] BHC[gamma-] Bis(2-ethylhexyl)phthalate Butanone[2-] Butyl Benzyl Phthalate Carbazole Carbon Disulfide Carbon Tetrachloride Chlordane[alpha-] Chlordane[gamma-] Chloro-3-methylphenol[4-] Chloroaniline[4-]

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	Chlorobenzene
	Chloroform
	Chloromethane
	Chlorophenol[2-]
	Chrysene
	DDD[4,4'-]
	DDE[4,4'-]
	DDT[4,4'-]
	Dibenzo(a,h)anthracene
	Dibenzofuran
	Dichlorobenzene[1,2-]
	Dichlorobenzene[1,3-]
	Dichlorobenzene[1,4-]
	Dichlorodifluoromethane
	Dichloroethane[1,1-]
	Dichloroethane[1,2-]
	Dichloroethene[1,1-]
	Dichloroethene[cis/trans-1,2-]
	Dieldrin
	Diethyl Phthalate
	Dimethyl Phthalate
	Di-n-Butyl Phthalate
	Dinitrobenzene[1,3-]
	Dinitrotoluene[2,4-]
	Dinitrotoluene[2,6-]
	Di-n-octylphthalate
	Diphenylamine
	Endosulfan
	Endrin
	Fluoranthene
	Fluorene
	Heptachlor
	Hexachlorobenzene
	Hexanone[2-]
	HMX
	Indeno(1,2,3-cd)pyrene
	Iodomethane
	Kepone
	Methoxychlor[4,4'-]

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes

Methyl-2-pentanone[4-]
Methylene Chloride
Methylnaphthalene[2-]
Methylphenol[2-]
Methylphenol[3-]
Naphthalene
Nitroaniline[2-]
Nitrobenzene
Nitroglycerine
Nitrotoluene[2-]
Nitrotoluene[3-]
Nitrotoluene[4-]
Pentachloronitrobenzene
Pentachlorophenol
PETN
Phenanthrene
Phenol
Pyrene
RDX
Styrene
Tetrachlorodibenzodioxin[2,3,7,8-]
Tetrachloroethane[1,1,2,2-]
Tetrachloroethene
Tetryl
Toluene
Toxaphene (Technical Grade)
Trichlorobenzene[1,2,4-]
Trichloroethane[1,1,1-]
Trichloroethene
Trichlorofluoromethane
Trinitrobenzene[1,3,5-]
Trinitrotoluene[2,4,6-]
Vinyl Chloride
Xylene (Total)

- **TF_blood**

Analyte Name
Americium-241
Cesium-134

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	Cesium-137 + Barium-137 Cobalt-60 Europium-152 Lead-210 Neptunium-237 Plutonium-238 Plutonium-239, 240 Plutonium-241 Radium-226 Radium-228 Sodium-22 Strontium-90 + Yittrium-90 Thorium-228 Thorium-229 Thorium-230 Thorium-232 Tritium Uranium-233 Uranium-234 Uranium-235 Uranium-236 Uranium-238 • **TF_invert_dw** **Analyte Name** Amino-2,6-dinitrotoluene[4-] Amino-4,6-dinitrotoluene[2-] Antimony Fluoride HMX RDX Thallium Trinitrotoluene[2,4,6-] • **TF_invert_fw** **Analyte Name** Americium-241 Cesium-134 Cesium-137 + Barium-137 Cobalt-60

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	Europium-152 Lead-210 Plutonium-238 Plutonium-239, 240 Plutonium-241 Radium-226 Radium-228 Strontium-90 + Yittrium-90 Uranium-233 Uranium-234 Uranium-235 Uranium-236 Uranium-238 • **TF_plant_dw** **Analyte Name** Amino-2,6-dinitrotoluene[4-] Amino-4,6-dinitrotoluene[2-] Dinitrotoluene[2,4-] Dinitrotoluene[2,6-] HMX RDX Tetryl Trinitrobenzene[1,3,5-] Trinitrotoluene[2,4,6-] • **TF_plant_fw** **Analyte Name** Americium-241 Cesium-134 Cesium-137 + Barium-137 Cobalt-60 Europium-152 Lead-210 Plutonium-238 Plutonium-239, 240 Plutonium-241 Radium-226 Radium-228 Sodium-22

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes

Strontium-90 + Yittrium-90
Thorium-228
Thorium-229
Thorium-230
Thorium-232
Uranium-233
Uranium-234
Uranium-235
Uranium-236
Uranium-238

Updated Receptor Parameters

ESL Parameter or Equation	ESL Receptor
I_flesh_dw	American kestrel (Avian intermediate carnivore)
I_soil_dw	American kestrel (Avian intermediate carnivore)
I_flesh_fw	American kestrel (Avian intermediate carnivore)
I_invert_fw	American kestrel (Avian intermediate carnivore)
I_invert_dw	American kestrel (Avian intermediate carnivore)
I_food_dw	American kestrel (Avian intermediate carnivore)
I_food_fw	American kestrel (Avian intermediate carnivore)
I_flesh_fw	American kestrel (Avian top carnivore)
I_food_dw	American kestrel (Avian top carnivore)
I_soil_dw	American kestrel (Avian top carnivore)
I_flesh_dw	American kestrel (Avian top carnivore)
I_food_fw	American kestrel (Avian top carnivore)
bw	Desert cottontail (Mammalian herbivore)
I_food_dw	Desert cottontail (Mammalian herbivore)
I_food_fw	Desert cottontail (Mammalian herbivore)
I_plant_dw	Desert cottontail (Mammalian herbivore)
I_plant_fw	Desert cottontail (Mammalian herbivore)
I_soil_dw	Desert cottontail (Mammalian herbivore)

Interface Updates

- Updated the interface Contact Information, Home, Main Menu screens to reflect release information. Specifically, on the Menu Screen the Supplemental Report links were revised to include the TRV Development Methods Revision 1 report released February 2014. The

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	revised TRV Methodology document describes methods used to select toxicological data for aquatic community organisms in sediment and water and incorporates supplementary technical documents that support the development of TRVs.

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
October 2015 – Release 3.3	In release 3.3 of the ECORISK database, TRVs were updated/added for some high explosive chemicals for sediment aquatic community organisms and avian insectivores. Transfer Factors were updated/added for several high explosives and inorganics. **New NOAEL/NOEC-based ESLs** Recent literature review for toxicity data, transfer factor data and receptor data for sediment ESLs resulted in new ESLs for the following: **Analyte Name** — **ESL Receptor** Trinitrotoluene [2,4,6-] — Aquatic community (sediment) HMX — Aquatic community (sediment) RDX — Aquatic community (sediment) Trinitrobenzene [1,3,5-] — Aquatic community (sediment) Dinitrotoluene [2,6-] — Violet-green Swallow (avian aerial insectivore) **NOAEL/NOEC-based ESL Updates** Recent literature review for transfer factor data for sediment ESLs resulted in updated ESLs for the following: **Analyte Name** — **ESL Receptor** Trinitrotoluene [2,4,6-] — Occult little brown bat (mammalian aerial insectivore Trinitrotoluene [2,4,6-] — Violet-green Swallow (avian aerial insectivore) HMX — Occult little brown bat (mammalian aerial insectivore RDX — Violet-green Swallow (avian aerial insectivore) Amino-4,6-dinitrotoluene [2-] — Occult little brown bat (mammalian aerial insectivore Amino-2,6-dinitrotoluene [4-] — Occult little brown bat (mammalian aerial insectivore Antimony — Occult little brown bat (mammalian aerial insectivore Fluoride — Occult little brown bat (mammalian aerial insectivore Fluoride — Violet-green Swallow (avian aerial insectivore) Thallium — Occult little brown bat (mammalian aerial insectivore Thallium — Violet-green Swallow (avian aerial insectivore)

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	Minimum ESL Updates Recent literature review for toxicity data, transfer factor data and receptor data for sediment ESLs resulted in updated minimum ESLs for the following: **Analyte Name** Trinitrotoluene [2,4,6-] HMX RDX Trinitrobenzene [1,3,5-] Amino-4,6-dinitrotoluene [2-] Amino-2,6-dinitrotoluene [4-] Antimony Fluoride Thallium **New NOAEL/NOEC-based TRVs** Recent literature review identified new toxicological literature to develop LANL PTSE TRVs for the following: **Analyte** — **Receptor Category** Trinitrotoluene [2,4,6-] — Aquatic community - sediment HMX — Aquatic community - sediment RDX — Aquatic community - sediment Trinitrobenzene [1,3,5-] — Aquatic community - sediment Dinitrotoluene [2,6] — Birds – sediment aerial insectivore In addition to the above, new literature was reviewed to assess its relevance for updating soil TRVs for Aroclors. After the PTSE Part 2 review it was determined that the data was inadequate for inclusion in TRV derivation. However, the PTV study detail text for Aroclor 1260, Aroclor 1254, and Aroclor 1248 was updated to note which studies were reviewed and the reason the data were not included. **TF Updates** TF_invert_dw values were updated for sediment receptors for the following inorganic and HE compounds: **Analyte Name** Trinitrotoluene [2,4,6-] HMX RDX

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	Trinitrobenzene [1,3,5-] Amino-4,6-dinitrotoluene [2-] Amino-2,6-dinitrotoluene [4-] Antimony Fluoride Thallium **Interface Updates** Updated the interface Contact Information, Home, Main Menu screens to reflect release information. The Supplemental Report links on all screens were revised to include the TRV Development Methods Revision 1 report released February 2014. **Other Corrections** Edits were made to the reference list to correct duplicate reference numbers in R3.2. In that version, two different references were assigned Reference #2010. In R3.3, RTI (2005) is retained as Reference #2010, while Kuperman & Sunahara (2010) is assigned as new Reference #2022. All links to Kuperman & Sunahara have been updated to refer to Reference #2022.

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
October 2016 – Release 4.0	In Release 4.0 of the ECORISK database, the ESL part of the database was not updated. A new section was added to the ECORISK database for Ecological Preliminary Remediation Goals (EcoPRGs) for soil. The complete list of analytes, receptors and the EcoPRGs for each as well as final EcoPRGs are provided in Table 7.
September 2017 – Release 4.1	In release 4.1 of the ECORISK database, the following additions and updates were made. **Task 1.15b - New NOAEL/NOEC- and LOAEL/LOEC-TRVs and ESLs** Recent literature review identified new toxicological literature to develop LANL PTSE TRVs for the following terrestrial receptor categories for the perchlorate ion: **Analyte** — **Receptor Category** **Perchlorate ion** — **Invertebrate**, **Plant**, **Bird**, **Mammal** See Table 8a. Task 1.15b - New NOAEL/NOEC- and LOAEL/LOEC-TRVs and ESLs (September 2017) In addition to the above, new literature was reviewed to assess its relevance for updating soil TRVs for PAHs/ Bird, TPH/ Plants and TPH/ Invertebrates. However, after the PTSE Part 1 review, it was determined that the data were inadequate for inclusion in TRV derivation. **Task 1.15b – New Perchlorate TFs for ESLs** Recent literature review identified new toxicological literature to develop LANL PTSE TRVs for the perchlorate ion for mammal, bird receptors, so perchlorate ion TFs were identfied to allow the calculation of the ESLs for these receptors. See Table 8b. Task 1.15b – New Perchlorate TFs for ESLs (September 2017) **Task 1.6 – Updates to LOAEL/LOEC Tier 1 TRV Notes and Values for EcoPRGs (September 2017)** LOAEL/ LOEC-based TRV notes were refined and values were updated for LANL Tier 1 TRVs based on EPA EcoSSL geometric mean NOAEL/ NOEC-based TRVs that EPA did not select for use for their EcoESLs, but for which data were available to calculate a geometric mean of LOAEL/LOECs. Prior to this update, the geometric mean NOAEL/NOEC-based TRVs were used as the LOAEL/LOEC-based TRV for

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	EcoPRG derivation. See Table 9. Task 1.6 – Updates to LOAEL/LOEC Tier 1 TRV Notes and Values for EcoPRGs (September 2017). **Task 1.7 Updates – Updates to LOAEL/LOEC-based Tier 2 TRVs Notes for ESLs (September 2017)** LOAEL/ LOEC-based TRV notes were updated to enhance data documentation for metals, PCBs, dioxin/furans, phthalates, and HE Tier 2 (geometric mean) TRVs (LANL-reviewed studies). See Table 10a. Task 1.7 Updates – Updates to LOAEL/LOEC-based Tier 2 TRVs Notes for ESLs (September 2017). **Task 1.7 Updates - Updates to LOAEL/LOEC-based Tier 3 TRVs Notes for ESLs (September 2017)** LOAEL/ LOEC-based TRV notes were updated to enhance data documentation for metals, PCBs, dioxin/furans, phthalates, and HE Tier 3 (critical study) TRVs (LANL-reviewed studies). See Table 10b. Task 1.7 Updates - Updates to LOAEL/LOEC-based Tier 3 TRVs Notes for ESLs (September 2017). **Task 1.8 Updates – Updates to LOAEL/LOEC-based Tier 1 TRV Notes for ESLs and Values for select ESLs and EcoPRGs (September 2017)** LOAEL/ LOEC-based TRV notes were refined and values were updated for LANL Tier 1 TRVs based on EPA EcoSSL geometric mean NOAEL/ NOEC-based TRVs that EPA did select for use for their EcoESLs. The LOAEL/LOEC-based TRVs were updated to include only bounded LOAEL/LOECs in the geometric mean calculation. Prior to this update, the LOAEL/LOEC-based TRVs included both bound and unboun LOAELs/LOECs in the geometric mean calculation. See Table 11. Task 1.8 Updates – Updates to LOAEL/LOEC-based Tier 1 TRV Notes for ESLs and Values for select ESLs and EcoPRGs (September 2017). **Task 2.2 – ESL Receptor Parameter Updates (September 2017)** As a result of revisions made to receptor parameters in the LANL SLERA and EcoPRG Methodologies to make them more site-specific/ relevant to LANL site conditions, the database was updated to reflect these changes. Changes were made to body weight, fraction of soil intake, food intake and water intake rates for the

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	following bird and mammal receptors including the American kestrel, American robin, desert cottontail surrogate for mountain cottontail, montane shrew, red fox surrogate for the gray fox, violet green swallow and occult little brown myotis bat. See Table 12a. Task 2.2 – ESL Receptor Parameter Updates (September 2017). **Task 2.2 – ESL TF_flesh_dw Updates (September 2017)** As a result of revisions made to receptor parameters in the LANL SLERA and EcoPRG Methodologies to make them more site-specific/ relevant to LANL site conditions, the database was updated to reflect these changes. As a result of changes were made to body weight, fraction of soil intake, food intake and water intake rates for the following bird and mammal receptors including the American kestrel, American robin, desert cottontail surrogate for mountain cottontail, montane shrew, red fox surrogate for the gray fox, violet green swallow and occult little brown myotis bat; the TF_flesh_fw composite parameters for intake rate and fraction of soil parameters were updated resulting in updated TF. See Table 12b. ESL TF_flesh_dw Updates (September 2017) **Task 2.2 – EcoPRG Receptor Parameter Updates (September 2017)** As a result of revisions made to receptor parameters in the LANL SLERA and EcoPRG Methodologies to make them more site-specific/ relevant to LANL site conditions, the database was updated to reflect these changes. Changes were made to body weight, fraction of soil intake, and food intake for the following bird and mammal receptors including the American kestrel, American robin, desert cottontail surrogate for mountain cottontail, montane shrew, and red fox surrogate for the gray fox. See Table 13. Task 2.2 – EcoPRG Receptor Parameter Updates (September 2017) **ESL Updates – Non-Radionulcide (September 2017)** Updates to soil and sediment non-radionuclide ESLs as a result of updates to NOAEL/NOEC-based ESLs, TFs, and or ESL receptor parameters. See Table 14. ESL Updates – Non-Radionulcide (September 2017) **ESL Updates – Radionuclide (September 2017)** Updates to soil and sediment radionuclide ESLs as a result of updates to TFs and or ESL receptor parameters.

Table 1. ESL Changes by Ecorisk Database Release

Ecorisk Database Release	ESL Changes
	See Table 15. ESL Updates – Radionuclide (September 2017) **Final (Minimum) ESL Updates (September 2017)** Updates to both non-radionucliude and radionuclide soil and sediment FINAL (Minimum) ESLs as a result of updates to ESLs. See Table 16. Final (Minimum) ESL Updates (September 2017) **Interface Updates** None. **Other Corrections** The names for the following receptors were updated to reflect more site-specific ESL receptors. Desert cottontail changed to mountain cottontail. The red fox changed to gray fox.
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Table 2. Beta Release (October 1998) List of Soil ESLs for Bird Receptors

Analyte Class	Analyte Group	Analyte Name	Analyte Code	ESL Medium	Receptor Group
NONRAD	D/F	Tetrachlorodibenzodioxin[2,3,7,8-]	1746-01-6	SOIL	Bird
NONRAD	INORG	Aluminum	AL	SOIL	Bird
NONRAD	INORG	Arsenic	AS	SOIL	Bird
NONRAD	INORG	Barium	BA	SOIL	Bird
NONRAD	INORG	Cadmium	CD	SOIL	Bird
NONRAD	INORG	Chromium (total)	CR	SOIL	Bird
NONRAD	INORG	Chromium(+6)	CR(+6)	SOIL	Bird
NONRAD	INORG	Cobalt	CO	SOIL	Bird
NONRAD	INORG	Copper	CU	SOIL	Bird
NONRAD	INORG	Cyanide (total)	CN(-1)	SOIL	Bird
NONRAD	INORG	Lead	PB	SOIL	Bird
NONRAD	INORG	Manganese	MN	SOIL	Bird
NONRAD	INORG	Mercury (inorganic)	HGI	SOIL	Bird
NONRAD	INORG	Mercury (methyl)	HGM	SOIL	Bird
NONRAD	INORG	Nickel	NI	SOIL	Bird
NONRAD	INORG	Selenium	SE	SOIL	Bird
NONRAD	INORG	Silver	AG	SOIL	Bird
NONRAD	INORG	Uranium	U	SOIL	Bird
NONRAD	INORG	Vanadium	V	SOIL	Bird
NONRAD	INORG	Zinc	ZN	SOIL	Bird
NONRAD	PAH	Naphthalene	91-20-3	SOIL	Bird
NONRAD	PCB	Aroclor-1242	53469-21-9	SOIL	Bird
NONRAD	PCB	Aroclor-1248	12672-29-6	SOIL	Bird
NONRAD	PCB	Aroclor-1254	11097-69-1	SOIL	Bird
NONRAD	PCB	Aroclor-1260	11096-82-5	SOIL	Bird
NONRAD	PEST	BHC[beta-]	319-85-7	SOIL	Bird
NONRAD	PEST	BHC[gamma-]	58-89-9	SOIL	Bird
NONRAD	PEST	Chlordane[alpha-]	5103-71-9	SOIL	Bird
NONRAD	PEST	Chlordane[gamma-]	5103-74-2	SOIL	Bird
NONRAD	PEST	DDE[4,4'-]	72-55-9	SOIL	Bird
NONRAD	PEST	DDT[4,4'-]	50-29-3	SOIL	Bird
NONRAD	PEST	Dieldrin	60-57-1	SOIL	Bird
NONRAD	PEST	Endosulfan	115-29-7	SOIL	Bird
NONRAD	PEST	Endrin	72-20-8	SOIL	Bird
NONRAD	PEST	Heptachlor	76-44-8	SOIL	Bird
NONRAD	PEST	Kepone	143-50-0	SOIL	Bird
NONRAD	PEST	Methoxychlor[4,4'-]	72-43-5	SOIL	Bird
NONRAD	PEST	Toxaphene (Technical Grade)	8001-35-2	SOIL	Bird
NONRAD	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	SOIL	Bird

Table 2. Beta Release (October 1998) List of Soil ESLs for Bird Receptors

Analyte Class	Analyte Group	Analyte Name	Analyte Code	ESL Medium	Receptor Group
NONRAD	SVOC	Chloro-3-methylphenol[4-]	59-50-7	SOIL	Bird
NONRAD	SVOC	Chlorophenol[2-]	95-57-8	SOIL	Bird
NONRAD	SVOC	Di-n-Butyl Phthalate	84-74-2	SOIL	Bird
NONRAD	SVOC	Pentachloronitrobenzene	82-68-8	SOIL	Bird
NONRAD	SVOC	Pentachlorophenol	87-86-5	SOIL	Bird
NONRAD	VOC	Acetone	67-64-1	SOIL	Bird
NONRAD	VOC	Xylene (Total)	1330-20-7	SOIL	Bird
RAD	RAD	Americium-241	AM-241	SOIL	Bird
RAD	RAD	Cesium-134	CS-134	SOIL	Bird
RAD	RAD	Cesium-137 + Barium-137	CS-137/ BA-137	SOIL	Bird
RAD	RAD	Cobalt-60	CO-60	SOIL	Bird
RAD	RAD	Europium-152	EU-152	SOIL	Bird
RAD	RAD	Plutonium-238	PU-238	SOIL	Bird
RAD	RAD	Plutonium-239, 240	PU-239/240	SOIL	Bird
RAD	RAD	Plutonium-241	PU-241	SOIL	Bird
RAD	RAD	Radium-226	RA-226	SOIL	Bird
RAD	RAD	Sodium-22	NA-22	SOIL	Bird
RAD	RAD	Strontium-90 + Yittrium-90	SR-90/ Y-90	SOIL	Bird
RAD	RAD	Thorium-228	TH-228	SOIL	Bird
RAD	RAD	Thorium-230	TH-230	SOIL	Bird
RAD	RAD	Thorium-232	TH-232	SOIL	Bird
RAD	RAD	Tritium	H-3	SOIL	Bird
RAD	RAD	Uranium-234	U-234	SOIL	Bird
RAD	RAD	Uranium-235	U-235	SOIL	Bird
RAD	RAD	Uranium-238	U-238	SOIL	Bird

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Table 3. Beta Release (October 1998) List of Soil ESLs for Mammalian Receptors

Analyte Class	Analyte Group	Analyte Name	Analyte Code	ESL Medium	Receptor Group
NONRAD	D/F	Tetrachlorodibenzodioxin[2,3,7,8-]	1746-01-6	SOIL	Mammal
NONRAD	HE	Amino-2,6-dinitrotoluene[4-]	19406-51-0	SOIL	Mammal
NONRAD	HE	Amino-4,6-dinitrotoluene[2-]	35572-78-2	SOIL	Mammal
NONRAD	HE	Dinitrobenzene[1,3-]	99-65-0	SOIL	Mammal
NONRAD	HE	Dinitrotoluene[2,4-]	121-14-2	SOIL	Mammal
NONRAD	HE	Dinitrotoluene[2,6-]	606-20-2	SOIL	Mammal
NONRAD	HE	HMX	2691-41-0	SOIL	Mammal
NONRAD	HE	Nitroglycerine	55-63-0	SOIL	Mammal
NONRAD	HE	Nitrotoluene[2-]	88-72-2	SOIL	Mammal
NONRAD	HE	Nitrotoluene[3-]	99-08-1	SOIL	Mammal

Table 3. Beta Release (October 1998) List of Soil ESLs for Mammalian Receptors

Analyte Class	Analyte Group	Analyte Name	Analyte Code	ESL Medium	Receptor Group
NONRAD	HE	Nitrotoluene[4-]	99-99-0	SOIL	Mammal
NONRAD	HE	PETN	78-11-5	SOIL	Mammal
NONRAD	HE	RDX	121-82-4	SOIL	Mammal
NONRAD	HE	Tetryl	479-45-8	SOIL	Mammal
NONRAD	HE	Trinitrobenzene[1,3,5-]	99-35-4	SOIL	Mammal
NONRAD	HE	Trinitrotoluene[2,4,6-]	118-96-7	SOIL	Mammal
NONRAD	INORG	Aluminum	AL	SOIL	Mammal
NONRAD	INORG	Antimony	SB	SOIL	Mammal
NONRAD	INORG	Arsenic	AS	SOIL	Mammal
NONRAD	INORG	Barium	BA	SOIL	Mammal
NONRAD	INORG	Beryllium	BE	SOIL	Mammal
NONRAD	INORG	Cadmium	CD	SOIL	Mammal
NONRAD	INORG	Chromium (total)	CR	SOIL	Mammal
NONRAD	INORG	Chromium(+6)	CR(+6)	SOIL	Mammal
NONRAD	INORG	Cobalt	CO	SOIL	Mammal
NONRAD	INORG	Copper	CU	SOIL	Mammal
NONRAD	INORG	Cyanide (total)	CN(-1)	SOIL	Mammal
NONRAD	INORG	Lead	PB	SOIL	Mammal
NONRAD	INORG	Manganese	MN	SOIL	Mammal
NONRAD	INORG	Mercury (inorganic)	HGI	SOIL	Mammal
NONRAD	INORG	Mercury (methyl)	HGM	SOIL	Mammal
NONRAD	INORG	Nickel	NI	SOIL	Mammal
NONRAD	INORG	Selenium	SE	SOIL	Mammal
NONRAD	INORG	Silver	AG	SOIL	Mammal
NONRAD	INORG	Thallium	TL	SOIL	Mammal
NONRAD	INORG	Titanium	TI	SOIL	Mammal
NONRAD	INORG	Uranium	U	SOIL	Mammal
NONRAD	INORG	Vanadium	V	SOIL	Mammal
NONRAD	INORG	Zinc	ZN	SOIL	Mammal
NONRAD	PAH	Acenaphthene	83-32-9	SOIL	Mammal
NONRAD	PAH	Acenaphthylene	208-96-8	SOIL	Mammal
NONRAD	PAH	Anthracene	120-12-7	SOIL	Mammal
NONRAD	PAH	Benzo(a)anthracene	56-55-3	SOIL	Mammal
NONRAD	PAH	Benzo(a)pyrene	50-32-8	SOIL	Mammal
NONRAD	PAH	Benzo(b)fluoranthene	205-99-2	SOIL	Mammal
NONRAD	PAH	Benzo(g,h,i)perylene	191-24-2	SOIL	Mammal
NONRAD	PAH	Benzo(k)fluoranthene	207-08-9	SOIL	Mammal
NONRAD	PAH	Chrysene	218-01-9	SOIL	Mammal
NONRAD	PAH	Dibenzo(a,h)anthracene	53-70-3	SOIL	Mammal
NONRAD	PAH	Fluoranthene	206-44-0	SOIL	Mammal

Table 3. Beta Release (October 1998) List of Soil ESLs for Mammalian Receptors

Analyte Class	Analyte Group	Analyte Name	Analyte Code	ESL Medium	Receptor Group
NONRAD	PAH	Fluorene	86-73-7	SOIL	Mammal
NONRAD	PAH	Indeno(1,2,3-cd)pyrene	193-39-5	SOIL	Mammal
NONRAD	PAH	Methylnaphthalene[2-]	91-57-6	SOIL	Mammal
NONRAD	PAH	Naphthalene	91-20-3	SOIL	Mammal
NONRAD	PAH	Phenanthrene	85-01-8	SOIL	Mammal
NONRAD	PAH	Pyrene	129-00-0	SOIL	Mammal
NONRAD	PCB	Aroclor-1016	12674-11-2	SOIL	Mammal
NONRAD	PCB	Aroclor-1242	53469-21-9	SOIL	Mammal
NONRAD	PCB	Aroclor-1248	12672-29-6	SOIL	Mammal
NONRAD	PCB	Aroclor-1254	11097-69-1	SOIL	Mammal
NONRAD	PCB	Aroclor-1260	11096-82-5	SOIL	Mammal
NONRAD	PEST	BHC[beta-]	319-85-7	SOIL	Mammal
NONRAD	PEST	BHC[gamma-]	58-89-9	SOIL	Mammal
NONRAD	PEST	Chlordane[alpha-]	5103-71-9	SOIL	Mammal
NONRAD	PEST	Chlordane[gamma-]	5103-74-2	SOIL	Mammal
NONRAD	PEST	DDE[4,4'-]	72-55-9	SOIL	Mammal
NONRAD	PEST	DDT[4,4'-]	50-29-3	SOIL	Mammal
NONRAD	PEST	Dieldrin	60-57-1	SOIL	Mammal
NONRAD	PEST	Endosulfan	115-29-7	SOIL	Mammal
NONRAD	PEST	Endrin	72-20-8	SOIL	Mammal
NONRAD	PEST	Heptachlor	76-44-8	SOIL	Mammal
NONRAD	PEST	Kepone	143-50-0	SOIL	Mammal
NONRAD	PEST	Methoxychlor[4,4'-]	72-43-5	SOIL	Mammal
NONRAD	PEST	Toxaphene (Technical Grade)	8001-35-2	SOIL	Mammal
NONRAD	SVOC	Benzoic Acid	65-85-0	SOIL	Mammal
NONRAD	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	SOIL	Mammal
NONRAD	SVOC	Butyl Benzyl Phthalate	85-68-7	SOIL	Mammal
NONRAD	SVOC	Chloro-3-methylphenol[4-]	59-50-7	SOIL	Mammal
NONRAD	SVOC	Chlorobenzene	108-90-7	SOIL	Mammal
NONRAD	SVOC	Chlorophenol[2-]	95-57-8	SOIL	Mammal
NONRAD	SVOC	Dimethyl Phthalate	131-11-3	SOIL	Mammal
NONRAD	SVOC	Di-n-Butyl Phthalate	84-74-2	SOIL	Mammal
NONRAD	SVOC	Di-n-octylphthalate	117-84-0	SOIL	Mammal
NONRAD	SVOC	Nitrobenzene	98-95-3	SOIL	Mammal
NONRAD	SVOC	Pentachloronitrobenzene	82-68-8	SOIL	Mammal
NONRAD	SVOC	Pentachlorophenol	87-86-5	SOIL	Mammal
NONRAD	SVOC	Phenol	108-95-2	SOIL	Mammal
NONRAD	VOC	Acetone	67-64-1	SOIL	Mammal
NONRAD	VOC	Benzene	71-43-2	SOIL	Mammal
NONRAD	VOC	Butanone[2-]	78-93-3	SOIL	Mammal

Table 3. Beta Release (October 1998) List of Soil ESLs for Mammalian Receptors

Analyte Class	Analyte Group	Analyte Name	Analyte Code	ESL Medium	Receptor Group
NONRAD	VOC	Chloroform	67-66-3	SOIL	Mammal
NONRAD	VOC	Dichloroethane[1,1-]	75-34-3	SOIL	Mammal
NONRAD	VOC	Dichloroethene[1,1-]	75-35-4	SOIL	Mammal
NONRAD	VOC	Dichloroethene[cis/trans-1,2-]	540-59-0	SOIL	Mammal
NONRAD	VOC	Methylene Chloride	75-09-2	SOIL	Mammal
NONRAD	VOC	Tetrachloroethane[1,1,2,2-]	79-34-5	SOIL	Mammal
NONRAD	VOC	Tetrachloroethene	127-18-4	SOIL	Mammal
NONRAD	VOC	Toluene	108-88-3	SOIL	Mammal
NONRAD	VOC	Trichlorobenzene[1,2,4-]	120-82-1	SOIL	Mammal
NONRAD	VOC	Trichloroethane[1,1,1-]	71-55-6	SOIL	Mammal
NONRAD	VOC	Trichloroethene	79-01-6	SOIL	Mammal
NONRAD	VOC	Xylene (Total)	1330-20-7	SOIL	Mammal
RAD	RAD	Americium-241	AM-241	SOIL	Mammal
RAD	RAD	Cesium-134	CS-134	SOIL	Mammal
RAD	RAD	Cesium-137 + Barium-137	CS-137/ BA-137	SOIL	Mammal
RAD	RAD	Cobalt-60	CO-60	SOIL	Mammal
RAD	RAD	Europium-152	EU-152	SOIL	Mammal
RAD	RAD	Plutonium-238	PU-238	SOIL	Mammal
RAD	RAD	Plutonium-239, 240	PU-239/240	SOIL	Mammal
RAD	RAD	Plutonium-241	PU-241	SOIL	Mammal
RAD	RAD	Radium-226	RA-226	SOIL	Mammal
RAD	RAD	Sodium-22	NA-22	SOIL	Mammal
RAD	RAD	Strontium-90 + Yittrium-90	SR-90/ Y-90	SOIL	Mammal
RAD	RAD	Thorium-228	TH-228	SOIL	Mammal
RAD	RAD	Thorium-230	TH-230	SOIL	Mammal
RAD	RAD	Thorium-232	TH-232	SOIL	Mammal
RAD	RAD	Tritium	H-3	SOIL	Mammal
RAD	RAD	Uranium-234	U-234	SOIL	Mammal
RAD	RAD	Uranium-235	U-235	SOIL	Mammal
RAD	RAD	Uranium-238	U-238	SOIL	Mammal

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Table 4. Beta Release (October 1998) List of Soil ESLs for Earthworm Receptor

Analyte Class	Analyte Class	Analyte Class	Analyte Class	Analyte Class	Analyte Class
NONRAD	D/F	Tetrachlorodibenzodioxin[2,3,7,8-]	1746-01-6	SOIL	Invertebrate
NONRAD	INORG	Arsenic	AS	SOIL	Invertebrate
NONRAD	INORG	Cadmium	CD	SOIL	Invertebrate
NONRAD	INORG	Chromium(+6)	CR(+6)	SOIL	Invertebrate
NONRAD	INORG	Copper	CU	SOIL	Invertebrate

Table 4. Beta Release (October 1998) List of Soil ESLs for Earthworm Receptor

Analyte Class	Analyte Class	Analyte Class	Analyte Class	Analyte Class	Analyte Class
NONRAD	INORG	Lead	PB	SOIL	Invertebrate
NONRAD	INORG	Mercury (inorganic)	HGI	SOIL	Invertebrate
NONRAD	INORG	Mercury (methyl)	HGM	SOIL	Invertebrate
NONRAD	INORG	Nickel	NI	SOIL	Invertebrate
NONRAD	INORG	Selenium	SE	SOIL	Invertebrate
NONRAD	INORG	Zinc	ZN	SOIL	Invertebrate
NONRAD	PAH	Fluorene	86-73-7	SOIL	Invertebrate
NONRAD	SVOC	Chlorobenzene	108-90-7	SOIL	Invertebrate
NONRAD	SVOC	Dimethyl Phthalate	131-11-3	SOIL	Invertebrate
NONRAD	SVOC	Nitrobenzene	98-95-3	SOIL	Invertebrate
NONRAD	SVOC	Pentachlorophenol	87-86-5	SOIL	Invertebrate
NONRAD	SVOC	Phenol	108-95-2	SOIL	Invertebrate
NONRAD	VOC	Dichlorobenzene[1,4-]	106-46-7	SOIL	Invertebrate
NONRAD	VOC	Trichlorobenzene[1,2,4-]	120-82-1	SOIL	Invertebrate
RAD	RAD	Americium-241	AM-241	SOIL	Invertebrate
RAD	RAD	Cesium-134	CS-134	SOIL	Invertebrate
RAD	RAD	Cesium-137 + Barium-137	CS-137/ BA-137	SOIL	Invertebrate
RAD	RAD	Cobalt-60	CO-60	SOIL	Invertebrate
RAD	RAD	Europium-152	EU-152	SOIL	Invertebrate
RAD	RAD	Plutonium-238	PU-238	SOIL	Invertebrate
RAD	RAD	Plutonium-239, 240	PU-239/240	SOIL	Invertebrate
RAD	RAD	Plutonium-241	PU-241	SOIL	Invertebrate
RAD	RAD	Radium-226	RA-226	SOIL	Invertebrate
RAD	RAD	Sodium-22	NA-22	SOIL	Invertebrate
RAD	RAD	Strontium-90 + Yittrium-90	SR-90/ Y-90	SOIL	Invertebrate
RAD	RAD	Thorium-228	TH-228	SOIL	Invertebrate
RAD	RAD	Thorium-230	TH-230	SOIL	Invertebrate
RAD	RAD	Thorium-232	TH-232	SOIL	Invertebrate
RAD	RAD	Tritium	H-3	SOIL	Invertebrate
RAD	RAD	Uranium-234	U-234	SOIL	Invertebrate
RAD	RAD	Uranium-235	U-235	SOIL	Invertebrate
RAD	RAD	Uranium-238	U-238	SOIL	Invertebrate

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Table 5. Beta Release (October 1998) List of Soil ESLs for Generic Plant Receptor

Analyte Class	Analyte Class	Analyte Class	Analyte Class	Analyte Class	Analyte Class
NONRAD	HE	Amino-4,6-dinitrotoluene[2-]	35572-78-2	SOIL	Plant
NONRAD	HE	RDX	121-82-4	SOIL	Plant
NONRAD	HE	Tetryl	479-45-8	SOIL	Plant

Table 5. Beta Release (October 1998) List of Soil ESLs for Generic Plant Receptor

Analyte Class	Analyte Class	Analyte Class	Analyte Class	Analyte Class	Analyte Class
NONRAD	HE	Trinitrotoluene[2,4,6-]	118-96-7	SOIL	Plant
NONRAD	INORG	Aluminum	AL	SOIL	Plant
NONRAD	INORG	Antimony	SB	SOIL	Plant
NONRAD	INORG	Arsenic	AS	SOIL	Plant
NONRAD	INORG	Barium	BA	SOIL	Plant
NONRAD	INORG	Beryllium	BE	SOIL	Plant
NONRAD	INORG	Cadmium	CD	SOIL	Plant
NONRAD	INORG	Chromium (total)	CR	SOIL	Plant
NONRAD	INORG	Chromium(+6)	CR(+6)	SOIL	Plant
NONRAD	INORG	Cobalt	CO	SOIL	Plant
NONRAD	INORG	Copper	CU	SOIL	Plant
NONRAD	INORG	Lead	PB	SOIL	Plant
NONRAD	INORG	Manganese	MN	SOIL	Plant
NONRAD	INORG	Mercury (inorganic)	HGI	SOIL	Plant
NONRAD	INORG	Nickel	NI	SOIL	Plant
NONRAD	INORG	Selenium	SE	SOIL	Plant
NONRAD	INORG	Silver	AG	SOIL	Plant
NONRAD	INORG	Thallium	TL	SOIL	Plant
NONRAD	INORG	Uranium	U	SOIL	Plant
NONRAD	INORG	Vanadium	V	SOIL	Plant
NONRAD	INORG	Zinc	ZN	SOIL	Plant
NONRAD	PAH	Acenaphthene	83-32-9	SOIL	Plant
NONRAD	PAH	Benzo(a)anthracene	56-55-3	SOIL	Plant
NONRAD	PAH	Benzo(b)fluoranthene	205-99-2	SOIL	Plant
NONRAD	PCB	Aroclor-1254	11097-69-1	SOIL	Plant
NONRAD	PEST	BHC[gamma-]	58-89-9	SOIL	Plant
NONRAD	PEST	Chlordane[alpha-]	5103-71-9	SOIL	Plant
NONRAD	PEST	Chlordane[gamma-]	5103-74-2	SOIL	Plant
NONRAD	PEST	Dieldrin	60-57-1	SOIL	Plant
NONRAD	PEST	Endrin	72-20-8	SOIL	Plant
NONRAD	PEST	Heptachlor	76-44-8	SOIL	Plant
NONRAD	SVOC	Dibenzofuran	132-64-9	SOIL	Plant
NONRAD	SVOC	Di-n-Butyl Phthalate	84-74-2	SOIL	Plant
NONRAD	SVOC	Pentachlorophenol	87-86-5	SOIL	Plant
NONRAD	SVOC	Phenol	108-95-2	SOIL	Plant
NONRAD	VOC	Methylene Chloride	75-09-2	SOIL	Plant
NONRAD	VOC	Toluene	108-88-3	SOIL	Plant
NONRAD	VOC	Xylene (Total)	1330-20-7	SOIL	Plant
RAD	RAD	Americium-241	AM-241	SOIL	Plant
RAD	RAD	Cesium-134	CS-134	SOIL	Plant

Table 5. Beta Release (October 1998) List of Soil ESLs for Generic Plant Receptor					
Analyte Class	**Analyte Class**	**Analyte Class**	**Analyte Class**	**Analyte Class**	**Analyte Class**
RAD	RAD	Cesium-137 + Barium-137	CS-137/ BA-137	SOIL	Plant
RAD	RAD	Cobalt-60	CO-60	SOIL	Plant
RAD	RAD	Europium-152	EU-152	SOIL	Plant
RAD	RAD	Plutonium-238	PU-238	SOIL	Plant
RAD	RAD	Plutonium-239, 240	PU-239/240	SOIL	Plant
RAD	RAD	Plutonium-241	PU-241	SOIL	Plant
RAD	RAD	Radium-226	RA-226	SOIL	Plant
RAD	RAD	Sodium-22	NA-22	SOIL	Plant
RAD	RAD	Strontium-90 + Yittrium-90	SR-90/ Y-90	SOIL	Plant
RAD	RAD	Thorium-228	TH-228	SOIL	Plant
RAD	RAD	Thorium-230	TH-230	SOIL	Plant
RAD	RAD	Thorium-232	TH-232	SOIL	Plant
RAD	RAD	Tritium	H-3	SOIL	Plant
RAD	RAD	Uranium-234	U-234	SOIL	Plant
RAD	RAD	Uranium-235	U-235	SOIL	Plant
RAD	RAD	Uranium-238	U-238	SOIL	Plant

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Table 6. Beta Release (October 1998) List of Sediment and Water ESLs for Aquatic Community Organism Receptors					
Analyte Class	**Analyte Class**	**Analyte Class**	**Analyte Class**	**Analyte Class**	**Analyte Class**
RAD	RAD	Americium-241	AM-241	WATER and SEDIMENT	Aquatic
RAD	RAD	Cesium-137 + Barium-137	CS-137/ BA-137	WATER and SEDIMENT	Aquatic
RAD	RAD	Plutonium-238	PU-238	WATER and SEDIMENT	Aquatic
RAD	RAD	Plutonium-239, 240	PU-239/240	WATER and SEDIMENT	Aquatic
RAD	RAD	Plutonium-241	PU-241	WATER and SEDIMENT	Aquatic
RAD	RAD	Radium-226	RA-226	WATER and SEDIMENT	Aquatic
RAD	RAD	Strontium-90 + Yittrium-90	SR-90/ Y-90	WATER and SEDIMENT	Aquatic
RAD	RAD	Thorium-232	TH-232	WATER and SEDIMENT	Aquatic
RAD	RAD	Tritium	H-3	WATER and SEDIMENT	Aquatic
RAD	RAD	Uranium-234	U-234	WATER and	Aquatic

Table 6. Beta Release (October 1998) List of Sediment and Water ESLs for Aquatic Community Organism Receptors

Analyte Class	Analyte Class	Analyte Class	Analyte Class	Analyte Class	Analyte Class
				SEDIMENT	
RAD	RAD	Uranium-235	U-235	WATER and SEDIMENT	Aquatic
RAD	RAD	Uranium-238	U-238	WATER and SEDIMENT	Aquatic

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Table 7. Ecological Preliminary Remediation Goals (EcoPRGs) for soil. Added to Ecorisk Database R4.0 (October 2016).

Group	COPC	Analyte Code	Red Fox	MXSO	A. Kestrel (flesh/invert diet)	A. Robin (plant diet)	A. Robin (invert/plant diet)	A. Robin (invert diet)	Desert Cottontail
D/F	Tetrachlorodibenzodioxin[2,3,7,8-]	1746-01-6	15						0.0068
HE	Amino-2,6-dinitrotoluene[4-]	19406-51-0	1700000000						70000
HE	Amino-4,6-dinitrotoluene[2-]	35572-78-2	2500000000						21000
HE	Dinitrotoluene[2,4-]	121-14-2	550000000						15000
HE	Dinitrotoluene[2,6-]	606-20-2	350000000	42000000	200000000	18000	28000	59000	1300
HE	HMX	2691-41-0	4300000000						21000
HE	PETN	78-11-5	1.2E+10						24000
HE	RDX	121-82-4	600000000	1700000	670000	150	170	200	2300
HE	Tetryl	479-45-8	120000000						170
HE	Trinitrobenzene[1,3,5-]	99-35-4	2800000000						30000
HE	Trinitrotoluene[2,4,6-]	118-96-7	3300000000	7200000	72000000	480	1000	13000	10000
INORG	Antimony	SB	280000000						13000
INORG	Arsenic	AS	53000000	1700000	32000000	14000	9800	8100	8100
INORG	Barium	BA	1.1E+10	57000000	400000000	51000	63000	82000	690000
INORG	Beryllium	BE	110000000						36000
INORG	Boron	B	5900000000	2200000	5600000	350	600	1600	16000
INORG	Cadmium	CD	140000000	950000	410000	1500	200	120	2100
INORG	Chromium(+6)	CR(+6)	1900000000	8400000	440000000	98000	86000	82000	680000
INORG	Chromium (total)	CR	510000000	2000000	53000000	23000	15000	12000	170000
INORG	Cobalt	CO	1500000000	5500000	180000000	61000	47000	41000	380000

Group	COPC	Analyte Code	Red Fox	MXSO	A. Kestrel (flesh/invert diet)	A. Robin (plant diet)	A. Robin (invert/plant diet)	A. Robin (invert diet)	Desert Cottontail
INORG	Copper	CU	480000000	2700000	10000000	6000	3800	3000	26000
INORG	Cyanide (total)	CN(-1)	790000000	1100	100000	36	39	44	150000
INORG	Lead	PB	880000000	8400000	16000000	4900	4200	4000	67000
INORG	Manganese	MN	1.1E+10	130000000	7100000000	500000	740000	1300000	430000
INORG	Mercury (inorganic)	HGI	97000000	57000	210000	38	47	63	4800
INORG	Mercury (methyl)	HGM	15000	15	450	26	0.26	0.15	230
INORG	Nickel	NI	150000000	4600000	33000000	57000	14000	9300	47000
INORG	Selenium	SE	7500000	160000	230000	75	69	68	140
INORG	Silver	AG	1100000000	1300000	3900000	4000	1600	1100	33000
INORG	Thallium	TL	1400000	250000	14000000	3200	2800	2700	590
INORG	Uranium	U	320000000	60000000	4300000000	690000	670000	700000	100000
INORG	Vanadium	V	180000000	260000	5800000	1000	1000	1000	65000
INORG	Zinc	ZN	2100000000	4900000	66000000	120000	32000	20000	380000
PAH	Acenaphthene	83-32-9	7000000000						100000
PAH	Acenaphthylene	208-96-8	6800000000						100000
PAH	Anthracene	120-12-7	9300000000						240000
PAH	Benzo(a)anthracene	56-55-3	32000000	69000	1900000	280	340	460	1300
PAH	Benzo(a)pyrene	50-32-8	300000000						18000
PAH	Benzo(b)fluoranthene	205-99-2	660000000						28000
PAH	Benzo(g,h,i)perylene	191-24-2	910000000						110000
PAH	Benzo(k)fluoranthene	207-08-9	1100000000						74000
PAH	Chrysene	218-01-9	31000000						1300
PAH	Dibenzo(a,h)anthracene	53-70-3	230000000						20000
PAH	Fluoranthene	206-44-0	920000000						55000

Group	COPC	Analyte Code	Red Fox	MXSO	A. Kestrel (flesh/invert diet)	A. Robin (plant diet)	A. Robin (invert/plant diet)	A. Robin (invert diet)	Desert Cottontail
PAH	Fluorene	86-73-7	2400000000						47000
PAH	Indeno(1,2,3-cd)pyrene	193-39-5	1200000000						120000
PAH	Methylnaphthalene [2-]	91-57-6	1100000000						22000
PAH	Naphthalene	91-20-3	390000000	45000000	24000000	1300	2300	7500	760
PAH	Phenanthrene	85-01-8	470000000						12000
PAH	Pyrene	129-00-0	780000000	6300000	49000000	24000	17000	14000	23000
PCB	Aroclor-1016	12674-11-2	15000000						2900
PCB	Aroclor-1242	53469-21-9	9000000	11000	58000	360	30	17	2500
PCB	Aroclor-1248	12672-29-6	430000	340000	170000	1100	88	52	120
PCB	Aroclor-1254	11097-69-1	1600000	200000	83000	680	43	25	6000
PCB	Aroclor-1260	11096-82-5	3800000	810000	170000	2300	93	54	150000
SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	100000000	16000	28000	7100	15	8.7	570000
SVOC	Butyl benzyl phthalate	85-68-7	5100000000						490000
SVOC	Di-n-Butyl Phthalate	84-74-2	3100000000	3500	15000	130	8.2	4.8	800000
SVOC	Di-n-octylphthalate	117-84-0	280000000						2700000
SVOC	Diethyl phthalate	84-66-2	6.2E+11						1700000
SVOC	Dimethyl Phthalate	131-11-3	1.2E+10						11000

Group	COPC	Analyte Code	Montane Shrew	Deer Mouse	Earthworm	Generic Plant	Background value	Soil Final EcoPRG (mg/kg)	Soil Final EcoPRG Receptor
D/F	Tetrachlorodibenzodioxin[2,3,7,8-]	1746-01-6	3.1E-05	0.00007	10			**0.000031**	**Montane Shrew**

Group	COPC	Analyte Code	Montane Shrew	Deer Mouse	Earthworm	Generic Plant	Background value	Soil Final EcoPRG (mg/kg)	Soil Final EcoPRG Receptor
HE	Amino-2,6-dinitrotoluene[4-]	19406-51-0	2000	4200	180	330		**180**	**Earthworm**
HE	Amino-4,6-dinitrotoluene[2-]	35572-78-2	2500	4300	430	140		**140**	**Generic Plant**
HE	Dinitrotoluene[2,4-]	121-14-2	2100	3700	180	60		**60**	**Generic Plant**
HE	Dinitrotoluene[2,6-]	606-20-2	1100	740	44			**44**	**Earthworm**
HE	HMX	2691-41-0	38000	14000	160	3500		**160**	**Earthworm**
HE	PETN	78-11-5	140000	18000				**18000**	**Deer Mouse**
HE	RDX	121-82-4	840	940	15	360		**15**	**Earthworm**
HE	Tetryl	479-45-8	2700	130				**130**	**Deer Mouse**
HE	Trinitrobenzene[1,3,5-]	99-35-4	65000	21000	28			**28**	**Earthworm**
HE	Trinitrotoluene[2,4,6-]	118-96-7	80000	8000	58	120		**58**	**Earthworm**
INORG	Antimony	SB	9700	9700	780	58	0.83	**58**	**Generic Plant**
INORG	Arsenic	AS	580	1300	68	91	8.17	**68**	**Earthworm**
INORG	Barium	BA	210000	330000	3200	1400	295	**1400**	**Generic Plant**
INORG	Beryllium	BE	2800	10000	400	25	1.83	**25**	**Generic Plant**
INORG	Boron	B	20000	10000		86	4.1	**86**	**Generic Plant**
INORG	Cadmium	CD	43	92	760	160	0.4	**43**	**Montane Shrew**
INORG	Chromium(+6)	CR(+6)	45000	150000	4.7	4.7		**4.7**	**Earthworm**
INORG	Chromium (total)	CR	7300	20000			19.3	**7300**	**Montane Shrew**
INORG	Cobalt	CO	26000	73000		130	8.64	**130**	**Generic Plant**

Group	COPC	Analyte Code	Montane Shrew	Deer Mouse	Earthworm	Generic Plant	Background value	Soil Final EcoPRG (mg/kg)	Soil Final EcoPRG Receptor
INORG	Copper	CU	2700	5100	530	490	14.7	**490**	**Generic Plant**
INORG	Cyanide (total)	CN(-1)	50000	61000			0.82	**36**	**A. Robin (plant diet)**
INORG	Lead	PB	10000	19000	8400	570	22.3	**570**	**Generic Plant**
INORG	Manganese	MN	250000	260000	4500	1500	671	**1500**	**Generic Plant**
INORG	Mercury (inorganic)	HGI	1900	2100	390	64	0.1	**38**	**A. Robin (plant diet)**
INORG	Mercury (methyl)	HGM	0.25	0.56	12			**0.15**	**A. Robin (invert diet)**
INORG	Nickel	NI	700	1600	1300	270	15.4	**270**	**Generic Plant**
INORG	Selenium	SE	32	45	41	15	1.52	**15**	**Generic Plant**
INORG	Silver	AG	2200	4400		2800	1	**1100**	**A. Robin (invert diet)**
INORG	Thallium	TL	36	130		3.2	0.73	**3.2**	**Generic Plant**
INORG	Uranium	U	8800	33000		250	1.82	**250**	**Generic Plant**
INORG	Vanadium	V	4600	17000		80	39.6	**80**	**Generic Plant**
INORG	Zinc	ZN	15000	32000	930	810	48.8	**810**	**Generic Plant**
PAH	Acenaphthene	83-32-9	20000	30000		2.5		**2.5**	**Generic Plant**
PAH	Acenaphthylene	208-96-8	19000	29000				**19000**	**Montane Shrew**
PAH	Anthracene	120-12-7	34000	55000		8.9		**8.9**	**Generic Plant**

Group	COPC	Analyte Code	Montane Shrew	Deer Mouse	Earthworm	Generic Plant	Background value	Soil Final EcoPRG (mg/kg)	Soil Final EcoPRG Receptor
PAH	Benzo(a)anthracene	56-55-3	480	620		180		**180**	**Generic Plant**
PAH	Benzo(a)pyrene	50-32-8	2700	4800				**2700**	**Montane Shrew**
PAH	Benzo(b)fluoranthene	205-99-2	6100	9400		180		**180**	**Generic Plant**
PAH	Benzo(g,h,i)perylene	191-24-2	3900	8500				**3900**	**Montane Shrew**
PAH	Benzo(k)fluoranthene	207-08-9	10000	18000				**10000**	**Montane Shrew**
PAH	Chrysene	218-01-9	400	560				**400**	**Montane Shrew**
PAH	Dibenzo(a,h)anthracene	53-70-3	2000	4000				**2000**	**Montane Shrew**
PAH	Fluoranthene	206-44-0	3500	6900	23			**23**	**Earthworm**
PAH	Fluorene	86-73-7	8000	12000	19			**19**	**Earthworm**
PAH	Indeno(1,2,3-cd)pyrene	193-39-5	10000	20000				**10000**	**Montane Shrew**
PAH	Methylnaphthalene[2-]	91-57-6	2600	4400				**2600**	**Montane Shrew**
PAH	Naphthalene	91-20-3	1200	490		10		**10**	**Generic Plant**
PAH	Phenanthrene	85-01-8	1700	2800	12			**12**	**Earthworm**
PAH	Pyrene	129-00-0	3500	5700	20			**20**	**Earthworm**
PCB	Aroclor-1016	12674-11-2	50	100				**50**	**Montane Shrew**
PCB	Aroclor-1242	53469-21-9	24	54				**17**	**A. Robin (invert diet)**
PCB	Aroclor-1248	12672-29-6	1.1	2.5				**1.1**	**Montane Shrew**
PCB	Aroclor-1254	11097-69-1	39	88		620		**25**	**A. Robin (invert**

Group	COPC	Analyte Code	Montane Shrew	Deer Mouse	Earthworm	Generic Plant	Background value	Soil Final EcoPRG (mg/kg)	Soil Final EcoPRG Receptor
									diet)
PCB	Aroclor-1260	11096-82-5	390	880				**54**	**A. Robin (invert diet)**
SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	96	210				**8.7**	**A. Robin (invert diet)**
SVOC	Butyl benzyl phthalate	85-68-7	14000	30000				**14000**	**Montane Shrew**
SVOC	Di-n-Butyl Phthalate	84-74-2	7200	15000		600		**4.8**	**A. Robin (invert diet)**
SVOC	Di-n-octylphthalate	117-84-0	140	330				**140**	**Montane Shrew**
SVOC	Diethyl phthalate	84-66-2	580000	660000		1000		**1000**	**Generic Plant**
SVOC	Dimethyl Phthalate	131-11-3	12000	6900	100			**100**	**Earthworm**

Table 8a. Task 1.15b – New Perchlorate N- and L-TRVs and ESLs (September 2017)

	New N-TRV	New L-TRV	New N-ESL	New L-ESL
earthworm	3.5	35	3.5	35
birds	13	26.1		
American robin (invertebrate diet)			31	64
American robin (invertebrate/ plant diet)			0.24	0.49
American robin (plant diet)			0.12	0.24
American kestrel (flesh/ invertebrate diet)			3.9	8
American kestrel (flesh diet)			2	4
mammals	6.4	32		
Mountain cottontail			0.26	1.3
Deer mouse			0.21	1
Montane shrew			31	150

	New N-TRV	New L-TRV	New N-ESL	New L-ESL
Gray fox			3.3	16
plant	40	80	40	80

Table 8b. Task 1.15b – New Perchlorate TFs for ESLs (September 2017)

Receptor	Type	ESL Media	TF Value	Db REF ID	Units	Notes	Equation
American kestrel (Avian top carnivore)American kestrel (Avian top carnivore)	TF_beef_fw	SOIL	1	1	mg-COPC/kg-fresh beef per mg-COPC/d or d/kg-fresh beef	Default	None.
American kestrel (Avian top carnivore)	TF_flesh_dw	SOIL	43	1092	mg-COPC/kg-dry flesh per mg-COPC/kg-dry soil	The flesh to soil transfer factor (TF-flesh) is calculated as 43.0 based on the LANL SLERA document as revised December 2016 (REF ID 2042).	TF_flesh_dw =TF_beef_fw * [I_foodcomposite_fw * MAX(TF_plant_dw * {1 - MC_plant}, TF_invert_dw * {1 - MC_invert}) + I_soilcomposite_dw]/ (1-MC_flesh)
American kestrel (Avian top carnivore)	TF_invert_dw	SOIL	1	1	mg-COPC/kg-dry invertebrate per mg-COPC/kg-dry soil	Default	None.
American kestrel (Avian top carnivore)	TF_plant_dw	SOIL	300	2041	mg-COPC/kg-dry plant matter per mg-COPC/kg-dry soil	Based on field study with a continuous source of perchlorate in loamy sand exposing plants throughout the growing season.	None.
American kestrel (insectivore / carnivore)	TF_beef_fw	SOIL	1	1	mg-COPC/kg-fresh beef per mg-COPC/d or d/kg-fresh beef	Default	None.
American kestrel (insectivore /	TF_flesh_dw	SOIL	43	1092	mg-COPC/kg-dry flesh per	The flesh to soil transfer factor (TF-flesh) is	TF_flesh_dw =TF_beef_fw *

Receptor	Type	ESL Media	TF Value	Db REF ID	Units	Notes	Equation
carnivore)					mg-COPC/kg-dry soil	calculated as 43.0 based on the LANL SLERA document as revised December 2016 (REF ID 2042).	[I_foodcomposite_fw * MAX(TF_plant_dw * {1 - MC_plant}, TF_invert_dw * {1 - MC_invert}) + I_soilcomposite_dw]/ (1-MC_flesh)
American kestrel (insectivore / carnivore)	TF_invert_dw	SOIL	1	1	mg-COPC/kg-dry invertebrate per mg-COPC/kg-dry soil	Default	None.
American kestrel (insectivore / carnivore)	TF_plant_dw	SOIL	300	2041	mg-COPC/kg-dry plant matter per mg-COPC/kg-dry soil	Based on field study with a continuous source of perchlorate in loamy sand exposing plants throughout the growing season.	None.
American robin (Avian insectivore)	TF_invert_dw	SOIL	1	1	mg-COPC/kg-dry invertebrate per mg-COPC/kg-dry soil	Default	None.
American robin (Avian omnivore)	TF_invert_dw	SOIL	1	1	mg-COPC/kg-dry invertebrate per mg-COPC/kg-dry soil	Default	None.
American robin (Avian omnivore)	TF_plant_dw	SOIL	300	2041	mg-COPC/kg-dry plant matter per mg-COPC/kg-dry soil	Based on field study with a continuous source of perchlorate in loamy sand exposing plants throughout the growing season.	None.
American robin (Avian herbivore)American robin (Avian	TF_plant_dw	SOIL	300	2041	mg-COPC/kg-dry plant matter per mg-COPC/kg-dry	Based on field study with a continuous source of perchlorate in loamy sand exposing plants	None.

Receptor	Type	ESL Media	TF Value	Db REF ID	Units	Notes	Equation
herbivore)					soil	throughout the growing season.	
Mountain cottontail (Mammalian herbivore)	TF_plant_dw	SOIL	300	2041	mg-COPC/kg-dry plant matter per mg-COPC/kg-dry soil	Based on field study with a continuous source of perchlorate in loamy sand exposing plants throughout the growing season.	None.
Deer mouse (Mammalian omnivore)Deer mouse (Mammalian omnivore)	TF_invert_dw	SOIL	1	1	mg-COPC/kg-dry invertebrate per mg-COPC/kg-dry soil	Default	None.
Deer mouse (Mammalian omnivore)Deer mouse (Mammalian omnivore)	TF_plant_dw	SOIL	300	2041	mg-COPC/kg-dry plant matter per mg-COPC/kg-dry soil	Based on field study with a continuous source of perchlorate in loamy sand exposing plants throughout the growing season.	None.
Montane shrew (Mammalian insectivore)	TF_invert_dw	SOIL	1	1	mg-COPC/kg-dry invertebrate per mg-COPC/kg-dry soil	Default	None.
Gray fox (Mammalian top carnivore)	TF_beef_fw	SOIL	1	1	mg-COPC/kg-fresh beef per mg-COPC/d or d/kg-fresh beef	Default	None.
Gray fox (Mammalian top carnivore)	TF_flesh_dw	SOIL	43	1092	mg-COPC/kg-dry flesh per mg-COPC/kg-dry soil	The flesh to soil transfer factor (TF-flesh) is calculated as 43.0 based on the LANL SLERA document as revised December 2016 (REF ID 2042).	TF_flesh_dw =TF_beef_fw * [I_foodcomposite_fw * MAX(TF_plant_dw * {1 - MC_plant}, TF_invert_dw * {1 - MC_invert}) + I_soilcomposite_dw]/ (1-MC_flesh)

Receptor	Type	ESL Media	TF Value	Db REF ID	Units	Notes	Equation
Gray fox (Mammalian top carnivore)	TF_invert_dw	SOIL	1	1	mg-COPC/kg-dry invertebrate per mg-COPC/kg-dry soil	Default	None.
Gray fox (Mammalian top carnivore)	TF_plant_dw	SOIL	300	2041	mg-COPC/kg-dry plant matter per mg-COPC/kg-dry soil	Based on field study with a continuous source of perchlorate in loamy sand exposing plants throughout the growing season.	None.

Table 9. Task 1.6 – Updates to LOAEL/LOEC Tier 1 TRV Notes and Values for EcoPRGs (September 2017)

Chemical	Receptor	Previous Value	Previous Note for EcoPRG TRV table	New Value	New Note
Antimony	Mammal	13.3 mg/kg/d	EPA calculated the GMM NOAEL but it was not used for the Eco-SSL (or ESL). The reason is that the GMM is larger than the lowest bounded LOAEL. However, to be more representative of potential adverse effects, the GMM of multiple studies is preferred over more conservative critical study NOAELs or LOAELs. It is likely that antimony TRVs have such a wide range and some relatively low values because more bioavailable and more toxic soluble salts are evaluated. See OSWER Directive 9285.7-61, page 5	55.7 mg/kg/d	The USEPA does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 6.1 of REF ID 1386.
Antimony	Mammal/ carnivore		EPA calculated the GMM NOAEL but it was not used for the Eco-SSL (or ESL). The reason is that the GMM is larger than the lowest bounded LOAEL. However, to be more representative of potential adverse effects, the GMM of multiple studies is preferred over more conservative critical study NOAELs or LOAELs. It is likely that		Same as Mammal.

Chemical	Receptor	Previous Value	Previous Note for EcoPRG TRV table	New Value	New Note
			antimony TRVs have such a wide range and some relatively low values because more bioavailable and more toxic soluble salts are evaluated. See OSWER Directive 9285.7-61, page 5		
Arsenic	Mammal	2.47 mg/kg/d	EPA calculated the GMM NOAEL but it was not used for the Eco-SSL (or ESL). The reason is that the GMM is larger than the lowest bounded LOAEL. However, to be more representative of potential adverse effects, the GMM of multiple studies is preferred over more conservative critical study NOAELs or LOAELs. It is likely that arsenic TRVs have such a wide range and some relatively low values because more bioavailable and more toxic soluble salts are evaluated. See OSWER Directive 9285.7-62, page 13	9.7 mg/kg/d	The USEPA does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 6.1 of REF ID 1542.
Arsenic	Mammal/ carnivore	2.47 mg/kg/d	EPA calculated the GMM NOAEL but it was not used for the Eco-SSL (or ESL). The reason is that the GMM is larger than the lowest bounded LOAEL. However, to be more representative of potential adverse effects, the GMM of multiple studies is preferred over more conservative critical study NOAELs or LOAELs. It is likely that arsenic TRVs have such a wide range and some relatively low values because more bioavailable and more toxic soluble salts are evaluated. See OSWER Directive 9285.7-62, page 13	9.7 mg/kg/d	The USEPA does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 6.1 of REF ID 1542.

Chemical	Receptor	Previous Value	Previous Note for EcoPRG TRV table	New Value	New Note
Barium	Plant	1414 mg/kg	The study summarized in the EcoPRG documentation is used as the basis for the EcoPRG. In the hierarchy of potential studies the EcoPRG is the highest tier. In this case EPA did not identify enough studies for the geometric mean, but the single study identified is used as the basis for the EcoPRG. Specifically, EPA calculated the MATC (Maximum acceptable toxicant concentration) that is the geometric mean of NOAEC and LOAEC. See OSWER Directive 9285.7- 63, Table 3.1	No change.	No change.
Copper	Bird	18.5 mg/kg/d	EPA calculated the GMM NOAEL but it was not used for the Eco-SSL (or ESL). The reason is that the GMM is larger than the lowest bounded LOAEL. However, to be more representative of potential adverse effects, the GMM of multiple studies is preferred over more conservative critical study NOAELs or LOAELs. It is likely that copper TRVs have such a wide range and some relatively low values because more bioavailable and more toxic soluble salts are evaluated. See OSWER Directive 9285.7-68, page 9.	36.8 mg/kg/d	The USEPA does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 5.1 of REF ID 1621.
Copper	Mammal	25 mg/kg/d	EPA calculated the GMM NOAEL but it was not used for the Eco-SSL (or ESL). The reason is that the GMM is larger than the lowest bounded LOAEL. However, to be more representative of potential adverse effects, the GMM of multiple studies is preferred over more conservative critical study NOAELs or LOAELs. It is likely that copper TRVs have such a wide range and some relatively low values because more	155.5 mg/kg/d	The USEPA does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 6.1 of REF ID 1621.

Chemical	Receptor	Previous Value	Previous Note for EcoPRG TRV table	New Value	New Note
			bioavailable and more toxic soluble salts are evaluated. See OSWER Directive 9285.7-68, page 25		
Copper	Mammal/ carnivore	25 mg/kg/d	EPA calculated the GMM NOAEL but it was not used for the Eco-SSL (or ESL). The reason is that the GMM is larger than the lowest bounded LOAEL. However, to be more representative of potential adverse effects, the GMM of multiple studies is preferred over more conservative critical study NOAELs or LOAELs. It is likely that copper TRVs have such a wide range and some relatively low values because more bioavailable and more toxic soluble salts are evaluated. See OSWER Directive 9285.7-68, page 25	155.5 mg/kg/d	The USEPA does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 6.1 of REF ID 1621.
Lead	Bird	10.9 mg/kg/d	EPA calculated the GMM NOAEL but it was not used for the Eco-SSL (or ESL). The reason is that the GMM is larger than the lowest bounded LOAEL. However, to be more representative of potential adverse effects, the GMM of multiple studies is preferred over more conservative critical study NOAELs or LOAELs. It is likely that lead TRVs have such a wide range and some relatively low values because more bioavailable and more toxic soluble salts are evaluated. See OSWER Directive 9285.7-70, page 9.	53.8 mg/kg/d	The USEPA does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 5.1 of REF ID 1392.

Chemical	Receptor	Previous Value	Previous Note for EcoPRG TRV table	New Value	New Note
Lead	Bird/ Mexican-spotted Owl	10.9 mg/kg/d	EPA calculated the GMM NOAEL but it was not used for the Eco-SSL (or ESL). The reason is that the GMM is larger than the lowest bounded LOAEL. However, to be more representative of potential adverse effects, the GMM of multiple studies is preferred over more conservative critical study NOAELs or LOAELs. It is likely that lead TRVs have such a wide range and some relatively low values because more bioavailable and more toxic soluble salts are evaluated. See OSWER Directive 9285.7-70, page 9	No change	The EPA geometric mean of NOAELs is selected for the EcoPRG TRV rather than calculating a geometric mean of LOAELs because the Mexican-spotted owl is a Threatened and Endangered species and requires protection at the individual rather than population level. The geometric mean provides adequate protection for this receptor and is not overly protective as a critical study NOAEL would be.
Lead	Mammal	40.7 mg/kg/d	EPA calculated the GMM NOAEL but it was not used for the Eco-SSL (or ESL). The reason is that the GMM is larger than the lowest bounded LOAEL. However, to be more representative of potential adverse effects, the GMM of multiple studies is preferred over more conservative critical study NOAELs or LOAELs. It is likely that lead TRVs have such a wide range and some relatively low values because more bioavailable and more toxic soluble salts are evaluated. See OSWER Directive 9285.7-70, page 11	137.8 mg/kg/d	The USEPA does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 6.1 of REF ID 1392.
Lead	Mammal/ carnivore	40.7 mg/kg/d	EPA calculated the GMM NOAEL but it was not used for the Eco-SSL (or ESL). The reason is that the GMM is larger than the lowest bounded LOAEL. However, to be more representative of potential adverse effects, the GMM of multiple studies is preferred over more conservative critical study NOAELs or LOAELs. It is likely that lead TRVs have such a wide range and some relatively low values because more	137.8 mg/kg/d	The USEPA does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 6.1 of REF ID 1392.

Chemical	Receptor	Previous Value	Previous Note for EcoPRG TRV table	New Value	New Note
			bioavailable and more toxic soluble salts are evaluated. See OSWER Directive 9285.7-70, page 11		
Nickel	Mammal	7.7 mg/kg/d	EPA calculated the GMM NOAEL but it was not used for the Eco-SSL (or ESL). The reason is that the GMM is larger than the lowest bounded LOAEL. However, to be more representative of potential adverse effects, the GMM of multiple studies is preferred over more conservative critical study NOAELs or LOAELs. It is likely that nickel TRVs have such a wide range and some relatively low values because more bioavailable and more toxic soluble salts are evaluated. See OSWER Directive 9285.7-76, page 14	37.8 mg/kg/d	The USEPA does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 6.1 of REF ID 1617.
Nickel	Mammal/ carnivore	7.7 mg/kg/d	EPA calculated the GMM NOAEL but it was not used for the Eco-SSL (or ESL). The reason is that the GMM is larger than the lowest bounded LOAEL. However, to be more representative of potential adverse effects, the GMM of multiple studies is preferred over more conservative critical study NOAELs or LOAELs. It is likely that nickel TRVs have such a wide range and some relatively low values because more bioavailable and more toxic soluble salts are evaluated. See OSWER Directive 9285.7-76, page 14	37.8 mg/kg/d	The USEPA does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 6.1 of REF ID 1617.

Chemical	Receptor	Previous Value	Previous Note for EcoPRG TRV table	New Value	New Note
Selenium	Bird	0.606 mg/kg/d	EPA calculated the GMM NOAEL but it was not used for the Eco-SSL (or ESL). The reason is that the GMM is larger than the lowest bounded LOAEL. However, to be more representative of potential adverse effects, the GMM of multiple studies is preferred over more conservative critical study NOAELs or LOAELs. It is likely that selenium TRVs have such a wide range and some relatively low values because more bioavailable and more toxic soluble salts are evaluated. See OSWER Directive 9285.7-72, page 8.	2.07 mg/kg/d	The USEPA does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 5.1 of REF ID 1618.
Selenium	Mammal	0.437 mg/kg/d	EPA calculated the GMM NOAEL but it was not used for the Eco-SSL (or ESL). The reason is that the GMM is larger than the lowest bounded LOAEL. However, to be more representative of potential adverse effects, the GMM of multiple studies is preferred over more conservative critical study NOAELs or LOAELs. It is likely that selenium TRVs have such a wide range and some relatively low values because more bioavailable and more toxic soluble salts are evaluated. See OSWER Directive 9285.7-72, page 23	0.996 mg/kg/d	The USEPA does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 6.1 of REF ID 1618.
Selenium	Mammal/ carnivore	0.437 mg/kg/d	EPA calculated the GMM NOAEL but it was not used for the Eco-SSL (or ESL). The reason is that the GMM is larger than the lowest bounded LOAEL. However, to be more representative of potential adverse effects, the GMM of multiple studies is preferred over more conservative critical study NOAELs or LOAELs. It is likely that selenium TRVs have such a wide range and some relatively low values because more	0.996 mg/kg/d	The USEPA does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 6.1 of REF ID 1618.

Chemical	Receptor	Previous Value	Previous Note for EcoPRG TRV table	New Value	New Note
			bioavailable and more toxic soluble salts are evaluated. See OSWER Directive 9285.7-72, page 23		
Vanadium	Bird	1.19 mg/kg/d	EPA calculated the GMM NOAEL but it was not used for the Eco-SSL (or ESL). The reason is that the GMM is larger than the lowest bounded LOAEL. However, to be more representative of potential adverse effects, the GMM of multiple studies is preferred over more conservative critical study NOAELs or LOAELs. It is likely that copper vanadium TRVs have such a wide range and some relatively low values because more bioavailable and more toxic soluble salts are evaluated. See OSWER Directive 9285.7-75, page 5.	3.19 mg/kg/d	The USEPA does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 5.1 of REF ID 1569.

Table 10a. Task 1.7 Updates – Updates to LOAEL/LOEC-based Tier 2 TRVs Notes for ESLs (September 2017)

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
Antimony	Plant	The LOEC-based GMM TRV is equal to the geometric mean of the L-ELs in the data set.	LOEC is equal to a geometric mean LOEC calculated from the same data set as the geometric mean NOEC. The data set consisted of 3 values representing reproduction and development endpoints.

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
Aroclor-1016	Mammal	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL.	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL. The data set consisted of 9 values representing reproduction, survival, and adult body weight change endpoints.
Aroclor-1242	Mammal	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL.	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL. The data set consisted of 9 values representing reproduction, survival, and adult body weight change endpoints.
Aroclor-1254	Mammal	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL.	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL. The data set consisted of 22 values representing reproduction, development, survival, and adult body weight change endpoints.
Aroclor-1254	Plant	LOEC is equal to a geometric mean LOEC calculated from the same data set as the geometric mean NOEC.	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL. The data set consisted of 8 values representing development and weight and size change of mature plant endpoints.

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
Aroclor-1260	Bird	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL.	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL. The data set consisted of 5 values representing survival endpoint.
Aroclor-1260	Mammal	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL.	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL. The data set consisted of 5 values representing reproduction, survival, and adult body weight change endpoints.
Barium	Bird	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL.	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL. The data set consisted of 5 values representing development, weight or size change, and survival endpoints.
Barium	Plant	LOEC is equal to a geometric mean LOEC calculated from the same data set as the geometric mean NOEC.	LOEC is equal to a geometric mean LOEC calculated from the same data set as the geometric mean NOEC. The data set consisted of 5 values representing development, weight or size change, and survival endpoints.
Beryllium	Soybean	LOEC is taken directly from the literature. NOEC is extrapolated from the	LOEC is equal to a geometric mean LOEC calculated from the same data set as the geometric mean NOEC. The

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
		LOEC by applying an uncertainty factor of 10.	data set consisted of 4 values that represent weight change (biomass) endpoints.
Boron	Bird	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL.	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL. The data set consisted of 3 values representing reproduction, development, and survival endpoints.
Boron	Plant	LOEC is equal to a geometric mean LOEC calculated from the same data set as the geometric mean NOEC.	LOEC is equal to a geometric mean LOEC calculated from the same data set as the geometric mean NOEC. The data set consisted of 3 values representing development and survival endpoints.
Chromium(+6)	Earthworm	LOEC is equal to a geometric mean LOEC calculated from the same data set as the geometric mean NOEC.	LOEC is equal to a geometric mean LOEC calculated from the same data set as the geometric mean NOEC. The data set consisted of 3 values representing reproduction and survival endpoints.
Di-n-Butyl Phthalate	Mammal	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL.	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL. The data set consisted of 3 values representing reproduction, survival, and adult body weight change endpoints.

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
Di-n-Butyl Phthalate	Plant	LOEC is equal to a geometric mean LOEC calculated from the same data set as the geometric mean NOEC.	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL. The data set consisted of 4 values representing development endpoint.
Dinitrotoluene[2,6-]	soil & litter earthworms/invertebrates	GMM LOEC calculated from LOEC dataset.	LOEC is equal to a geometric mean LOEC calculated from the same data set as the geometric mean NOEC. The data set consisted of 4 values representing reproduction, development and survival endpoints.
HMX	Plant	LOEC is equal to a geometric mean LOEC calculated from the same data set as the geometric mean NOEC.	LOEC is equal to a geometric mean LOEC calculated from the same data set as the geometric mean NOEC. The data set consisted of 3 values representing reproduction endpoints.
Lithium	Mammal	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL.	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL. The data set consisted of 13 values representing reproduction, development, survival, and adult body weight changes endpoints.

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
RDX	Bird	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL.	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL. The data set consisted of 6 values representing reproduction, survival, and adult body weight change endpoints.
RDX	Mammal	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL.	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL. The data set consisted of 4 values representing survival and adult body weight change endpoints.
Tetrachlorodibenzodioxin[2,3,7,8-]	Mammal	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL.	LOAEL is equal to a geometric mean LOAEL calculated from the same data set as the geometric mean NOAEL. The data set consisted of 4 values representing reproduction and adult body weight change endpoints.
Trinitrobenzene[1,3,5-]	soil & litter earthworms/invertebrates	GMM LOEC calculated from LOEC dataset.	LOEC is equal to a geometric mean LOEC calculated from the same data set as the geometric mean NOEC. The data set consisted of 4 values representing reproduction and development and survival endpoints.

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
Trinitrotoluene[2,4,6-]	Plant	LOEC is equal to a geometric mean LOEC calculated from the same data set as the geometric mean NOEC.	LOEC is equal to a geometric mean LOEC calculated from the same data set as the geometric mean NOEC. The data set consisted of 12 values representing reproduction and development endpoints.

Table 10b. Task 1.7 Updates - Updates to LOAEL/LOEC-based Tier 3 TRVs Notes for ESLs (September 2017)

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
Aroclor-1242	Chicken, White Leghorn	LOAEL is taken directly from the literature.	LOAEL is taken directly from the literature and is based on 1 endpoint for hatchability. Percent response was 85% decrease in hatchability (N = 35) compared to control animals exposed for 9 weeks. The test organism was the White leghorn chicken. The exposure route was oral and the exposure medium was food. The exposure duration category and effect level was a chronic critical-life stage NOAEL and LOAEL pair.
Aroclor-1248	Chicken, White Leghorn	LOAEL is taken directly from the literature.	LOAEL is taken directly from the literature and is based on 1 endpoint for hatchability. Percent response was 85-90% decrease in hatchability (N = 35) compared to control animals exposed for 9 weeks. The test organism was the White leghorn chicken. The exposure route was oral and

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
			the exposure medium was food. The exposure duration category and effect level was a chronic critical-life stage NOAEL and LOAEL pair.
Aroclor-1248	Monkey, Rhesus	LOAEL is taken directly from the literature.	LOAEL is taken directly from the literature and is based on 1 endpoint for %normal births. Percent response was 37.5% decrease from control (N= 9) in animals exposed for >7 months. The test organism was the Rhesus monkey. The exposure route was oral and the exposure medium was food. The exposure duration category and effect level was a chronic critical-life stage LOAEL.
Aroclor-1254	Chicken, White Leghorn	LOAEL is taken directly from the literature.	LOAEL is taken directly from the literature and is based on 1 endpoint for hatchability. Percent response was 20-25% decrease from control (N=35) animals exposed for 9 weeks. The test organism was the White leghorn chicken. The exposure route was oral and the exposure medium was food. The exposure duration category and effect level was a chronic critical-life stage NOAEL and LOAEL pair.

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
Aroclor-1254	Mink	LOAEL is taken directly from the literature. NOAEL is extrapolated from the LOAEL by applying an uncertainty factor of 10.	LOAEL is taken directly from the literature and is based on 1 endpoint for reproduction (number of females whelped/ number mated). Percent response was 1 of 10 females whelping in the exposed group compared to 19 of 20 whelped in control group. The test organism was the mink. The exposure route was oral and the exposure medium was food. The exposure duration category and effect level was a chronic critical-life stage LOAEL.
Aroclor-1260	Mink	LOAEL is taken directly from the literature. NOAEL is extrapolated from the LOAEL by applying an uncertainty factor of 10.	LOAEL is taken directly from the literature and is based on 2 endpoints for reproduction (offspring survival, $p<0.025$; and litter size, $p<0.001$). The test organism was the Sherman rat. The exposure route was oral and the exposure medium was food. The exposure duration category and effect level was a chronic critical-life stage NOAEL and LOAEL pair.
Boron	Rat, Sprague-Dawley	LOAEL extrapolated from a chronic NOAEL by applying an uncertainty factor of 10.	The chronic LOAEL is extrapolated from the chronic NOAEL using a UF of 10 and is based on fertility index. The test organism used was the rat (Sprague-Dawley). The exposure route was oral and the exposure media was oral and exposure medium

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
			was food. The exposure duration category and effect level was chronic critical-life stage NOAEL. This NOAEL represents the highest of 3 doses tested.
Chromium(+6)	Chicken, Nichols 108	LOAEL extrapolated from a chronic NOAEL by applying an uncertainty factor of 10.	The chronic LOAEL is extrapolated from the chronic NOAEL using a UF of 10 and is based on mortality. The test organism used was the chicken (Nichols 108). The exposure route was oral and the exposure media was oral and exposure medium was food. The exposure duration category and effect level was subchronic NOAEL. This NOAEL was the highest of the two doses tested.
Di-n-Butyl Phthalate	Dove, Ringed turtle	LOAEL is taken directly from the literature. NOAEL is extrapolated from the LOAEL by applying an uncertainty factor of 10.	LOAEL is taken directly from the literature and is based on 1 endpoint for eggshell thickness index ($p<0.01$). The test organism was the Ringed turtle dove. The exposure route was oral and the exposure medium was food. The exposure duration category and effect level was a chronic critical-life stage LOAEL.

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
Dinitrotoluene[2,6-]	Quail, Bobwhite	LOAEL-Based EL is extrapolated from the NOAEL-based EL using a UF of 10.	The chronic LOAEL is extrapolated from the chronic NOAEL using a UF of 10 and is based on egg production. The test organism used was the bobwhite quail (Colinus virginianas). The exposure route was oral (gavage) and the exposure media available for consideration was corn oil. The exposure duration category and effect level was subchronic NOAEL. The NOAEL represented the highest of 4 doses tested.
Fluoride	Owl, Eastern Screech	LOAEL extrapolated from a chronic NOAEL by applying an uncertainty factor of 10.	The chronic LOAEL is extrapolated from the chronic NOAEL using a UF of 10 and is based on 2 endpoints for reproduction effects (percentage of eggs hatched and percent fertility). The test organism used was the owl (Eastern screech). The exposure route was oral and exposure medium was food. The exposure duration category and effect level was chronic critical-life stage NOAEL. The NOAEL represents the highest of two doses tested.

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
Fluoride	Mink	LOAEL is taken directly from the literature.	LOAEL is taken directly from the literature and is based on 1 endpoint for %kit survival. Percent response was 14% kit survival for animals exposed for 6 weeks following in utero exposure. The test organism was the mink. The exposure route was oral and the exposure medium was food. The exposure duration category and effect level was a chronic critical-life stage NOAEL and LOAEL pair.
HMX	Mouse, B6C3F1 strain	LOAEL is taken directly from the literature.	LOAEL is taken directly from the literature and is based on 1 endpoint for mortality. Percent response 13 deaths in 20 animals exposed for 13 weeks compared to 0% mortality in control group ($P<0.001$). The test organism was the mouse (B6C3F1 strain). The exposure route was oral and the exposure medium was food. The exposure duration category and effect level was a chronic NOAEL and LOAEL pair.

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
Mercury (inorganic)	Earthworm (Octochaetus pattoni)	LOEC is taken directly from the literature.	LOEC is taken directly from the literature and is based on 1 endpoint for number of cocoons. Percent response was estimated from Table 5 as a 40% decrease from the response of the control. The test organism was the earthworm (Earthworm (Octochaetus pattoni). The exposure route was oral/ dermal and the exposure medium was soil and manure. The exposure duration category and effect level was a chronic critical-life stage LOEC.
Mercury (inorganic)	Quail, Japanese	LOAEL is taken directly from the literature.	LOAEL is taken directly from the literature and is based on 1 endpoint for egg fertility (percent fertilized). Percent response was estimated from Table 4 as 54.9% fertilized ($p<0.10$). The test organism was the Japanese quail. The exposure route was oral and the exposure medium was food. The exposure duration category and effect level was a chronic critical-life stage LOAEL.

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
Mercury (inorganic)	Mink	LOAEL extrapolated from a chronic NOAEL by applying an uncertainty factor of 10.	The chronic LOAEL is extrapolated from the chronic NOAEL using a UF of 10 and is based on 2 endpoints for reproduction effects (number of kits alive at 4 weeks and number of kits born alive). The test organism used was the mink. The exposure route was oral and the exposure medium was food. The exposure duration category and effect level was chronic critical-life stage NOAEL. The NOAEL represents the only dose tested.
Nitroglycerine	Mouse	LOAEL is taken directly from the literature.	LOEC is taken directly from the literature and is based on 1 endpoint for bodyweight. Percent response was estimated from Figure 5 as being 20% less than controls for animals exposed for 24 months. The test organism was the mouse. The exposure route was food. The exposure duration category and effect level was a chronic NOAEL and LOAEL pair.
RDX	Earthworm (Eisenia foetida)	LOEC is taken directly from the literature.	LOEC is taken directly from the literature and is based on 1 endpoint for juvenile production ($p<0.05$). The test organism was the earthworm (Eisenia foetida). The exposure route was oral/ dermal and exposure medium was in soil. The exposure

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
			duration category and effect level was a chronic-critical life stage NOEC and LOEC pair. *
Strontium (stable)	Rat, RVH hooded strain	LOAEL extrapolated from a chronic NOAEL by applying an uncertainty factor of 10.	The chronic LOAEL is extrapolated from the chronic NOAEL using a UF of 10 and is based on body weight. The test organism used was the rat (RVH hooded strain). The exposure route was oral and the exposure medium was drinking water. The exposure duration category and effect level was subchronic NOAEL. The NOAEL represents the highest of 3 doses tested.
Tetrachlorodibenzodioxin[2,3,7,8-]	Earthworm (Allolobophora caliginosa)	LOEC is taken directly from the literature.	LOEC of 10 mg/kg is taken directly from the literature and is based on 1 endpoint for survival. Percent response is 100% mortality for organisms exposed for 30 days 0% died in the control or 5 mg/kg, the lowest of 4 doses. The test organism was the Allolobophora caliginosa earthworm. The exposure route was oral/ dermal and the exposure medium was in Galestown sandy loam. The exposure duration category and effect levels available included a chronic NOEC and

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
			LOEC pair.
Thallium	Rat, Wistar	LOAEL is taken directly from the literature. NOAEL is extrapolated from the LOAEL by applying an uncertainty factor of 10.	LOAEL is taken directly from the literature and is based on 1 endpoint for spermatozoa motility. Percent response was 9 of 10 animals exposed for 60 days had less than 60% sperm motility. The test organism was the rat (Wistar). The exposure route was oral and the exposure medium was drinking water. The exposure duration category and effect level was a subchronic LOAEL.
Thallium	Rye grass	LOEC is taken directly from the literature.	LOEC is taken directly from the literature and is based on 1 endpoint for plant yield. Percent response was 10% decrease in plant yield. The test organism was the spring barley (Julia). The exposure route was seed coat and root uptake and the exposure medium was silver sand culture. The exposure duration category and effect level was a chronic critical-life stage LOAEL.

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
Trinitrobenzene[1,3,5-]	Rat, F344 strain	LOAEL extrapolated from a chronic NOAEL by applying an uncertainty factor of 10.	The chronic LOAEL is extrapolated from the chronic NOAEL using a UF of 10 and is based on survival. The test organism used was the rat (F344 strain). The exposure route was oral and the exposure media was oral and exposure medium was food. The exposure duration category and effect level was chronic NOAEL. This NOAEL represented the highest of 3 doses tested. Mortality was 7% in this group and less than or equal to 20% in the other groups and control, except for the low dose male group that was deemed not to be treatment related.
Trinitrotoluene[2,4,6-]	Quail, Bobwhite	LOAEL is taken directly from the literature.	LOAEL is taken directly from the literature and is based on 1 endpoint for moribundity/ mortality. Percent response was 4 of 10 birds became moribund (and were sacrificed) or died within 30 days of the 90-day experimental design. The test organism was the Bobwhite quail. The exposure route was oral and the exposure medium was food. The exposure duration category and effect level was a chronic-critical life stage NOAEL and LOAEL pair.

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
Trinitrotoluene[2,4,6-]	Plant	LOEC is equal to a geometric mean LOEC calculated from the same data set as the geometric mean NOEC.	LOEC is equal to a geometric mean LOEC calculated from the same data set as the geometric mean NOEC. The data set consisted of 12 values representing reproduction and development endpoints.
Trinitrotoluene[2,4,6-]	Earthworm (Eisenia andrei)	LOEC is taken directly from the literature.	LOEC is taken directly from the literature and is based on 1 endpoint for juvenile production. Percent response is 20% decrease ($p<0.05$). The test organism was the earthworm (Eisenia andrei). The exposure route was oral/ dermal and the exposure medium was soil. The exposure duration category and effect level was a chronic-critical life stage NOEC and LOEC pair.
Trinitrotoluene[2,4,6-]	Rat, Sprague-Dawley	LOAEL is taken directly from the literature.	LOAEL is taken directly from the literature and is based on 1 endpoint for body weight for animals exposed for 13 weeks ($p<0.01$). The test organism was the rat (Sprague-Dawley). The exposure route was oral and the exposure medium was food. The exposure duration category and effect level was a chronic NOAEL and LOAEL pair.

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
Uranium	Duck, American Black	LOAEL extrapolated from a chronic NOAEL by applying an uncertainty factor of 10.	The chronic LOAEL is extrapolated from the chronic NOAEL using a UF of 10 and is based on body weight. The test organism used was the American black duck. The exposure route was oral and the exposure medium was food. The exposure duration category and effect level was chronic critical-life stage NOAEL. The NOAEL represents the highest of 4 doses tested.
Uranium	Mouse, Swiss	LOAEL is taken directly from the literature.	LOAEL is taken directly from the literature and is based on 4 endpoints for reproduction (number of total and late resorptions and number of live and dead fetuses) $p<0.05$, 0.05, 0.01 and, respectively. The test organism was the Swiss mouse. The exposure route was oral gavage and the exposure medium was not reported. The exposure duration category and effect level was a chronic critical-life stage NOAEL and LOAEL pair.
Uranium	Chard, Swiss	LOEC extrapolated from a chronic NOEC by applying an uncertainty factor of 10.	The chronic LOEC is extrapolated from the chronic NOEC using a UF of 10 and is based on seedling yield (root weight). The test organism used was the Swiss chard. The exposure route was root uptake and the

Analyte Name	Test Organism Common Name	Old Note	Revised Low Effect TRV Derivation Notes
			exposure medium was sand. The exposure duration category and effect level was chronic critical-life stage NOAEL. The NOEC represent the highest f 4 doses tested.
Vanadium	Collard	The chronic LOEC-Based ESL is derived from a chronic LOEC.	LOEC is taken directly from the literature and is based on 1 endpoint for biomass ($p<0.05$). The test organism was the collard. The exposure route was seed coat and root uptake and the exposure medium was soil. The exposure duration category and effect level was a chronic critical-life stage NOAEL and LOAEL pair.

Table 11. Task 1.8 Updates – Updates to LOAEL/LOEC-based Tier 1 TRV Notes for ESLs and Values for select ESLs and EcoPRGs (September 2017)

Analyte	Receptor	Previous Value	Previous Note in EcoPRG TRV table	New Value	New Note
Antimony	Invertebrate	780 mg/kg	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA Eco-SSL antimony document EC20 data were used to calculate the geometric mean NOEC, so the LOEC is estimated from the geometric mean of the no effect level data set reported in REF ID 1386, Table 4.1 by applying an appropriate uncertainty factor to each value in the data set and then calculating the geometric mean of these extrapolated values. An uncertainty factor of 10 is applied to EC20 values.

Analyte	Receptor	Previous Value	Previous Note in EcoPRG TRV table	New Value	New Note
Arsenic	Bird	22.4 mg/kg/d	See Ecorisk DB r3.3 for documentation for L-ESL	No change	The USEPA Eco-SSL arsenic document only reports a critical study NOAEL, which is the lower of the two values available for growth and reproduction (REF ID 1542). Therefore, the LOAEL is estimated from the critical study NOAEL with a UF of 10.
Arsenic	Plant	91 mg/kg	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA Eco-SSL arsenic document MATC data were used to calculate the geometric mean NOEC, so the LOEC is estimated from the geometric mean of the no effect level data set reported in REF ID 1542, Table 3.1 by applying an appropriate uncertainty factor to each value in the data set and then calculating the geometric mean of these extrapolated values. An uncertainty factor of 5 is applied to MATC values.
Barium	Invertebrate	3290 mg/kg	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA Eco-SSL barium document EC20 data were used to calculate the geometric mean NOEC, so the LOEC is estimated from the geometric mean of no effect level data set reported in REF ID 1387, Table 4.1 by applying an appropriate uncertainty factor to each value in the data set and then calculating the geometric mean of these extrapolated values. An uncertainty factor of 10 is applied to EC20 values.
Barium	Mammal & Mammal carnivore	518 mg/kg/d	See Ecorisk DB r3.3 for documentation for L-ESL.	246 mg/kg/d	The USEPA Eco-SSL barium document does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 6.1 of REF ID 1387.
Beryllium	Invertebrate	403 mg/kg	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA Eco-SSL beryllium document EC20 data were used to calculate the geometric mean NOEC, so the LOEC is estimated from the geometric mean of no effect level data set reported in REF ID 1388, Table 4.1 by applying an appropriate uncertainty factor to each value in the data set and then calculating the geometric mean of these extrapolated values. An uncertainty factor of 10 is applied to EC20 values.

Analyte	Receptor	Previous Value	Previous Note in EcoPRG TRV table	New Value	New Note
Beryllium	Mammal/ Mammal-carnivore	5.32 mg/kg/d	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA Eco-SSL beryllium document only reports a critical study NOAEL, which is the only value available for growth and reproduction (REF ID 1388). Therefore, the LOAEL is estimated from the critical study NOAEL with a UF of 10.
Cadmium	Bird	14.7 mg/kg/d	See Ecorisk DB r3.3 for documentation for L-ESL.	8.15 mg/kg/d	The USEPA Eco-SSL cadmium document does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 5.1 of REF ID 1389.
Cadmium	Invertebrate	760 mg/kg	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA Eco-SSL cadmium document MATC, EC10 and EC20 data were used to calculate the geometric mean NOEC, so the LOEC is estimated from the geometric mean of the no effect level data set reported in REF ID 1389, Table 4.1 by applying an appropriate uncertainty factor to each value in the data set and then calculating the geometric mean of these extrapolated values. An uncertainty factor of 5 is applied to MATC values and an uncertainty factor of 10 to EC20 and EC10 values.
Cadmium	Mammal/ Mammal-carnivore	7.7 mg/kg/d	See Ecorisk DB r3.3 for documentation for L-ESL.	10.3 mg/kg/d (for EcoPRG only)	The USEPA Eco-SSL cadmium document does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 6.1 of REF ID 1389.
Cadmium	Plant	160 mg/kg	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA Eco-SSL cadmium document MATC data were used to calculate the geometric mean NOEC, so the LOEC is estimated from the geometric mean of the no effect level data set reported in REF ID 1389, Table 3.1 by applying an appropriate uncertainty factor to each value in the data set and then calculating the geometric mean of these extrapolated values. An uncertainty factor of 5 is applied to MATC values.

Analyte	Receptor	Previous Value	Previous Note in EcoPRG TRV table	New Value	New Note
Chromium (total)	Bird	26.6 mg/kg/d	See Ecorisk DB r3.3 for documentation for L-ESL.	8.35 mg/kg/d	The USEPA Eco-SSL chromium document does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 5.1 of REF ID 1778.
Chromium (total)	Mammal & Mammal carnivore	24 mg/kg/d	See Ecorisk DB r3.3 for documentation for L-ESL.	240 mg/kg/d	The USEPA Eco-SSL chromium document does not have a geometric mean of LOAELs, and no bounded LOAELs were available to calculate one (Table 6.1 of REF ID 1778). Therefore, the LOAEL is estimated from the geometric mean of NOAELs with a UF of 10.
Chromium (+6)	Mammal & Mammal carnivore	92.4 mg/kg/d	See Ecorisk DB r3.3 for documentation for L-ESL.	59.3 mg/kg/d	The USEPA Eco-SSL chromium document does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 6.2 of REF ID 1778.
Cobalt	Bird	76.1 mg/kg/d	See Ecorisk DB r3.3 for documentation for L-ESL.	17.1 mg/kg/d	The USEPA Eco-SSL cobalt document does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 5.1 of REF ID 1390.
Cobalt	Mammal & Mammal carnivore	73.3 mg/kg/d	See Ecorisk DB r3.3 for documentation for L-ESL.	19.3 mg/kg/d	The USEPA Eco-SSL cobalt document does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 6.1 of REF ID 1390.
Cobalt	Plant	134 mg/kg	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA Eco-SSL cobalt document EC20 data were used to calculate the geometric mean, so the LOEC is estimated from the geometric mean of the no effect level data set reported in REF ID 1390, Table 3.1 by applying an appropriate uncertainty factor to each value in the data set and then calculating the geometric mean of these extrapolated values. An uncertainty factor of 10 is applied to EC20 values.

Analyte	Receptor	Previous Value	Previous Note in EcoPRG TRV table	New Value	New Note
Copper	Invertebrate	530 mg/kg	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA Eco-SSL copper document EC10 and MATC data were used to calculate the geometric mean NOEC, so the LOEC is estimated from the geometric mean of the no effect level data set reported in REF ID 1621, Table 4.1 by applying an appropriate uncertainty factor to each value in the data set and then calculating the geometric mean of these extrapolated values. An uncertainty factor of 5 is applied to MATC values and an uncertainty factor of 10 to EC10 values.
Copper	Plant	497 mg/kg	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA Eco-SSL copper document EC10 and MATC data were used to calculate the geometric mean NOEC, so the LOEC is estimated from the geometric mean of the no effect level data set reported in REF ID 1621, Table 3.1 by applying an appropriate uncertainty factor to each value in the data set and then calculating the geometric mean of these extrapolated values. An uncertainty factor of 5 is applied to MATC values and an uncertainty factor of 10 to EC10 values.
Lead	Invertebrate	8410 mg/kg	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA Eco-SSL lead document MATC data were used to calculate the geometric mean NOEC, so the LOEC is estimated from the geometric mean of the no effect level data set reported in REF ID 1392, Table 4.1 by applying an appropriate uncertainty factor to each value in the data set and then calculating the geometric mean of these extrapolated values. An uncertainty factor of 5 is applied to MATC values.
Lead	Plant	576 mg/kg	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA Eco-SSL lead document MATC data were used to calculate the geometric mean NOEC, so the LOEC is estimated from the geometric mean of the no effect level data set reported in REF ID 1392, Table 3.1 by applying an appropriate uncertainty factor to each value in the data set and then calculating the geometric mean of these extrapolated

Analyte	Receptor	Previous Value	Previous Note in EcoPRG TRV table	New Value	New Note
					values. An uncertainty factor of 5 is applied to MATC values.
Manganese	Bird	1790 mg/kg/d	See Ecorisk DB r3.3 for documentation for L-ESL.	377 mg/kg/d	The USEPA Eco-SSL manganese document does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 5.1 of REF ID 1616.
Manganese	Mammal & Mammal carnivore	515 mg/kg/d	See Ecorisk DB r3.3 for documentation for L-ESL.	192 mg/kg/d	The USEPA Eco-SSL manganese document does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 6.1 of REF ID 1616.
Nickel	Bird	67.1 mg/kg/d	See Ecorisk DB r3.3 for documentation for L-ESL.	26.8 mg/kg/d	The USEPA Eco-SSL nickel document does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 5.1 of REF ID 1617.
Nickel	Invertebrate	1390 mg/kg	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA Eco-SSL nickel document MATC data were used to calculate the geometric mean NOEC, so the LOEC is estimated from the geometric mean of the no effect level data set reported in REF ID 1617, Table 4.1 by applying an appropriate uncertainty factor to each value in the data set and then calculating the geometric mean of these extrapolated values. An uncertainty factor of 5 is applied to MATC values.

Analyte	Receptor	Previous Value	Previous Note in EcoPRG TRV table	New Value	New Note
Nickel	Plant	276 mg/kg	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA Eco-SSL nickel document EC20 and MATC data were used to calculate the geometric mean NOEC, so the LOEC is estimated from the geometric mean of the no effect level data set reported in REF ID 1617, Table 3.1 by applying an appropriate uncertainty factor to each value in the data set and then calculating the geometric mean of these extrapolated values. An uncertainty factor of 5 is applied to MATC values and an uncertainty factor of 10 to EC20 values.
Selenium	Invertebrate	41 mg/kg	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA Eco-SSL selenium document EC20 data were used to calculate the geometric mean NOEC, so the LOEC is extrapolated from the geometric mean of the no effect level data set reported in REF ID 1618, Table 4.1 by applying an appropriate uncertainty factor to each value in the data set and then calculating the geometric mean of these extrapolated values. An uncertainty factor of 10 is applied to EC20 values.
Silver	Bird	20.2 mg/kg/d	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA silver document (REF ID 1619) reports many LOAELs none of which are bounded, so a GMM of LOEALs is not calculated. However, there were at least three LOAEL values within the reproduction and growth effect groups, so the TRV is equal to the lowest LOAEL for reproduction and growth.
Silver	Mammal/ Mammal-canivore	60.2 mg/kg/d	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA silver document (REF ID 1619) only reports many LOAELs none of which are bounded, so a GMM of LOEALs is not calculated. However, there were at least three LOAEL values within the reproduction and growth effect groups, so the TRV is equal to the lowest LOAEL for reproduction and growth.

Analyte	Receptor	Previous Value	Previous Note in EcoPRG TRV table	New Value	New Note
Silver	Plant	2810 mg/kg	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA Eco-SSL silver document MATC data were used to calculate the geometric mean NOEC, so the LOEC is extrapolated from the geometric mean of the other effect level data set reported in REF ID 1619, Table 3.1 by applying an appropriate uncertainty factor to each value in the data set and then calculating the geometric mean of these extrapolated values. An uncertainty factor of 5 is applied to MATC values.
Vanadium	Mammal/ Mammal-carnivore	8.31 mg/kg/d	See Ecorisk DB r3.3 for documentation for L-ESL.	8.76 mg/kg/d (for EcoPRG only)	The USEPA Eco-SSL vanadium document does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 6.1 of REF ID 1569.
Zinc	Bird	661 mg/kg/d	See Ecorisk DB r3.3 for documentation for L-ESL.	174 mg/kg/d	The USEPA Eco-SSL zinc document does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 5.1 of REF ID 1620.
Zinc	Invertebrate	939 mg/kg	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA Eco-SSL zinc document EC10 and MATC data were used to calculate the geometric mean NOEC is presented, so the LOEC is estimated from the geometric mean of the no effect level data set reported in REF ID 1620, Table 4.1 by applying an appropriate uncertainty factor to each value in the data set and then calculating the geometric mean of these extrapolated values. An uncertainty factor of 5 is applied to MATC values and an uncertainty factor of 10 to EC10 values.
Zinc	Mammal & Mammal carnivore	754 mg/kg/d	See Ecorisk DB r3.3 for documentation for L-ESL.	741 mg/kg/d	The USEPA Eco-SSL zinc document does not have a geometric mean of LOAELs, therefore, one was calculated using the available bounded LOAELs for reproduction, growth and survival reported in Table 6.1 of REF ID 1620.

Analyte	Receptor	Previous Value	Previous Note in EcoPRG TRV table	New Value	New Note
Zinc	Plant	812 m/kg	See Ecorisk DB r3.3 for documentation for L-ESL.	No change	The USEPA Eco-SSL zinc document MATC data in were used to calculate the geometric mean NOEC, so the LOEC is extrapolated from the geometric mean of the no effect level data set reported in REF ID 1620, Table 3.1 by applying an appropriate uncertainty factor to each value in the data set and then calculating the geometric mean of these extrapolated values. An uncertainty factor of 5 is applied to MATC values.

Table 12a. Task 2.2 – ESL Receptor Parameter Updates (September 2017)

PARAMETER	UPDATED VALUE	UNITS	RECEPTOR ID	REFERENCE	NOTES	REF ID
food intake	0.148	kg-food dry wt/kg-body wt/d	AK	Nagy 2001, 253420	Estimated using Nagy (2001, 253420) allometric scaling formula for all birds.	2043
Fraction soil in diet	0.139	Unitless	American robin (Avian herbivore)American robin (Avian herbivore)	EPA 2007, xxxxxx, Attachment 4-1, Table 3	Used 90th percentile dove value for herbivore diet.	2044
Fraction soil in diet	0.152	Unitless	American robin (Avian omnivore)	EPA 2007, xxxxxx, Attachment 4-1, Table 3	Used average of 90th percentile dove and woodcock values for omnivore diet.	2044
Fraction soil in diet	0.164	Unitless	American robin (Avian insectivore)	EPA 2007, xxxxxx, Attachment 4-1, Table 3	Used 90th percentile woodcock value for insectivore diet.	2044

Body weight	0.02	kg	DM	EPA 1993, 059384, p. 2-295	For females that have lower body weights and therefore are used to provide a conservative ESL.	561
Body weight	0.56	kg	DC	Sowls 1957, xxxxxx	Minimum of range of reported values for Audubon cottontail in Arizona.	2045
Food intake	0.0816	kg-food dry wt/kg-body wt/d	DC	Nagy 2001, 253420	Estimated using Nagy (2001, 253420) allometric scaling formula for herbivores.	2043
Fraction soil in diet	0.063	Unitless	DC	Arthur and Gates 1988, xxxxxx	For black-tailed jackrabbit at Idaho National Laboratory	2046
Daily water ingestion rate	0.097	L/kg/d	DC	EPA 1993, 059384, p. 2-355	Estimated by EPA from allometric equations.	561
Body weight	0.0054	kg	MS	Bennett et al 1999, 82652	Average of 17 males and females from Sandia Canyon	2047
Fraction soil in diet	0.03	Unitless	MS	EPA 2007, xxxxxx, Attachment 4-1, Table 3	Used 90th of the calculated soil intake for the shrew	2044
Fraction soil in diet	0.028	Unitless	RF	Beyer et al. 1994,	For red fox 062785, Table 1	132
food intake	0.274	kg-food dry wt/kg-body wt/d	VGS	Nagy 2001, 253420	Estimated using Nagy reference allometric scaling formula for passerines	2043

food intake	0.179	kg-food dry wt/kg-body wt/d	BA	Nagy 2001, 253420	Estimated using Nagy reference allometric scaling formula for bats	2043

Table 12b. Task 2.2 – ESL TF_flesh_dw Updates (September 2017)

Analyte	Old Value	New Value
100-42-5	2.26E-02	1.76E-02
100-51-6	1.01E-03	7.92E-04
106-46-7	1.17E-01	8.96E-02
106-47-8	4.59E-03	3.59E-03
107-06-2	3.52E-03	2.72E-03
108-10-1	3.48E-03	2.68E-03
108-39-4	1.38E-03	1.19E-03
108-88-3	2.21E-02	1.71E-02
108-90-7	3.09E-02	2.38E-02
108-95-2	3.42E-03	2.65E-03
11096-82-5	2.10E-02	1.62E-02
11097-69-1	8.83E-02	6.81E-02
115-29-7	7.63E-03	7.00E-03
117-81-7	1.03E+00	7.79E-01
117-84-0	1.37E+00	1.03E+00
118-74-1	3.50E+00	2.65E+00
118-96-7	1.02E-03	8.47E-04
120-12-7	3.73E-02	2.99E-02
120-82-1	3.56E-01	2.70E-01
121-14-2	1.26E-03	1.10E-03
121-82-4	4.90E-04	3.90E-04
122-39-4	4.16E-03	3.26E-03
12672-29-6	1.12E-01	8.64E-02
12674-11-2	1.35E-01	1.04E-01
127-18-4	4.29E-01	3.25E-01
129-00-0	3.05E-02	2.51E-02
131-11-3	3.88E-03	3.01E-03
132-64-9	2.92E-02	2.35E-02
1330-20-7	4.43E-02	3.41E-02
143-50-0	3.67E-01	2.79E-01

Analyte	**Old Value**	**New Value**
1746-01-6	1.22E-01	9.37E-02
191-24-2	1.97E-02	1.65E-02
193-39-5	6.81E-03	6.64E-03
19406-51-0	4.94E-03	3.87E-03
205-99-2	8.49E-03	8.53E-03
206-44-0	5.42E-02	4.31E-02
207-08-9	8.92E-03	8.69E-03
208-96-8	3.41E-02	2.71E-02
218-01-9	4.98E-03	5.86E-03
2691-41-0	1.41E-04	1.25E-04
309-00-2	4.06E-01	3.08E-01
319-84-6	1.03E-01	7.91E-02
319-85-7	1.03E-01	7.91E-02
35572-78-2	4.82E-03	3.76E-03
479-45-8	2.58E-03	2.04E-03
50-29-3	1.87E-01	1.42E-01
50-32-8	7.78E-03	7.81E-03
5103-71-9	3.90E-01	2.97E-01
5103-74-2	4.17E-02	3.33E-02
53469-21-9	1.14E-01	8.83E-02
53-70-3	6.55E-03	6.58E-03
540-59-0	1.55E-02	1.19E-02
541-73-1	1.53E-01	1.16E-01
55-63-0	3.94E-03	1.16E-01
56-55-3	3.86E-03	5.04E-03
58-89-9	1.03E-01	7.91E-02
591-78-6	3.84E-03	2.95E-03
59-50-7	2.61E-02	2.03E-02
60-57-1	3.32E-01	2.53E-01
606-20-2	2.04E-03	1.72E-03
65-85-0	2.15E-02	1.64E-02
67-64-1	4.12E-04	3.12E-04
67-66-3	1.24E-02	9.54E-03
71-43-2	5.57E-03	4.39E-03
71-55-6	5.51E-02	4.19E-02
72-20-8	3.87E-01	2.95E-01
72-43-5	7.60E-02	5.95E-02

Analyte	Old Value	New Value
72-54-8	1.30E-01	1.00E-01
72-55-9	1.85E-01	1.42E-01
74-87-3	8.77E-04	6.84E-04
74-88-4	1.19E-02	9.13E-03
75-01-4	5.21E-03	4.02E-03
75-09-2	2.84E-03	2.19E-03
75-15-0	1.32E-03	1.14E-03
75-34-3	6.56E-03	5.06E-03
75-35-4	2.22E-02	1.69E-02
75-69-4	6.20E-02	4.72E-02
75-71-8	1.78E-02	1.37E-02
76-44-8	1.51E-01	1.16E-01
78-11-5	6.31E-03	5.04E-03
78-93-3	9.18E-04	6.98E-04
79-01-6	3.14E-02	2.40E-02
79-34-5	1.78E-02	1.37E-02
8001-35-2	1.31E-01	1.01E-01
82-68-8	5.01E-01	3.80E-01
83-32-9	3.21E-02	2.55E-02
84-66-2	1.67E-02	1.29E-02
84-74-2	5.93E-01	4.49E-01
85-01-8	3.76E-02	3.01E-02
85-68-7	1.59E-01	1.22E-01
86-73-7	3.45E-02	2.76E-02
86-74-8	1.03E-02	8.89E-03
87-86-5	1.03E+00	7.77E-01
88-72-2	6.04E-03	4.81E-03
88-74-4	2.60E-03	2.09E-03
91-20-3	3.43E-02	2.67E-02
91-57-6	5.63E-02	4.38E-02
95-48-7	1.55E-03	1.31E-03
95-50-1	1.13E-01	8.60E-02
95-57-8	5.62E-03	4.44E-03
98-95-3	4.66E-03	3.64E-03
99-08-1	7.54E-03	5.99E-03
99-35-4	1.41E-04	1.44E-04
99-35-4	1.31E-01	1.44E-04

Analyte	Old Value	New Value
99-65-0	3.53E-03	2.73E-03
99-99-0	6.29E-03	5.02E-03
AG	3.05E-03	2.46E-03
AL	2.50E-04	1.14E-04
AS	2.50E-04	2.96E-04
B	6.13E-04	5.06E-04
BA	8.04E-06	1.41E-05
BE	3.09E-05	7.70E-05
CD	3.87E-03	2.95E-03
ClO4(-1)	4.30E+01	4.30E+01
CN(-1)	5.01E-01	4.32E-01
CO	1.38E-03	2.11E-03
CR	4.83E-04	6.60E-04
CR(+6)	2.11E-04	4.54E-04
CU	3.22E-03	2.97E-03
F(-1)	1.05E-02	1.60E-02
FE	5.30E-04	1.47E-03
HGI	4.86E-01	3.81E-01
HGM	6.28E+00	4.75E+00
LI	3.14E-04	7.74E-04
MN	2.25E-05	3.84E-05
MO	2.45E-04	2.39E-04
NI	2.35E-03	2.10E-03
PB	3.59E-05	4.32E-05
SB	4.67E-05	8.89E-05
SE	7.44E-03	6.42E-03
SR	1.45E-04	1.25E-04
TI	1.50E-02	1.30E-02
TL	1.42E-03	3.22E-03
U	5.01E-06	1.45E-05
V	7.37E-05	1.90E-04
ZN	1.87E-01	1.47E-01

Table 13. Task 2.2 – EcoPRG Receptor Parameter Updates (September 2017)

parameter	value	units	receptor	reference	Database Reference ID	notes

parameter	value	units	receptor	reference	Database Reference ID	notes
Fraction soil in diet	0.061	Unitless	American robin (Avian herbivore)American robin (Avian herbivore)	EPA 2007, xxxxxx, Attachment 4-1, Table 3	2044	Used median dove value for herbivore diet.
Fraction soil in diet	0.063	Unitless	American robin (Avian omnivore)	EPA 2007, xxxxxx, Attachment 4-1, Table 4	2044	Used median woodcock value for insectivore diet.
Fraction soil in diet	0.064	Unitless	American robin (Avian insectivore)	EPA 2007, xxxxxx, Attachment 4-1, Table 5	2044	Used average of median dove and woodcock values for omnivore diet.
Body weight	0.792	kg	DC	Sowls 1957, xxxxxx	2046	Mean of reported values for Audubon cottontail in Arizona.
Food intake	0.0717	kg-food dry wt/kg-body wt/d	DC	Nagy 2001, 253420	2043	Estimated using 0.792 kg body weight and Nagy (2001, 253420) allometric scaling formula for herbivorous mammals (most appropriate diet and high r2 for model)
Fraction soil in diet	0.063	Unitless	DC	Arthur and Gates 1988, xxxxxx	2045	For black-tailed jackrabbit at Idaho National Laboratory
Fraction soil in diet	0.009	Unitless	MS	EPA 2007, xxxxxx, Attachment 4-1, Table 3	2044	Used median of the calculated soil intake for the shrew

Table 14a. ESL Updates – Non-Radionulcide both N- and L-ESL (September 2017)

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Acenaphthene	83-32-9	Mountain cottontail (Mammalian herbivore)	530	5300	mg/kg	PAH	Mammal
Acenaphthene	83-32-9	Montane shrew (Mammalian insectivore)	130	1300	mg/kg	PAH	Mammal
Acenaphthene	83-32-9	Occult little brown myotis bat (Mammalian aerial insectivore)	140	1400	mg/kg	PAH	Mammal
Acenaphthene	83-32-9	Gray fox (Mammalian top carnivore)	29000	290000	mg/kg	PAH	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Acenaphthylene	208-96-8	Mountain cottontail (Mammalian herbivore)	540	5400	mg/kg	PAH	Mammal
Acenaphthylene	208-96-8	Occult little brown myotis bat (Mammalian aerial insectivore)	140	1400	mg/kg	PAH	Mammal
Acenaphthylene	208-96-8	Gray fox (Mammalian top carnivore)	28000	280000	mg/kg	PAH	Mammal
Acetone	67-64-1	American kestrel (Avian top carnivore)	66000	660000	mg/kg	VOC	Mammal
Acetone	67-64-1	American kestrel (insectivore / carnivore)	840	8400	mg/kg	VOC	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Acetone	67-64-1	Mountain cottontail (Mammalian herbivore)	1.6	8	mg/kg	VOC	Mammal
Acetone	67-64-1	Occult little brown myotis bat (Mammalian aerial insectivore)	17	88	mg/kg	VOC	Mammal
Aldrin	309-00-2	Occult little brown myotis bat (Mammalian aerial insectivore)	0.042	0.21	mg/kg	PEST	Mammal
Aldrin	309-00-2	Gray fox (Mammalian top carnivore)	13	66	mg/kg	PEST	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Amino-2,6-dinitrotoluene[4-]	19406-51-0	Mountain cottontail (Mammalian herbivore)	320	3200	mg/kg	HE	Mammal
Amino-2,6-dinitrotoluene[4-]	19406-51-0	Occult little brown myotis bat (Mammalian aerial insectivore)	14	140	mg/kg	HE	Mammal
Amino-2,6-dinitrotoluene[4-]	19406-51-0	Gray fox (Mammalian top carnivore)	6700	67000	mg/kg	HE	Mammal
Amino-4,6-dinitrotoluene[2-]	35572-78-2	Deer mouse (Mammalian omnivore)	23	230	mg/kg	HE	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Amino-4,6-dinitrotoluene[2-]	35572-78-2	Mountain cottontail (Mammalian herbivore)	110	1100	mg/kg	HE	Mammal
Amino-4,6-dinitrotoluene[2-]	35572-78-2	Montane shrew (Mammalian insectivore)	16	160	mg/kg	HE	Mammal
Amino-4,6-dinitrotoluene[2-]	35572-78-2	Occult little brown myotis bat (Mammalian aerial insectivore)	17	170	mg/kg	HE	Mammal
Amino-4,6-dinitrotoluene[2-]	35572-78-2	Gray fox (Mammalian top carnivore)	9700	97000	mg/kg	HE	Mammal
Anthracene	120-12-7	Deer mouse (Mammalian omnivore)	300	3000	mg/kg	PAH	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Anthracene	120-12-7	Mountain cottontail (Mammalian herbivore)	1200	12000	mg/kg	PAH	Mammal
Anthracene	120-12-7	Occult little brown myotis bat (Mammalian aerial insectivore)	240	2400	mg/kg	PAH	Mammal
Anthracene	120-12-7	Gray fox (Mammalian top carnivore)	38000	380000	mg/kg	PAH	Mammal
Antimony	SB	Deer mouse (Mammalian omnivore)	2.3	23	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Antimony	SB	Mountain cottontail (Mammalian herbivore)	2.7	27	mg/kg	INORG	Mammal
Antimony	SB	Montane shrew (Mammalian insectivore)	7.9	79	mg/kg	INORG	Mammal
Antimony	SB	Occult little brown myotis bat (Mammalian aerial insectivore)	45	450	mg/kg	INORG	Mammal
Aroclor-1016	12674-11-2	Deer mouse (Mammalian omnivore)	2	5.9	mg/kg	PCB	Mammal
Aroclor-1016	12674-11-2	Mountain cottontail (Mammalian herbivore)	48	130	mg/kg	PCB	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Aroclor-1016	12674-11-2	Occult little brown myotis bat (Mammalian aerial insectivore)	1.2	3.4	mg/kg	PCB	Mammal
Aroclor-1016	12674-11-2	Gray fox (Mammalian top carnivore)	250	720	mg/kg	PCB	Mammal
Aroclor-1242	53469-21-9	American kestrel (Avian top carnivore)	6.2	62	mg/kg	PCB	Mammal
Aroclor-1242	53469-21-9	American kestrel (insectivore / carnivore)	0.19	1.9	mg/kg	PCB	Bird
Aroclor-1242	53469-21-9	American robin (Avian herbivore)	0.92	9.2	mg/kg	PCB	Bird
Aroclor-1242	53469-21-9	American robin (Avian omnivore)	0.078	0.78	mg/kg	PCB	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Aroclor-1242	53469-21-9	Occult little brown myotis bat (Mammalian aerial insectivore)	0.43	1.7	mg/kg	PCB	Mammal
Aroclor-1242	53469-21-9	Gray fox (Mammalian top carnivore)	100	400	mg/kg	PCB	Mammal
Aroclor-1242	53469-21-9	Violet-green Swallow (Avian aerial insectivore)	0.053	0.53	mg/kg	PCB	Bird
Aroclor-1248	12672-29-6	American kestrel (Avian top carnivore)	6.3	63	mg/kg	PCB	Mammal
Aroclor-1248	12672-29-6	American kestrel (insectivore / carnivore)	0.19	1.9	mg/kg	PCB	Bird
Aroclor-1248	12672-29-6	American robin (Avian herbivore)	0.94	9.4	mg/kg	PCB	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Aroclor-1248	12672-29-6	American robin (Avian omnivore)	0.078	0.78	mg/kg	PCB	Bird
Aroclor-1248	12672-29-6	Mountain cottontail (Mammalian herbivore)	0.53	5.3	mg/kg	PCB	Mammal
Aroclor-1248	12672-29-6	Montane shrew (Mammalian insectivore)	0.0073	0.073	mg/kg	PCB	Mammal
Aroclor-1248	12672-29-6	Occult little brown myotis bat (Mammalian aerial insectivore)	0.0081	0.081	mg/kg	PCB	Mammal
Aroclor-1248	12672-29-6	Gray fox (Mammalian top carnivore)	1.9	19	mg/kg	PCB	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Aroclor-1248	12672-29-6	Violet-green Swallow (Avian aerial insectivore)	0.053	0.53	mg/kg	PCB	Bird
Aroclor-1254	11097-69-1	American kestrel (Avian top carnivore)	7.6	76	mg/kg	PCB	Mammal
Aroclor-1254	11097-69-1	American kestrel (insectivore / carnivore)	0.19	1.9	mg/kg	PCB	Bird
Aroclor-1254	11097-69-1	American robin (Avian herbivore)	1.1	11	mg/kg	PCB	Bird
Aroclor-1254	11097-69-1	American robin (Avian omnivore)	0.079	0.79	mg/kg	PCB	Bird
Aroclor-1254	11097-69-1	Deer mouse (Mammalian omnivore)	0.87	4.8	mg/kg	PCB	Mammal
Aroclor-1254	11097-69-1	Mountain cottontail (Mammalian herbivore)	44	240	mg/kg	PCB	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Aroclor-1254	11097-69-1	Occult little brown myotis bat (Mammalian aerial insectivore)	0.5	2.7	mg/kg	PCB	Mammal
Aroclor-1254	11097-69-1	Gray fox (Mammalian top carnivore)	7.2	72	mg/kg	PCB	Mammal
Aroclor-1254	11097-69-1	Violet-green Swallow (Avian aerial insectivore)	0.053	0.53	mg/kg	PCB	Bird
Aroclor-1260	11096-82-5	American kestrel (insectivore / carnivore)	4.2	5.9	mg/kg	PCB	Bird
Aroclor-1260	11096-82-5	American robin (Avian herbivore)	37	52	mg/kg	PCB	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Aroclor-1260	11096-82-5	Mountain cottontail (Mammalian herbivore)	1800	4500	mg/kg	PCB	Mammal
Aroclor-1260	11096-82-5	Occult little brown myotis bat (Mammalian aerial insectivore)	11	27	mg/kg	PCB	Mammal
Aroclor-1260	11096-82-5	Gray fox (Mammalian top carnivore)	15	150	mg/kg	PCB	Mammal
Arsenic	AS	American kestrel (Avian top carnivore)	740	7400	mg/kg	INORG	Mammal
Arsenic	AS	American kestrel (insectivore / carnivore)	100	1000	mg/kg	INORG	Bird

Analyte Name	**Analyte Code**	**ESL Receptor**	**No Effect ESL**	**Low Effect ESL**	**Units**	**Analyte Group**	**ESL Receptor Class**
Arsenic	AS	American robin (Avian herbivore)	34	340	mg/kg	INORG	Bird
Arsenic	AS	American robin (Avian insectivore)	15	150	mg/kg	INORG	Bird
Arsenic	AS	American robin (Avian omnivore)	21	210	mg/kg	INORG	Bird
Arsenic	AS	Mountain cottontail (Mammalian herbivore)	110	180	mg/kg	INORG	Mammal
Arsenic	AS	Montane shrew (Mammalian insectivore)	19	31	mg/kg	INORG	Mammal
Arsenic	AS	Occult little brown myotis bat (Mammalian aerial insectivore)	24	39	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Arsenic	AS	Violet-green Swallow (Avian aerial insectivore)	34	340	mg/kg	INORG	Bird
Barium	BA	American kestrel (Avian top carnivore)	24000	44000	mg/kg	INORG	Mammal
Barium	BA	American kestrel (insectivore / carnivore)	7500	13000	mg/kg	INORG	Bird
Barium	BA	American robin (Avian herbivore)	720	1200	mg/kg	INORG	Bird
Barium	BA	American robin (Avian insectivore)	820	1400	mg/kg	INORG	Bird
Barium	BA	American robin (Avian omnivore)	770	1300	mg/kg	INORG	Bird
Barium	BA	Montane shrew (Mammalian insectivore)	2100	10000	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Barium	BA	Occult little brown myotis bat (Mammalian aerial insectivore)	3100	31000	mg/kg	INORG	Mammal
Barium	BA	Violet-green Swallow (Avian aerial insectivore)	2900	5200	mg/kg	INORG	Bird
Benzene	71-43-2	Mountain cottontail (Mammalian herbivore)	38	380	mg/kg	VOC	Mammal
Benzene	71-43-2	Montane shrew (Mammalian insectivore)	49	490	mg/kg	VOC	Mammal
Benzene	71-43-2	Occult little brown myotis bat (Mammalian aerial insectivore)	54	550	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Benzene	71-43-2	Gray fox (Mammalian top carnivore)	18000	180000	mg/kg	VOC	Mammal
Benzo(a)anthracene	56-55-3	American kestrel (Avian top carnivore)	28	280	mg/kg	PAH	Mammal
Benzo(a)anthracene	56-55-3	American kestrel (insectivore / carnivore)	6.4	64	mg/kg	PAH	Bird
Benzo(a)anthracene	56-55-3	American robin (Avian herbivore)	0.73	7.3	mg/kg	PAH	Bird
Benzo(a)anthracene	56-55-3	American robin (Avian insectivore)	0.88	8.8	mg/kg	PAH	Bird
Benzo(a)anthracene	56-55-3	American robin (Avian omnivore)	0.8	8	mg/kg	PAH	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Benzo(a)anthracene	56-55-3	Mountain cottontail (Mammalian herbivore)	6.1	61	mg/kg	PAH	Mammal
Benzo(a)anthracene	56-55-3	Montane shrew (Mammalian insectivore)	4	40	mg/kg	PAH	Mammal
Benzo(a)anthracene	56-55-3	Occult little brown myotis bat (Mammalian aerial insectivore)	5.2	52	mg/kg	PAH	Mammal
Benzo(a)anthracene	56-55-3	Violet-green Swallow (Avian aerial insectivore)	2.1	21	mg/kg	PAH	Bird
Benzo(a)pyrene	50-32-8	Deer mouse (Mammalian omnivore)	84	260	mg/kg	PAH	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Benzo(a)pyrene	50-32-8	Mountain cottontail (Mammalian herbivore)	260	830	mg/kg	PAH	Mammal
Benzo(a)pyrene	50-32-8	Montane shrew (Mammalian insectivore)	62	190	mg/kg	PAH	Mammal
Benzo(a)pyrene	50-32-8	Occult little brown myotis bat (Mammalian aerial insectivore)	74	230	mg/kg	PAH	Mammal
Benzo(b)fluoranthene	205-99-2	Deer mouse (Mammalian omnivore)	51	510	mg/kg	PAH	Mammal
Benzo(b)fluoranthene	205-99-2	Mountain cottontail (Mammalian herbivore)	130	1300	mg/kg	PAH	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Benzo(b)fluoranthene	205-99-2	Montane shrew (Mammalian insectivore)	44	440	mg/kg	PAH	Mammal
Benzo(b)fluoranthene	205-99-2	Occult little brown myotis bat (Mammalian aerial insectivore)	53	530	mg/kg	PAH	Mammal
Benzo(g,h,i)perylene	191-24-2	Deer mouse (Mammalian omnivore)	46	460	mg/kg	PAH	Mammal
Benzo(g,h,i)perylene	191-24-2	Mountain cottontail (Mammalian herbivore)	470	4700	mg/kg	PAH	Mammal
Benzo(g,h,i)perylene	191-24-2	Montane shrew (Mammalian insectivore)	25	250	mg/kg	PAH	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Benzo(g,h,i)perylene	191-24-2	Occult little brown myotis bat (Mammalian aerial insectivore)	29	290	mg/kg	PAH	Mammal
Benzo(g,h,i)perylene	191-24-2	Gray fox (Mammalian top carnivore)	3600	36000	mg/kg	PAH	Mammal
Benzo(k)fluoranthene	207-08-9	Deer mouse (Mammalian omnivore)	99	990	mg/kg	PAH	Mammal
Benzo(k)fluoranthene	207-08-9	Mountain cottontail (Mammalian herbivore)	330	3300	mg/kg	PAH	Mammal
Benzo(k)fluoranthene	207-08-9	Montane shrew (Mammalian insectivore)	71	710	mg/kg	PAH	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Benzo(k)fluoranthene	207-08-9	Occult little brown myotis bat (Mammalian aerial insectivore)	83	830	mg/kg	PAH	Mammal
Benzoic Acid	65-85-0	Mountain cottontail (Mammalian herbivore)	4.6	46	mg/kg	SVOC	Mammal
Benzoic Acid	65-85-0	Occult little brown myotis bat (Mammalian aerial insectivore)	1.2	12	mg/kg	SVOC	Mammal
Benzoic Acid	65-85-0	Gray fox (Mammalian top carnivore)	2000	20000	mg/kg	SVOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Benzyl Alcohol	100-51-6	Mountain cottontail (Mammalian herbivore)	190	1900	mg/kg	VOC	Mammal
Benzyl Alcohol	100-51-6	Montane shrew (Mammalian insectivore)	270	2700	mg/kg	VOC	Mammal
Benzyl Alcohol	100-51-6	Occult little brown myotis bat (Mammalian aerial insectivore)	300	3000	mg/kg	VOC	Mammal
Beryllium	BE	Mountain cottontail (Mammalian herbivore)	89	890	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Beryllium	BE	Montane shrew (Mammalian insectivore)	35	350	mg/kg	INORG	Mammal
Beryllium	BE	Occult little brown myotis bat (Mammalian aerial insectivore)	66	660	mg/kg	INORG	Mammal
BHC[alpha-]	319-84-6	Mountain cottontail (Mammalian herbivore)	800	8000	mg/kg	PEST	Mammal
BHC[alpha-]	319-84-6	Montane shrew (Mammalian insectivore)	59	590	mg/kg	PEST	Mammal
BHC[alpha-]	319-84-6	Occult little brown myotis bat (Mammalian aerial insectivore)	66	660	mg/kg	PEST	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
BHC[alpha-]	319-84-6	Gray fox (Mammalian top carnivore)	18000	180000	mg/kg	PEST	Mammal
BHC[beta-]	319-85-7	American kestrel (Avian top carnivore)	2600	26000	mg/kg	PEST	Mammal
BHC[beta-]	319-85-7	American kestrel (insectivore / carnivore)	69	690	mg/kg	PEST	Bird
BHC[beta-]	319-85-7	American robin (Avian herbivore)	78	780	mg/kg	PEST	Bird
BHC[beta-]	319-85-7	Mountain cottontail (Mammalian herbivore)	3.7	18	mg/kg	PEST	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
BHC[beta-]	319-85-7	Occult little brown myotis bat (Mammalian aerial insectivore)	0.3	1.5	mg/kg	PEST	Mammal
BHC[beta-]	319-85-7	Gray fox (Mammalian top carnivore)	83	410	mg/kg	PEST	Mammal
BHC[beta-]	319-85-7	Violet-green Swallow (Avian aerial insectivore)	18	180	mg/kg	PEST	Bird
BHC[gamma-]	58-89-9	American kestrel (Avian top carnivore)	38	150	mg/kg	PEST	Mammal
BHC[gamma-]	58-89-9	American kestrel (insectivore / carnivore)	1	4	mg/kg	PEST	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
BHC[gamma-]	58-89-9	Mountain cottontail (Mammalian herbivore)	0.12	1.2	mg/kg	PEST	Mammal
BHC[gamma-]	58-89-9	Montane shrew (Mammalian insectivore)	0.0095	0.095	mg/kg	PEST	Mammal
BHC[gamma-]	58-89-9	Occult little brown myotis bat (Mammalian aerial insectivore)	0.01	0.1	mg/kg	PEST	Mammal
BHC[gamma-]	58-89-9	Gray fox (Mammalian top carnivore)	2.9	29	mg/kg	PEST	Mammal
Bis(2-ethylhexyl)phthalate	117-81-7	American kestrel (Avian top carnivore)	9.3	93	mg/kg	SVOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Bis(2-ethylhexyl)phthalate	117-81-7	American kestrel (insectivore / carnivore)	0.096	0.96	mg/kg	SVOC	Bird
Bis(2-ethylhexyl)phthalate	117-81-7	American robin (Avian herbivore)	16	160	mg/kg	SVOC	Bird
Bis(2-ethylhexyl)phthalate	117-81-7	Mountain cottontail (Mammalian herbivore)	1900	19000	mg/kg	SVOC	Mammal
Bis(2-ethylhexyl)phthalate	117-81-7	Montane shrew (Mammalian insectivore)	0.6	6	mg/kg	SVOC	Mammal
Bis(2-ethylhexyl)phthalate	117-81-7	Occult little brown myotis bat (Mammalian aerial insectivore)	0.66	6.6	mg/kg	SVOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Bis(2-ethylhexyl)phthalate	117-81-7	Gray fox (Mammalian top carnivore)	500	5000	mg/kg	SVOC	Mammal
Boron	B	American kestrel (Avian top carnivore)	960	4700	mg/kg	INORG	Mammal
Boron	B	American kestrel (insectivore / carnivore)	37	180	mg/kg	INORG	Bird
Boron	B	American robin (Avian insectivore)	7.1	35	mg/kg	INORG	Bird
Boron	B	Deer mouse (Mammalian omnivore)	55	550	mg/kg	INORG	Mammal
Boron	B	Mountain cottontail (Mammalian herbivore)	84	840	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Boron	B	Montane shrew (Mammalian insectivore)	130	1300	mg/kg	INORG	Mammal
Boron	B	Occult little brown myotis bat (Mammalian aerial insectivore)	150	1500	mg/kg	INORG	Mammal
Butanone[2-]	78-93-3	Deer mouse (Mammalian omnivore)	350	920	mg/kg	VOC	Mammal
Butanone[2-]	78-93-3	Mountain cottontail (Mammalian herbivore)	470	1200	mg/kg	VOC	Mammal
Butanone[2-]	78-93-3	Montane shrew (Mammalian insectivore)	2700	6900	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Butanone[2-]	78-93-3	Occult little brown myotis bat (Mammalian aerial insectivore)	3000	7800	mg/kg	VOC	Mammal
Butyl Benzyl Phthalate	85-68-7	Mountain cottontail (Mammalian herbivore)	2400	24000	mg/kg	SVOC	Mammal
Butyl Benzyl Phthalate	85-68-7	Occult little brown myotis bat (Mammalian aerial insectivore)	100	1000	mg/kg	SVOC	Mammal
Butyl Benzyl Phthalate	85-68-7	Gray fox (Mammalian top carnivore)	23000	230000	mg/kg	SVOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Cadmium	CD	American kestrel (Avian top carnivore)	430	2300	mg/kg	INORG	Mammal
Cadmium	CD	American kestrel (insectivore / carnivore)	1.3	7.7	mg/kg	INORG	Bird
Cadmium	CD	American robin (Avian herbivore)	4.3	23	mg/kg	INORG	Bird
Cadmium	CD	Deer mouse (Mammalian omnivore)	0.5	6.8	mg/kg	INORG	Mammal
Cadmium	CD	Mountain cottontail (Mammalian herbivore)	10	140	mg/kg	INORG	Mammal
Cadmium	CD	Occult little brown myotis bat (Mammalian aerial insectivore)	0.3	3	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Cadmium	CD	Gray fox (Mammalian top carnivore)	550	7400	mg/kg	INORG	Mammal
Cadmium	CD	Violet-green Swallow (Avian aerial insectivore)	0.37	3.7	mg/kg	INORG	Bird
Carbazole	86-74-8	Deer mouse (Mammalian omnivore)	79	790	mg/kg	SVOC	Mammal
Carbazole	86-74-8	Mountain cottontail (Mammalian herbivore)	140	1400	mg/kg	SVOC	Mammal
Carbazole	86-74-8	Montane shrew (Mammalian insectivore)	110	1100	mg/kg	SVOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Carbazole	86-74-8	Occult little brown myotis bat (Mammalian aerial insectivore)	130	1300	mg/kg	SVOC	Mammal
Carbon Disulfide	75-15-0	Deer mouse (Mammalian omnivore)	0.81	8.1	mg/kg	VOC	Mammal
Carbon Disulfide	75-15-0	Mountain cottontail (Mammalian herbivore)	1.4	14	mg/kg	VOC	Mammal
Carbon Disulfide	75-15-0	Montane shrew (Mammalian insectivore)	1.2	12	mg/kg	VOC	Mammal
Carbon Disulfide	75-15-0	Occult little brown myotis bat (Mammalian aerial insectivore)	1.3	13	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Chlordane[alpha-]	5103-71-9	American kestrel (Avian top carnivore)	45	220	mg/kg	PEST	Mammal
Chlordane[alpha-]	5103-71-9	American kestrel (insectivore / carnivore)	1.3	6.5	mg/kg	PEST	Bird
Chlordane[alpha-]	5103-71-9	American robin (Avian herbivore)	17	89	mg/kg	PEST	Bird
Chlordane[alpha-]	5103-71-9	American robin (Avian insectivore)	0.27	1.3	mg/kg	PEST	Bird
Chlordane[alpha-]	5103-71-9	Deer mouse (Mammalian omnivore)	0.53	5.3	mg/kg	PEST	Mammal
Chlordane[alpha-]	5103-71-9	Mountain cottontail (Mammalian herbivore)	54	540	mg/kg	PEST	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Chlordane[alpha-]	5103-71-9	Occult little brown myotis bat (Mammalian aerial insectivore)	0.3	3	mg/kg	PEST	Mammal
Chlordane[alpha-]	5103-71-9	Gray fox (Mammalian top carnivore)	80	810	mg/kg	PEST	Mammal
Chlordane[alpha-]	5103-71-9	Violet-green Swallow (Avian aerial insectivore)	0.35	1.7	mg/kg	PEST	Bird
Chlordane[gamma-]	5103-74-2	American kestrel (insectivore / carnivore)	11	56	mg/kg	PEST	Bird
Chlordane[gamma-]	5103-74-2	American robin (Avian herbivore)	20	100	mg/kg	PEST	Bird
Chlordane[gamma-]	5103-74-2	American robin (Avian omnivore)	4.1	20	mg/kg	PEST	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Chlordane[gamma-]	5103-74-2	Mountain cottontail (Mammalian herbivore)	63	630	mg/kg	PEST	Mammal
Chlordane[gamma-]	5103-74-2	Montane shrew (Mammalian insectivore)	2.3	23	mg/kg	PEST	Mammal
Chlordane[gamma-]	5103-74-2	Occult little brown myotis bat (Mammalian aerial insectivore)	2.6	26	mg/kg	PEST	Mammal
Chlordane[gamma-]	5103-74-2	Gray fox (Mammalian top carnivore)	420	4200	mg/kg	PEST	Mammal
Chlorobenzene	108-90-7	Deer mouse (Mammalian omnivore)	53	530	mg/kg	SVOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Chlorobenzene	108-90-7	Mountain cottontail (Mammalian herbivore)	170	1700	mg/kg	SVOC	Mammal
Chlorobenzene	108-90-7	Occult little brown myotis bat (Mammalian aerial insectivore)	48	480	mg/kg	SVOC	Mammal
Chlorobenzene	108-90-7	Gray fox (Mammalian top carnivore)	25000	250000	mg/kg	SVOC	Mammal
Chloroform	67-66-3	Mountain cottontail (Mammalian herbivore)	19	52	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Chloroform	67-66-3	Occult little brown myotis bat (Mammalian aerial insectivore)	9.2	25	mg/kg	VOC	Mammal
Chloroform	67-66-3	Gray fox (Mammalian top carnivore)	8900	24000	mg/kg	VOC	Mammal
Chlorophenol[2-]	95-57-8	American kestrel (Avian top carnivore)	310	3100	mg/kg	SVOC	Mammal
Chlorophenol[2-]	95-57-8	American kestrel (insectivore / carnivore)	14	140	mg/kg	SVOC	Bird
Chlorophenol[2-]	95-57-8	American robin (Avian insectivore)	2.6	26	mg/kg	SVOC	Bird
Chlorophenol[2-]	95-57-8	American robin (Avian omnivore)	0.68	6.8	mg/kg	SVOC	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Chlorophenol[2-]	95-57-8	Mountain cottontail (Mammalian herbivore)	0.74	7.4	mg/kg	SVOC	Mammal
Chlorophenol[2-]	95-57-8	Montane shrew (Mammalian insectivore)	2.3	23	mg/kg	SVOC	Mammal
Chlorophenol[2-]	95-57-8	Occult little brown myotis bat (Mammalian aerial insectivore)	2.6	26	mg/kg	SVOC	Mammal
Chlorophenol[2-]	95-57-8	Gray fox (Mammalian top carnivore)	340	3400	mg/kg	SVOC	Mammal
Chlorophenol[2-]	95-57-8	Violet-green Swallow (Avian aerial insectivore)	3.9	39	mg/kg	SVOC	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Chromium (total)	CR	American kestrel (Avian top carnivore)	860	2700	mg/kg	INORG	Mammal
Chromium (total)	CR	American kestrel (insectivore / carnivore)	170	560	mg/kg	INORG	Bird
Chromium (total)	CR	American robin (Avian herbivore)	51	160	mg/kg	INORG	Bird
Chromium (total)	CR	American robin (Avian insectivore)	23	73	mg/kg	INORG	Bird
Chromium (total)	CR	American robin (Avian omnivore)	32	100	mg/kg	INORG	Bird
Chromium (total)	CR	Mountain cottontail (Mammalian herbivore)	410	41000	mg/kg	INORG	Mammal
Chromium (total)	CR	Montane shrew (Mammalian insectivore)	63	6300	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Chromium (total)	CR	Occult little brown myotis bat (Mammalian aerial insectivore)	83	830	mg/kg	INORG	Mammal
Chromium (total)	CR	Violet-green Swallow (Avian aerial insectivore)	60	600	mg/kg	INORG	Bird
Chromium(+6)	CR(+6)	American kestrel (Avian top carnivore)	3600	36000	mg/kg	INORG	Mammal
Chromium(+6)	CR(+6)	American kestrel (insectivore / carnivore)	1400	14000	mg/kg	INORG	Bird
Chromium(+6)	CR(+6)	American robin (Avian herbivore)	210	2100	mg/kg	INORG	Bird
Chromium(+6)	CR(+6)	American robin (Avian insectivore)	140	1400	mg/kg	INORG	Bird
Chromium(+6)	CR(+6)	American robin (Avian omnivore)	160	1600	mg/kg	INORG	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Chromium(+6)	CR(+6)	Deer mouse (Mammalian omnivore)	850	5500	mg/kg	INORG	Mammal
Chromium(+6)	CR(+6)	Mountain cottontail (Mammalian herbivore)	1600	10000	mg/kg	INORG	Mammal
Chromium(+6)	CR(+6)	Montane shrew (Mammalian insectivore)	510	3300	mg/kg	INORG	Mammal
Chromium(+6)	CR(+6)	Occult little brown myotis bat (Mammalian aerial insectivore)	860	8600	mg/kg	INORG	Mammal
Chromium(+6)	CR(+6)	Gray fox (Mammalian top carnivore)	7200	46000	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Chromium(+6)	CR(+6)	Violet-green Swallow (Avian aerial insectivore)	660	6600	mg/kg	INORG	Bird
Chrysene	218-01-9	Mountain cottontail (Mammalian herbivore)	6.3	63	mg/kg	PAH	Mammal
Chrysene	218-01-9	Montane shrew (Mammalian insectivore)	3.1	31	mg/kg	PAH	Mammal
Chrysene	218-01-9	Occult little brown myotis bat (Mammalian aerial insectivore)	3.9	39	mg/kg	PAH	Mammal
Cobalt	CO	American kestrel (Avian top carnivore)	2300	5200	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Cobalt	CO	American kestrel (insectivore / carnivore)	620	1400	mg/kg	INORG	Bird
Cobalt	CO	American robin (Avian herbivore)	130	300	mg/kg	INORG	Bird
Cobalt	CO	American robin (Avian insectivore)	76	170	mg/kg	INORG	Bird
Cobalt	CO	American robin (Avian omnivore)	97	210	mg/kg	INORG	Bird
Cobalt	CO	Mountain cottontail (Mammalian herbivore)	1000	2800	mg/kg	INORG	Mammal
Cobalt	CO	Montane shrew (Mammalian insectivore)	240	640	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Cobalt	CO	Occult little brown myotis bat (Mammalian aerial insectivore)	330	3300	mg/kg	INORG	Mammal
Cobalt	CO	Gray fox (Mammalian top carnivore)	5400	14000	mg/kg	INORG	Mammal
Cobalt	CO	Violet-green Swallow (Avian aerial insectivore)	220	2200	mg/kg	INORG	Bird
Copper	CU	American kestrel (Avian top carnivore)	1100	3500	mg/kg	INORG	Mammal
Copper	CU	American kestrel (insectivore / carnivore)	80	240	mg/kg	INORG	Bird
Copper	CU	American robin (Avian herbivore)	34	100	mg/kg	INORG	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Copper	CU	American robin (Avian insectivore)	14	43	mg/kg	INORG	Bird
Copper	CU	American robin (Avian omnivore)	20	60	mg/kg	INORG	Bird
Copper	CU	Mountain cottontail (Mammalian herbivore)	260	430	mg/kg	INORG	Mammal
Copper	CU	Montane shrew (Mammalian insectivore)	42	70	mg/kg	INORG	Mammal
Copper	CU	Occult little brown myotis bat (Mammalian aerial insectivore)	49	81	mg/kg	INORG	Mammal
Cyanide (total)	CN(-1)	American kestrel (insectivore / carnivore)	0.36	3.6	mg/kg	INORG	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Cyanide (total)	CN(-1)	American robin (Avian insectivore)	0.098	0.98	mg/kg	INORG	Bird
Cyanide (total)	CN(-1)	American robin (Avian omnivore)	0.099	0.99	mg/kg	INORG	Bird
Cyanide (total)	CN(-1)	Deer mouse (Mammalian omnivore)	330	3300	mg/kg	INORG	Mammal
Cyanide (total)	CN(-1)	Mountain cottontail (Mammalian herbivore)	790	7900	mg/kg	INORG	Mammal
Cyanide (total)	CN(-1)	Montane shrew (Mammalian insectivore)	330	3300	mg/kg	INORG	Mammal
Cyanide (total)	CN(-1)	Occult little brown myotis bat (Mammalian aerial insectivore)	380	3800	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Cyanide (total)	CN(-1)	Gray fox (Mammalian top carnivore)	3300	33000	mg/kg	INORG	Mammal
DDD[4,4'-]	72-54-8	American kestrel (Avian top carnivore)	0.9	4.6	mg/kg	PEST	Mammal
DDD[4,4'-]	72-54-8	American kestrel (insectivore / carnivore)	0.03	0.15	mg/kg	PEST	Bird
DDD[4,4'-]	72-54-8	American robin (Avian herbivore)	0.12	0.66	mg/kg	PEST	Bird
DDD[4,4'-]	72-54-8	Deer mouse (Mammalian omnivore)	7.9	15	mg/kg	PEST	Mammal
DDD[4,4'-]	72-54-8	Mountain cottontail (Mammalian herbivore)	250	510	mg/kg	PEST	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
DDD[4,4'-]	72-54-8	Occult little brown myotis bat (Mammalian aerial insectivore)	4.6	9.2	mg/kg	PEST	Mammal
DDD[4,4'-]	72-54-8	Gray fox (Mammalian top carnivore)	1000	2000	mg/kg	PEST	Mammal
DDD[4,4'-]	72-54-8	Violet-green Swallow (Avian aerial insectivore)	0.0082	0.042	mg/kg	PEST	Bird
DDE[4,4'-]	72-55-9	American kestrel (Avian top carnivore)	20	100	mg/kg	PEST	Mammal
DDE[4,4'-]	72-55-9	American kestrel (insectivore / carnivore)	0.52	2.6	mg/kg	PEST	Bird
DDE[4,4'-]	72-55-9	American robin (Avian herbivore)	4.9	24	mg/kg	PEST	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
DDE[4,4'-]	72-55-9	Occult little brown myotis bat (Mammalian aerial insectivore)	4.1	10	mg/kg	PEST	Mammal
DDE[4,4'-]	72-55-9	Gray fox (Mammalian top carnivore)	1100	2900	mg/kg	PEST	Mammal
DDT[4,4'-]	50-29-3	American kestrel (Avian top carnivore)	83	240	mg/kg	PEST	Mammal
DDT[4,4'-]	50-29-3	American kestrel (insectivore / carnivore)	1.7	5.1	mg/kg	PEST	Bird
DDT[4,4'-]	50-29-3	American robin (Avian herbivore)	24	72	mg/kg	PEST	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
DDT[4,4'-]	50-29-3	Mountain cottontail (Mammalian herbivore)	10	53	mg/kg	PEST	Mammal
DDT[4,4'-]	50-29-3	Occult little brown myotis bat (Mammalian aerial insectivore)	0.049	0.24	mg/kg	PEST	Mammal
DDT[4,4'-]	50-29-3	Gray fox (Mammalian top carnivore)	18	91	mg/kg	PEST	Mammal
DDT[4,4'-]	50-29-3	Violet-green Swallow (Avian aerial insectivore)	0.47	1.3	mg/kg	PEST	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Dibenzo(a,h)anthracene	53-70-3	Mountain cottontail (Mammalian herbivore)	84	840	mg/kg	PAH	Mammal
Dibenzo(a,h)anthracene	53-70-3	Montane shrew (Mammalian insectivore)	14	140	mg/kg	PAH	Mammal
Dibenzo(a,h)anthracene	53-70-3	Occult little brown myotis bat (Mammalian aerial insectivore)	17	170	mg/kg	PAH	Mammal
Dichlorobenzene[1,2-]	95-50-1	Mountain cottontail (Mammalian herbivore)	12	120	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Dichlorobenzene[1,2-]	95-50-1	Occult little brown myotis bat (Mammalian aerial insectivore)	1	10	mg/kg	VOC	Mammal
Dichlorobenzene[1,2-]	95-50-1	Gray fox (Mammalian top carnivore)	480	4800	mg/kg	VOC	Mammal
Dichlorobenzene[1,3-]	541-73-1	Deer mouse (Mammalian omnivore)	1.2	12	mg/kg	VOC	Mammal
Dichlorobenzene[1,3-]	541-73-1	Mountain cottontail (Mammalian herbivore)	13	130	mg/kg	VOC	Mammal
Dichlorobenzene[1,3-]	541-73-1	Montane shrew (Mammalian insectivore)	0.74	7.4	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Dichlorobenzene[1,3-]	541-73-1	Occult little brown myotis bat (Mammalian aerial insectivore)	0.82	8.2	mg/kg	VOC	Mammal
Dichlorobenzene[1,3-]	541-73-1	Gray fox (Mammalian top carnivore)	380	3800	mg/kg	VOC	Mammal
Dichlorobenzene[1,4-]	106-46-7	Mountain cottontail (Mammalian herbivore)	12	49	mg/kg	VOC	Mammal
Dichlorobenzene[1,4-]	106-46-7	Occult little brown myotis bat (Mammalian aerial insectivore)	0.99	3.9	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Dichlorobenzene[1,4-]	106-46-7	Gray fox (Mammalian top carnivore)	470	1800	mg/kg	VOC	Mammal
Dichloroethane[1,1-]	75-34-3	Mountain cottontail (Mammalian herbivore)	410	4100	mg/kg	VOC	Mammal
Dichloroethane[1,1-]	75-34-3	Occult little brown myotis bat (Mammalian aerial insectivore)	330	3300	mg/kg	VOC	Mammal
Dichloroethane[1,1-]	75-34-3	Gray fox (Mammalian top carnivore)	250000	2500000	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Dichloroethane[1,2-]	107-06-2	American kestrel (Avian top carnivore)	1300	2700	mg/kg	VOC	Mammal
Dichloroethane[1,2-]	107-06-2	American kestrel (insectivore / carnivore)	22	44	mg/kg	VOC	Bird
Dichloroethane[1,2-]	107-06-2	American robin (Avian insectivore)	4.5	9	mg/kg	VOC	Bird
Dichloroethane[1,2-]	107-06-2	Mountain cottontail (Mammalian herbivore)	39	390	mg/kg	VOC	Mammal
Dichloroethane[1,2-]	107-06-2	Montane shrew (Mammalian insectivore)	91	910	mg/kg	VOC	Mammal
Dichloroethane[1,2-]	107-06-2	Occult little brown myotis bat (Mammalian aerial insectivore)	100	1000	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Dichloroethane[1,2-]	107-06-2	Gray fox (Mammalian top carnivore)	36000	360000	mg/kg	VOC	Mammal
Dichloroethene[1,1-]	75-35-4	Mountain cottontail (Mammalian herbivore)	44	440	mg/kg	VOC	Mammal
Dichloroethene[1,1-]	75-35-4	Occult little brown myotis bat (Mammalian aerial insectivore)	13	130	mg/kg	VOC	Mammal
Dichloroethene[1,1-]	75-35-4	Gray fox (Mammalian top carnivore)	14000	140000	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Dichloroethene[cis/trans-1,2-]	540-59-0	Mountain cottontail (Mammalian herbivore)	64	640	mg/kg	VOC	Mammal
Dichloroethene[cis/trans-1,2-]	540-59-0	Montane shrew (Mammalian insectivore)	24	240	mg/kg	VOC	Mammal
Dichloroethene[cis/trans-1,2-]	540-59-0	Occult little brown myotis bat (Mammalian aerial insectivore)	26	260	mg/kg	VOC	Mammal
Dichloroethene[cis/trans-1,2-]	540-59-0	Gray fox (Mammalian top carnivore)	25000	250000	mg/kg	VOC	Mammal
Dieldrin	60-57-1	American kestrel (Avian top carnivore)	1.7	93	mg/kg	PEST	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Dieldrin	60-57-1	American kestrel (insectivore / carnivore)	0.056	3	mg/kg	PEST	Bird
Dieldrin	60-57-1	American robin (Avian herbivore)	0.33	17	mg/kg	PEST	Bird
Dieldrin	60-57-1	Mountain cottontail (Mammalian herbivore)	0.34	0.69	mg/kg	PEST	Mammal
Dieldrin	60-57-1	Occult little brown myotis bat (Mammalian aerial insectivore)	0.005	0.01	mg/kg	PEST	Mammal
Dieldrin	60-57-1	Gray fox (Mammalian top carnivore)	1.1	2.3	mg/kg	PEST	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Diethyl Phthalate	84-66-2	Mountain cottontail (Mammalian herbivore)	8800	88000	mg/kg	SVOC	Mammal
Diethyl Phthalate	84-66-2	Occult little brown myotis bat (Mammalian aerial insectivore)	4000	40000	mg/kg	SVOC	Mammal
Diethyl Phthalate	84-66-2	Gray fox (Mammalian top carnivore)	2500000	25000000	mg/kg	SVOC	Mammal
Dimethyl Phthalate	131-11-3	Mountain cottontail (Mammalian herbivore)	60	740	mg/kg	SVOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Dimethyl Phthalate	131-11-3	Montane shrew (Mammalian insectivore)	80	980	mg/kg	SVOC	Mammal
Dimethyl Phthalate	131-11-3	Occult little brown myotis bat (Mammalian aerial insectivore)	90	1100	mg/kg	SVOC	Mammal
Dimethyl Phthalate	131-11-3	Gray fox (Mammalian top carnivore)	48000	590000	mg/kg	SVOC	Mammal
Di-n-Butyl Phthalate	84-74-2	American kestrel (Avian top carnivore)	2	20	mg/kg	SVOC	Mammal
Di-n-Butyl Phthalate	84-74-2	American kestrel (insectivore / carnivore)	0.052	0.52	mg/kg	SVOC	Bird
Di-n-Butyl Phthalate	84-74-2	American robin (Avian herbivore)	0.38	3.8	mg/kg	SVOC	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Di-n-Butyl Phthalate	84-74-2	Deer mouse (Mammalian omnivore)	360	860	mg/kg	SVOC	Mammal
Di-n-Butyl Phthalate	84-74-2	Mountain cottontail (Mammalian herbivore)	17000	40000	mg/kg	SVOC	Mammal
Di-n-Butyl Phthalate	84-74-2	Occult little brown myotis bat (Mammalian aerial insectivore)	210	490	mg/kg	SVOC	Mammal
Di-n-Butyl Phthalate	84-74-2	Gray fox (Mammalian top carnivore)	62000	140000	mg/kg	SVOC	Mammal
Dinitrobenzene[1,3-]	99-65-0	American kestrel (Avian top carnivore)	120	1200	mg/kg	HE	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Dinitrobenzene[1,3-]	99-65-0	American kestrel (insectivore / carnivore)	9.3	93	mg/kg	HE	Bird
Dinitrobenzene[1,3-]	99-65-0	American robin (Avian insectivore)	1.6	16	mg/kg	HE	Bird
Dinitrobenzene[1,3-]	99-65-0	Deer mouse (Mammalian omnivore)	0.072	0.16	mg/kg	HE	Mammal
Dinitrobenzene[1,3-]	99-65-0	Mountain cottontail (Mammalian herbivore)	0.091	0.21	mg/kg	HE	Mammal
Dinitrobenzene[1,3-]	99-65-0	Montane shrew (Mammalian insectivore)	0.95	2.2	mg/kg	HE	Mammal
Dinitrobenzene[1,3-]	99-65-0	Occult little brown myotis bat (Mammalian aerial insectivore)	1.1	2.5	mg/kg	HE	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Dinitrobenzene[1,3-]	99-65-0	Gray fox (Mammalian top carnivore)	82	190	mg/kg	HE	Mammal
Dinitrotoluene[2,4-]	121-14-2	Mountain cottontail (Mammalian herbivore)	74	740	mg/kg	HE	Mammal
Dinitrotoluene[2,4-]	121-14-2	Montane shrew (Mammalian insectivore)	14	140	mg/kg	HE	Mammal
Dinitrotoluene[2,4-]	121-14-2	Occult little brown myotis bat (Mammalian aerial insectivore)	16	160	mg/kg	HE	Mammal
Dinitrotoluene[2,6-]	606-20-2	American kestrel (Avian top carnivore)	18000	180000	mg/kg	HE	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Dinitrotoluene[2,6-]	606-20-2	American kestrel (insectivore / carnivore)	680	6800	mg/kg	HE	Bird
Dinitrotoluene[2,6-]	606-20-2	American robin (Avian omnivore)	74	740	mg/kg	HE	Bird
Dinitrotoluene[2,6-]	606-20-2	Deer mouse (Mammalian omnivore)	4	40	mg/kg	HE	Mammal
Dinitrotoluene[2,6-]	606-20-2	Mountain cottontail (Mammalian herbivore)	6.7	67	mg/kg	HE	Mammal
Dinitrotoluene[2,6-]	606-20-2	Montane shrew (Mammalian insectivore)	7.6	76	mg/kg	HE	Mammal
Dinitrotoluene[2,6-]	606-20-2	Occult little brown myotis bat (Mammalian aerial insectivore)	8.6	86	mg/kg	HE	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Di-n-octylphthalate	117-84-0	Mountain cottontail (Mammalian herbivore)	8400	84000	mg/kg	SVOC	Mammal
Di-n-octylphthalate	117-84-0	Occult little brown myotis bat (Mammalian aerial insectivore)	1	10	mg/kg	SVOC	Mammal
Di-n-octylphthalate	117-84-0	Gray fox (Mammalian top carnivore)	1300	13000	mg/kg	SVOC	Mammal
Diphenylamine	122-39-4	American kestrel (Avian top carnivore)	3900	6500	mg/kg	VOC	Mammal
Diphenylamine	122-39-4	American kestrel (insectivore / carnivore)	49	81	mg/kg	VOC	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Diphenylamine	122-39-4	American robin (Avian herbivore)	78	130	mg/kg	VOC	Bird
Diphenylamine	122-39-4	American robin (Avian omnivore)	17	29	mg/kg	VOC	Bird
Endosulfan	115-29-7	American kestrel (Avian top carnivore)	2500	25000	mg/kg	PEST	Mammal
Endosulfan	115-29-7	American kestrel (insectivore / carnivore)	200	2000	mg/kg	PEST	Bird
Endosulfan	115-29-7	American robin (Avian insectivore)	37	370	mg/kg	PEST	Bird
Endosulfan	115-29-7	American robin (Avian omnivore)	21	210	mg/kg	PEST	Bird
Endosulfan	115-29-7	Mountain cottontail (Mammalian herbivore)	1	10	mg/kg	PEST	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Endosulfan	115-29-7	Montane shrew (Mammalian insectivore)	1.1	11	mg/kg	PEST	Mammal
Endosulfan	115-29-7	Occult little brown myotis bat (Mammalian aerial insectivore)	1.3	13	mg/kg	PEST	Mammal
Endosulfan	115-29-7	Gray fox (Mammalian top carnivore)	95	950	mg/kg	PEST	Mammal
Endosulfan	115-29-7	Violet-green Swallow (Avian aerial insectivore)	60	600	mg/kg	PEST	Bird
Endrin	72-20-8	American kestrel (Avian top carnivore)	0.21	2.1	mg/kg	PEST	Mammal
Endrin	72-20-8	American kestrel (insectivore / carnivore)	0.0068	0.068	mg/kg	PEST	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Endrin	72-20-8	American robin (Avian herbivore)	0.046	0.46	mg/kg	PEST	Bird
Endrin	72-20-8	Deer mouse (Mammalian omnivore)	0.045	0.45	mg/kg	PEST	Mammal
Endrin	72-20-8	Mountain cottontail (Mammalian herbivore)	2.1	21	mg/kg	PEST	Mammal
Endrin	72-20-8	Occult little brown myotis bat (Mammalian aerial insectivore)	0.026	0.26	mg/kg	PEST	Mammal
Endrin	72-20-8	Gray fox (Mammalian top carnivore)	6.3	63	mg/kg	PEST	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Endrin	72-20-8	Violet-green Swallow (Avian aerial insectivore)	0.0018	0.018	mg/kg	PEST	Bird
Fluoranthene	206-44-0	Mountain cottontail (Mammalian herbivore)	270	2700	mg/kg	PAH	Mammal
Fluoranthene	206-44-0	Occult little brown myotis bat (Mammalian aerial insectivore)	25	250	mg/kg	PAH	Mammal
Fluoranthene	206-44-0	Gray fox (Mammalian top carnivore)	3900	39000	mg/kg	PAH	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Fluorene	86-73-7	Mountain cottontail (Mammalian herbivore)	1100	2300	mg/kg	PAH	Mammal
Fluorene	86-73-7	Occult little brown myotis bat (Mammalian aerial insectivore)	280	570	mg/kg	PAH	Mammal
Fluorene	86-73-7	Gray fox (Mammalian top carnivore)	50000	100000	mg/kg	PAH	Mammal
Fluoride	F(-1)	American kestrel (Avian top carnivore)	2200	22000	mg/kg	INORG	Mammal
Fluoride	F(-1)	American kestrel (insectivore / carnivore)	910	9100	mg/kg	INORG	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Fluoride	F(-1)	American robin (Avian herbivore)	170	1700	mg/kg	INORG	Bird
Fluoride	F(-1)	American robin (Avian insectivore)	120	1200	mg/kg	INORG	Bird
Fluoride	F(-1)	American robin (Avian omnivore)	140	1400	mg/kg	INORG	Bird
Fluoride	F(-1)	Deer mouse (Mammalian omnivore)	1100	2100	mg/kg	INORG	Mammal
Fluoride	F(-1)	Mountain cottontail (Mammalian herbivore)	2600	4800	mg/kg	INORG	Mammal
Fluoride	F(-1)	Montane shrew (Mammalian insectivore)	870	1600	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Fluoride	F(-1)	Occult little brown myotis bat (Mammalian aerial insectivore)	1100	2200	mg/kg	INORG	Mammal
Fluoride	F(-1)	Gray fox (Mammalian top carnivore)	13000	24000	mg/kg	INORG	Mammal
Fluoride	F(-1)	Violet-green Swallow (Avian aerial insectivore)	350	3500	mg/kg	INORG	Bird
Heptachlor	76-44-8	American kestrel (Avian top carnivore)	45	450	mg/kg	PEST	Mammal
Heptachlor	76-44-8	American kestrel (insectivore / carnivore)	1.4	14	mg/kg	PEST	Bird
Heptachlor	76-44-8	American robin (Avian herbivore)	7.7	77	mg/kg	PEST	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Heptachlor	76-44-8	Mountain cottontail (Mammalian herbivore)	4.6	46	mg/kg	PEST	Mammal
Heptachlor	76-44-8	Occult little brown myotis bat (Mammalian aerial insectivore)	0.066	0.66	mg/kg	PEST	Mammal
Heptachlor	76-44-8	Gray fox (Mammalian top carnivore)	15	150	mg/kg	PEST	Mammal
Heptachlor	76-44-8	Violet-green Swallow (Avian aerial insectivore)	0.39	3.9	mg/kg	PEST	Bird
Hexachlorobenzene	118-74-1	American kestrel (Avian top carnivore)	12	120	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Hexachlorobenzene	118-74-1	American kestrel (insectivore / carnivore)	0.37	3.7	mg/kg	VOC	Bird
Hexachlorobenzene	118-74-1	American robin (Avian herbivore)	83	830	mg/kg	VOC	Bird
Hexachlorobenzene	118-74-1	Deer mouse (Mammalian omnivore)	0.39	3.9	mg/kg	VOC	Mammal
Hexachlorobenzene	118-74-1	Mountain cottontail (Mammalian herbivore)	910	9100	mg/kg	VOC	Mammal
Hexachlorobenzene	118-74-1	Occult little brown myotis bat (Mammalian aerial insectivore)	0.22	2.2	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Hexachlorobenzene	118-74-1	Gray fox (Mammalian top carnivore)	59	590	mg/kg	VOC	Mammal
Hexanone[2-]	591-78-6	American kestrel (Avian top carnivore)	290	2900	mg/kg	VOC	Mammal
Hexanone[2-]	591-78-6	American kestrel (insectivore / carnivore)	1.7	17	mg/kg	VOC	Bird
Hexanone[2-]	591-78-6	Mountain cottontail (Mammalian herbivore)	17	65	mg/kg	VOC	Mammal
Hexanone[2-]	591-78-6	Occult little brown myotis bat (Mammalian aerial insectivore)	6	23	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Hexanone[2-]	591-78-6	Violet-green Swallow (Avian aerial insectivore)	0.47	4.7	mg/kg	VOC	Bird
HMX	2691-41-0	Deer mouse (Mammalian omnivore)	290	790	mg/kg	HE	Mammal
HMX	2691-41-0	Mountain cottontail (Mammalian herbivore)	410	1100	mg/kg	HE	Mammal
HMX	2691-41-0	Montane shrew (Mammalian insectivore)	1100	2900	mg/kg	HE	Mammal
HMX	2691-41-0	Occult little brown myotis bat (Mammalian aerial insectivore)	1300	3500	mg/kg	HE	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Indeno(1,2,3-cd)pyrene	193-39-5	Mountain cottontail (Mammalian herbivore)	510	5100	mg/kg	PAH	Mammal
Indeno(1,2,3-cd)pyrene	193-39-5	Montane shrew (Mammalian insectivore)	71	710	mg/kg	PAH	Mammal
Indeno(1,2,3-cd)pyrene	193-39-5	Occult little brown myotis bat (Mammalian aerial insectivore)	83	830	mg/kg	PAH	Mammal
Iodomethane	74-88-4	American kestrel (Avian top carnivore)	46	92	mg/kg	VOC	Mammal
Iodomethane	74-88-4	American kestrel (insectivore / carnivore)	0.29	0.59	mg/kg	VOC	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Kepone	143-50-0	American kestrel (Avian top carnivore)	190	380	mg/kg	PEST	Mammal
Kepone	143-50-0	American kestrel (insectivore / carnivore)	6.1	12	mg/kg	PEST	Bird
Kepone	143-50-0	American robin (Avian herbivore)	46	92	mg/kg	PEST	Bird
Kepone	143-50-0	Mountain cottontail (Mammalian herbivore)	2.1	10	mg/kg	PEST	Mammal
Kepone	143-50-0	Montane shrew (Mammalian insectivore)	0.022	0.11	mg/kg	PEST	Mammal
Kepone	143-50-0	Occult little brown myotis bat (Mammalian aerial insectivore)	0.024	0.12	mg/kg	PEST	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Kepone	143-50-0	Gray fox (Mammalian top carnivore)	5.8	29	mg/kg	PEST	Mammal
Kepone	143-50-0	Violet-green Swallow (Avian aerial insectivore)	1.6	3.3	mg/kg	PEST	Bird
Lead	PB	American kestrel (Avian top carnivore)	540	1000	mg/kg	INORG	Mammal
Lead	PB	American kestrel (insectivore / carnivore)	83	160	mg/kg	INORG	Bird
Lead	PB	American robin (Avian herbivore)	18	36	mg/kg	INORG	Bird
Lead	PB	American robin (Avian insectivore)	11	23	mg/kg	INORG	Bird
Lead	PB	American robin (Avian omnivore)	14	28	mg/kg	INORG	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Lead	PB	Mountain cottontail (Mammalian herbivore)	310	600	mg/kg	INORG	Mammal
Lead	PB	Montane shrew (Mammalian insectivore)	93	170	mg/kg	INORG	Mammal
Lead	PB	Occult little brown myotis bat (Mammalian aerial insectivore)	110	220	mg/kg	INORG	Mammal
Lead	PB	Violet-green Swallow (Avian aerial insectivore)	26	52	mg/kg	INORG	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Lithium	LI	Mountain cottontail (Mammalian herbivore)	150	750	mg/kg	INORG	Mammal
Lithium	LI	Montane shrew (Mammalian insectivore)	75	350	mg/kg	INORG	Mammal
Lithium	LI	Occult little brown myotis bat (Mammalian aerial insectivore)	130	650	mg/kg	INORG	Mammal
Lithium	LI	Gray fox (Mammalian top carnivore)	870	4100	mg/kg	INORG	Mammal
Manganese	MN	American kestrel (Avian top carnivore)	60000	120000	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Manganese	MN	American kestrel (insectivore / carnivore)	24000	50000	mg/kg	INORG	Bird
Manganese	MN	American robin (Avian herbivore)	1300	2700	mg/kg	INORG	Bird
Manganese	MN	American robin (Avian insectivore)	2200	4700	mg/kg	INORG	Bird
Manganese	MN	American robin (Avian omnivore)	1600	3500	mg/kg	INORG	Bird
Manganese	MN	Mountain cottontail (Mammalian herbivore)	2000	7500	mg/kg	INORG	Mammal
Manganese	MN	Montane shrew (Mammalian insectivore)	2800	10000	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Manganese	MN	Occult little brown myotis bat (Mammalian aerial insectivore)	4700	47000	mg/kg	INORG	Mammal
Manganese	MN	Gray fox (Mammalian top carnivore)	40000	150000	mg/kg	INORG	Mammal
Manganese	MN	Violet-green Swallow (Avian aerial insectivore)	10000	100000	mg/kg	INORG	Bird
Mercury (inorganic)	HGI	American kestrel (Avian top carnivore)	0.32	3.2	mg/kg	INORG	Mammal
Mercury (inorganic)	HGI	American kestrel (insectivore / carnivore)	0.058	0.58	mg/kg	INORG	Bird
Mercury (inorganic)	HGI	American robin (Avian herbivore)	0.067	0.67	mg/kg	INORG	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Mercury (inorganic)	HGI	Mountain cottontail (Mammalian herbivore)	23	230	mg/kg	INORG	Mammal
Mercury (inorganic)	HGI	Occult little brown myotis bat (Mammalian aerial insectivore)	2	20	mg/kg	INORG	Mammal
Mercury (inorganic)	HGI	Gray fox (Mammalian top carnivore)	76	760	mg/kg	INORG	Mammal
Mercury (inorganic)	HGI	Violet-green Swallow (Avian aerial insectivore)	0.017	0.17	mg/kg	INORG	Bird
Mercury (methyl)	HGM	American kestrel (Avian top carnivore)	0.009	0.09	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Mercury (methyl)	HGM	American kestrel (insectivore / carnivore)	0.0015	0.015	mg/kg	INORG	Bird
Mercury (methyl)	HGM	American robin (Avian herbivore)	0.066	0.66	mg/kg	INORG	Bird
Mercury (methyl)	HGM	Occult little brown myotis bat (Mammalian aerial insectivore)	0.0035	0.017	mg/kg	INORG	Mammal
Mercury (methyl)	HGM	Gray fox (Mammalian top carnivore)	0.14	0.74	mg/kg	INORG	Mammal
Mercury (methyl)	HGM	Violet-green Swallow (Avian aerial insectivore)	0.00045	0.0045	mg/kg	INORG	Bird
Methoxychlor[4,4'-]	72-43-5	American kestrel (Avian top carnivore)	2100	21000	mg/kg	PEST	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Methoxychlor[4,4'-]	72-43-5	American kestrel (insectivore / carnivore)	87	880	mg/kg	PEST	Bird
Methoxychlor[4,4'-]	72-43-5	American robin (Avian omnivore)	31	310	mg/kg	PEST	Bird
Methoxychlor[4,4'-]	72-43-5	Mountain cottontail (Mammalian herbivore)	83	160	mg/kg	PEST	Mammal
Methoxychlor[4,4'-]	72-43-5	Occult little brown myotis bat (Mammalian aerial insectivore)	5.7	11	mg/kg	PEST	Mammal
Methoxychlor[4,4'-]	72-43-5	Gray fox (Mammalian top carnivore)	1000	2000	mg/kg	PEST	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Methyl-2-pentanone[4-]	108-10-1	Deer mouse (Mammalian omnivore)	9.7	97	mg/kg	VOC	Mammal
Methyl-2-pentanone[4-]	108-10-1	Mountain cottontail (Mammalian herbivore)	17	170	mg/kg	VOC	Mammal
Methyl-2-pentanone[4-]	108-10-1	Occult little brown myotis bat (Mammalian aerial insectivore)	17	170	mg/kg	VOC	Mammal
Methyl-2-pentanone[4-]	108-10-1	Gray fox (Mammalian top carnivore)	18000	180000	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Methylene Chloride	75-09-2	Mountain cottontail (Mammalian herbivore)	3.8	32	mg/kg	VOC	Mammal
Methylene Chloride	75-09-2	Montane shrew (Mammalian insectivore)	9.2	79	mg/kg	VOC	Mammal
Methylene Chloride	75-09-2	Occult little brown myotis bat (Mammalian aerial insectivore)	10	88	mg/kg	VOC	Mammal
Methylnaphthalene[2-]	91-57-6	Mountain cottontail (Mammalian herbivore)	110	1100	mg/kg	PAH	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Methylnaphthalene[2-]	91-57-6	Occult little brown myotis bat (Mammalian aerial insectivore)	18	180	mg/kg	PAH	Mammal
Methylnaphthalene[2-]	91-57-6	Gray fox (Mammalian top carnivore)	4900	49000	mg/kg	PAH	Mammal
Methylphenol[2-]	95-48-7	Deer mouse (Mammalian omnivore)	580	5800	mg/kg	SVOC	Mammal
Methylphenol[2-]	95-48-7	Mountain cottontail (Mammalian herbivore)	880	8800	mg/kg	SVOC	Mammal
Methylphenol[2-]	95-48-7	Montane shrew (Mammalian insectivore)	1500	15000	mg/kg	SVOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Methylphenol[2-]	95-48-7	Occult little brown myotis bat (Mammalian aerial insectivore)	1700	17000	mg/kg	SVOC	Mammal
Molybdenum	MO	American kestrel (Avian top carnivore)	1100	11000	mg/kg	INORG	Mammal
Molybdenum	MO	American kestrel (insectivore / carnivore)	90	900	mg/kg	INORG	Bird
Molybdenum	MO	American robin (Avian herbivore)	18	180	mg/kg	INORG	Bird
Molybdenum	MO	American robin (Avian insectivore)	15	150	mg/kg	INORG	Bird
Molybdenum	MO	American robin (Avian omnivore)	16	160	mg/kg	INORG	Bird
Molybdenum	MO	Violet-green Swallow (Avian aerial insectivore)	26	260	mg/kg	INORG	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Naphthalene	91-20-3	American kestrel (insectivore / carnivore)	78	780	mg/kg	PAH	Bird
Naphthalene	91-20-3	American robin (Avian insectivore)	15	150	mg/kg	PAH	Bird
Naphthalene	91-20-3	Mountain cottontail (Mammalian herbivore)	14	40	mg/kg	PAH	Mammal
Naphthalene	91-20-3	Montane shrew (Mammalian insectivore)	28	79	mg/kg	PAH	Mammal
Naphthalene	91-20-3	Occult little brown myotis bat (Mammalian aerial insectivore)	31	89	mg/kg	PAH	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Naphthalene	91-20-3	Gray fox (Mammalian top carnivore)	5800	16000	mg/kg	PAH	Mammal
Naphthalene	91-20-3	Violet-green Swallow (Avian aerial insectivore)	21	210	mg/kg	PAH	Bird
Nickel	NI	American kestrel (Avian top carnivore)	2000	8100	mg/kg	INORG	Mammal
Nickel	NI	American kestrel (insectivore / carnivore)	110	440	mg/kg	INORG	Bird
Nickel	NI	American robin (Avian herbivore)	120	500	mg/kg	INORG	Bird
Nickel	NI	American robin (Avian insectivore)	20	81	mg/kg	INORG	Bird
Nickel	NI	American robin (Avian omnivore)	35	130	mg/kg	INORG	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Nickel	NI	Mountain cottontail (Mammalian herbivore)	270	540	mg/kg	INORG	Mammal
Nickel	NI	Montane shrew (Mammalian insectivore)	10	21	mg/kg	INORG	Mammal
Nickel	NI	Occult little brown myotis bat (Mammalian aerial insectivore)	12	24	mg/kg	INORG	Mammal
Nickel	NI	Violet-green Swallow (Avian aerial insectivore)	31	310	mg/kg	INORG	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Nitroaniline[2-]	88-74-4	Mountain cottontail (Mammalian herbivore)	11	22	mg/kg	SVOC	Mammal
Nitroaniline[2-]	88-74-4	Montane shrew (Mammalian insectivore)	6.5	13	mg/kg	SVOC	Mammal
Nitroaniline[2-]	88-74-4	Occult little brown myotis bat (Mammalian aerial insectivore)	7.3	14	mg/kg	SVOC	Mammal
Nitroaniline[2-]	88-74-4	Gray fox (Mammalian top carnivore)	2200	4400	mg/kg	SVOC	Mammal
Nitrobenzene	98-95-3	Deer mouse (Mammalian omnivore)	4.8	48	mg/kg	SVOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Nitrobenzene	98-95-3	Mountain cottontail (Mammalian herbivore)	6.7	67	mg/kg	SVOC	Mammal
Nitrobenzene	98-95-3	Montane shrew (Mammalian insectivore)	21	210	mg/kg	SVOC	Mammal
Nitrobenzene	98-95-3	Occult little brown myotis bat (Mammalian aerial insectivore)	24	240	mg/kg	SVOC	Mammal
Nitrobenzene	98-95-3	Gray fox (Mammalian top carnivore)	4100	41000	mg/kg	SVOC	Mammal
Nitroglycerine	55-63-0	Deer mouse (Mammalian omnivore)	70	740	mg/kg	HE	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Nitroglycerine	55-63-0	Mountain cottontail (Mammalian herbivore)	88	930	mg/kg	HE	Mammal
Nitroglycerine	55-63-0	Montane shrew (Mammalian insectivore)	1200	13000	mg/kg	HE	Mammal
Nitroglycerine	55-63-0	Occult little brown myotis bat (Mammalian aerial insectivore)	1500	16000	mg/kg	HE	Mammal
Nitroglycerine	55-63-0	Gray fox (Mammalian top carnivore)	69000	730000	mg/kg	HE	Mammal
Nitrotoluene[2-]	88-72-2	Deer mouse (Mammalian omnivore)	9.8	98	mg/kg	HE	Mammal

Analyte Name	**Analyte Code**	**ESL Receptor**	**No Effect ESL**	**Low Effect ESL**	**Units**	**Analyte Group**	**ESL Receptor Class**
Nitrotoluene[2-]	88-72-2	Mountain cottontail (Mammalian herbivore)	15	150	mg/kg	HE	Mammal
Nitrotoluene[2-]	88-72-2	Montane shrew (Mammalian insectivore)	22	220	mg/kg	HE	Mammal
Nitrotoluene[2-]	88-72-2	Occult little brown myotis bat (Mammalian aerial insectivore)	25	250	mg/kg	HE	Mammal
Nitrotoluene[2-]	88-72-2	Gray fox (Mammalian top carnivore)	6000	60000	mg/kg	HE	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Nitrotoluene[3-]	99-08-1	Mountain cottontail (Mammalian herbivore)	21	210	mg/kg	HE	Mammal
Nitrotoluene[3-]	99-08-1	Occult little brown myotis bat (Mammalian aerial insectivore)	21	210	mg/kg	HE	Mammal
Nitrotoluene[3-]	99-08-1	Gray fox (Mammalian top carnivore)	7000	70000	mg/kg	HE	Mammal
Nitrotoluene[4-]	99-99-0	Deer mouse (Mammalian omnivore)	21	210	mg/kg	HE	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Nitrotoluene[4-]	99-99-0	Mountain cottontail (Mammalian herbivore)	36	360	mg/kg	HE	Mammal
Nitrotoluene[4-]	99-99-0	Montane shrew (Mammalian insectivore)	41	410	mg/kg	HE	Mammal
Nitrotoluene[4-]	99-99-0	Occult little brown myotis bat (Mammalian aerial insectivore)	46	460	mg/kg	HE	Mammal
Nitrotoluene[4-]	99-99-0	Gray fox (Mammalian top carnivore)	13000	130000	mg/kg	HE	Mammal
Pentachloronitrobenzene	82-68-8	American kestrel (Avian top carnivore)	110	1100	mg/kg	SVOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Pentachloronitrobenzene	82-68-8	American kestrel (insectivore / carnivore)	3.3	33	mg/kg	SVOC	Bird
Pentachloronitrobenzene	82-68-8	American robin (Avian herbivore)	21	210	mg/kg	SVOC	Bird
Pentachloronitrobenzene	82-68-8	Mountain cottontail (Mammalian herbivore)	930	9300	mg/kg	SVOC	Mammal
Pentachloronitrobenzene	82-68-8	Occult little brown myotis bat (Mammalian aerial insectivore)	12	120	mg/kg	SVOC	Mammal
Pentachloronitrobenzene	82-68-8	Gray fox (Mammalian top carnivore)	3500	35000	mg/kg	SVOC	Mammal

Analyte Name	**Analyte Code**	**ESL Receptor**	**No Effect ESL**	**Low Effect ESL**	**Units**	**Analyte Group**	**ESL Receptor Class**
Pentachloronitrobenzene	82-68-8	Violet-green Swallow (Avian aerial insectivore)	0.9	9	mg/kg	SVOC	Bird
Pentachlorophenol	87-86-5	American kestrel (Avian top carnivore)	57	570	mg/kg	SVOC	Mammal
Pentachlorophenol	87-86-5	American kestrel (insectivore / carnivore)	1.7	17	mg/kg	SVOC	Bird
Pentachlorophenol	87-86-5	American robin (Avian herbivore)	29	290	mg/kg	SVOC	Bird
Pentachlorophenol	87-86-5	Deer mouse (Mammalian omnivore)	1.5	15	mg/kg	SVOC	Mammal
Pentachlorophenol	87-86-5	Mountain cottontail (Mammalian herbivore)	180	1800	mg/kg	SVOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Pentachlorophenol	87-86-5	Occult little brown myotis bat (Mammalian aerial insectivore)	0.9	9	mg/kg	SVOC	Mammal
Pentachlorophenol	87-86-5	Gray fox (Mammalian top carnivore)	230	2300	mg/kg	SVOC	Mammal
Pentachlorophenol	87-86-5	Violet-green Swallow (Avian aerial insectivore)	0.47	4.7	mg/kg	SVOC	Bird
Perchlorate Ion	ClO4(-1)	American kestrel (Avian top carnivore)	2	4	mg/kg	INORG	Mammal
Perchlorate Ion	ClO4(-1)	American kestrel (insectivore / carnivore)	3.9	8	mg/kg	INORG	Bird
Perchlorate Ion	ClO4(-1)	American robin (Avian herbivore)	0.12	0.24	mg/kg	INORG	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Perchlorate Ion	ClO4(-1)	American robin (Avian insectivore)	31	64	mg/kg	INORG	Bird
Perchlorate Ion	ClO4(-1)	American robin (Avian omnivore)	0.24	0.49	mg/kg	INORG	Bird
Perchlorate Ion	ClO4(-1)	Deer mouse (Mammalian omnivore)	0.21	1	mg/kg	INORG	Mammal
Perchlorate Ion	ClO4(-1)	Mountain cottontail (Mammalian herbivore)	0.26	1.3	mg/kg	INORG	Mammal
Perchlorate Ion	ClO4(-1)	Earthworm (Soil-dwelling invertebrate)	3.5	35	mg/kg	INORG	Invertebrate
Perchlorate Ion	ClO4(-1)	Generic plant (Terrestrial autotroph - producer)	40	80	mg/kg	INORG	Plant

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Perchlorate Ion	ClO4(-1)	Montane shrew (Mammalian insectivore)	31	150	mg/kg	INORG	Mammal
Perchlorate Ion	ClO4(-1)	Gray fox (Mammalian top carnivore)	3.3	16	mg/kg	INORG	Mammal
PETN	78-11-5	Mountain cottontail (Mammalian herbivore)	120	1200	mg/kg	HE	Mammal
PETN	78-11-5	Montane shrew (Mammalian insectivore)	1000	10000	mg/kg	HE	Mammal
PETN	78-11-5	Occult little brown myotis bat (Mammalian aerial insectivore)	1300	13000	mg/kg	HE	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
PETN	78-11-5	Gray fox (Mammalian top carnivore)	47000	470000	mg/kg	HE	Mammal
Phenanthrene	85-01-8	Mountain cottontail (Mammalian herbivore)	62	620	mg/kg	PAH	Mammal
Phenanthrene	85-01-8	Montane shrew (Mammalian insectivore)	11	110	mg/kg	PAH	Mammal
Phenanthrene	85-01-8	Occult little brown myotis bat (Mammalian aerial insectivore)	12	120	mg/kg	PAH	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Phenanthrene	85-01-8	Gray fox (Mammalian top carnivore)	1900	19000	mg/kg	PAH	Mammal
Phenol	108-95-2	Deer mouse (Mammalian omnivore)	37	370	mg/kg	SVOC	Mammal
Phenol	108-95-2	Mountain cottontail (Mammalian herbivore)	47	470	mg/kg	SVOC	Mammal
Phenol	108-95-2	Montane shrew (Mammalian insectivore)	640	6400	mg/kg	SVOC	Mammal
Phenol	108-95-2	Occult little brown myotis bat (Mammalian aerial insectivore)	750	7500	mg/kg	SVOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Phenol	108-95-2	Gray fox (Mammalian top carnivore)	43000	430000	mg/kg	SVOC	Mammal
Pyrene	129-00-0	American kestrel (Avian top carnivore)	3000	30000	mg/kg	PAH	Mammal
Pyrene	129-00-0	American kestrel (insectivore / carnivore)	160	1600	mg/kg	PAH	Bird
Pyrene	129-00-0	American robin (Avian herbivore)	68	680	mg/kg	PAH	Bird
Pyrene	129-00-0	American robin (Avian insectivore)	33	330	mg/kg	PAH	Bird
Pyrene	129-00-0	American robin (Avian omnivore)	44	440	mg/kg	PAH	Bird
Pyrene	129-00-0	Deer mouse (Mammalian omnivore)	31	310	mg/kg	PAH	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Pyrene	129-00-0	Mountain cottontail (Mammalian herbivore)	110	1100	mg/kg	PAH	Mammal
Pyrene	129-00-0	Montane shrew (Mammalian insectivore)	23	230	mg/kg	PAH	Mammal
Pyrene	129-00-0	Occult little brown myotis bat (Mammalian aerial insectivore)	26	260	mg/kg	PAH	Mammal
Pyrene	129-00-0	Gray fox (Mammalian top carnivore)	3100	31000	mg/kg	PAH	Mammal
Pyrene	129-00-0	Violet-green Swallow (Avian aerial insectivore)	46	460	mg/kg	PAH	Bird

Analyte Name	**Analyte Code**	**ESL Receptor**	**No Effect ESL**	**Low Effect ESL**	**Units**	**Analyte Group**	**ESL Receptor Class**
RDX	121-82-4	American kestrel (Avian top carnivore)	780	1400	mg/kg	HE	Mammal
RDX	121-82-4	American kestrel (insectivore / carnivore)	11	22	mg/kg	HE	Bird
RDX	121-82-4	American robin (Avian omnivore)	2.3	4.4	mg/kg	HE	Bird
RDX	121-82-4	Mountain cottontail (Mammalian herbivore)	38	120	mg/kg	HE	Mammal
RDX	121-82-4	Occult little brown myotis bat (Mammalian aerial insectivore)	18	60	mg/kg	HE	Mammal
RDX	121-82-4	Violet-green Swallow (Avian aerial insectivore)	3.2	6.2	mg/kg	HE	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Selenium	SE	American kestrel (Avian top carnivore)	74	140	mg/kg	INORG	Mammal
Selenium	SE	American kestrel (insectivore / carnivore)	3.7	7.5	mg/kg	INORG	Bird
Selenium	SE	American robin (Avian herbivore)	0.98	1.9	mg/kg	INORG	Bird
Selenium	SE	American robin (Avian insectivore)	0.71	1.4	mg/kg	INORG	Bird
Selenium	SE	American robin (Avian omnivore)	0.83	1.6	mg/kg	INORG	Bird
Selenium	SE	Mountain cottontail (Mammalian herbivore)	2.2	3.4	mg/kg	INORG	Mammal
Selenium	SE	Montane shrew (Mammalian insectivore)	0.7	1	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Selenium	SE	Occult little brown myotis bat (Mammalian aerial insectivore)	0.8	1.2	mg/kg	INORG	Mammal
Silver	AG	American kestrel (Avian top carnivore)	600	6000	mg/kg	INORG	Mammal
Silver	AG	American kestrel (insectivore / carnivore)	13	130	mg/kg	INORG	Bird
Silver	AG	American robin (Avian herbivore)	10	100	mg/kg	INORG	Bird
Silver	AG	American robin (Avian omnivore)	4.1	41	mg/kg	INORG	Bird
Silver	AG	Mountain cottontail (Mammalian herbivore)	150	1500	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Silver	AG	Occult little brown myotis bat (Mammalian aerial insectivore)	16	160	mg/kg	INORG	Mammal
Silver	AG	Gray fox (Mammalian top carnivore)	4400	44000	mg/kg	INORG	Mammal
Strontium (stable)	SR	Deer mouse (Mammalian omnivore)	95	950	mg/kg	INORG	Mammal
Strontium (stable)	SR	Mountain cottontail (Mammalian herbivore)	110	1100	mg/kg	INORG	Mammal
Strontium (stable)	SR	Montane shrew (Mammalian insectivore)	1000	10000	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Strontium (stable)	SR	Occult little brown myotis bat (Mammalian aerial insectivore)	1600	16000	mg/kg	INORG	Mammal
Tetrachlorodibenzodioxin[2,3,7,8-]	1746-01-6	Mountain cottontail (Mammalian herbivore)	0.00004	0.00027	mg/kg	D/F	Mammal
Tetrachlorodibenzodioxin[2,3,7,8-]	1746-01-6	Occult little brown myotis bat (Mammalian aerial insectivore)	0.00000033	0.0000022	mg/kg	D/F	Mammal
Tetrachlorodibenzodioxin[2,3,7,8-]	1746-01-6	Gray fox (Mammalian top carnivore)	0.0001	0.00068	mg/kg	D/F	Mammal
Tetrachloroethene	127-18-4	Deer mouse (Mammalian omnivore)	0.35	1.7	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Tetrachloroethene	127-18-4	Mountain cottontail (Mammalian herbivore)	9.5	47	mg/kg	VOC	Mammal
Tetrachloroethene	127-18-4	Occult little brown myotis bat (Mammalian aerial insectivore)	0.2	1	mg/kg	VOC	Mammal
Tetrachloroethene	127-18-4	Gray fox (Mammalian top carnivore)	120	630	mg/kg	VOC	Mammal
Tetryl	479-45-8	Mountain cottontail (Mammalian herbivore)	1.8	8.9	mg/kg	HE	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Tetryl	479-45-8	Montane shrew (Mammalian insectivore)	60	280	mg/kg	HE	Mammal
Tetryl	479-45-8	Occult little brown myotis bat (Mammalian aerial insectivore)	91	430	mg/kg	HE	Mammal
Tetryl	479-45-8	Gray fox (Mammalian top carnivore)	960	4600	mg/kg	HE	Mammal
Thallium	TL	American kestrel (Avian top carnivore)	100	1000	mg/kg	INORG	Mammal
Thallium	TL	American kestrel (insectivore / carnivore)	48	480	mg/kg	INORG	Bird
Thallium	TL	American robin (Avian herbivore)	6.9	69	mg/kg	INORG	Bird

Analyte Name	**Analyte Code**	**ESL Receptor**	**No Effect ESL**	**Low Effect ESL**	**Units**	**Analyte Group**	**ESL Receptor Class**
Thallium	TL	American robin (Avian insectivore)	4.5	45	mg/kg	INORG	Bird
Thallium	TL	American robin (Avian omnivore)	5.5	55	mg/kg	INORG	Bird
Thallium	TL	Deer mouse (Mammalian omnivore)	0.72	7.2	mg/kg	INORG	Mammal
Thallium	TL	Mountain cottontail (Mammalian herbivore)	1.2	12	mg/kg	INORG	Mammal
Thallium	TL	Montane shrew (Mammalian insectivore)	0.42	4.2	mg/kg	INORG	Mammal
Thallium	TL	Occult little brown myotis bat (Mammalian aerial insectivore)	0.73	7.3	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Thallium	TL	Gray fox (Mammalian top carnivore)	5	50	mg/kg	INORG	Mammal
Thallium	TL	Violet-green Swallow (Avian aerial insectivore)	23	230	mg/kg	INORG	Bird
Titanium	TI	Mountain cottontail (Mammalian herbivore)	2800	28000	mg/kg	INORG	Mammal
Titanium	TI	Montane shrew (Mammalian insectivore)	77	770	mg/kg	INORG	Mammal
Titanium	TI	Occult little brown myotis bat (Mammalian aerial insectivore)	88	880	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Titanium	TI	Gray fox (Mammalian top carnivore)	8600	86000	mg/kg	INORG	Mammal
Toluene	108-88-3	Mountain cottontail (Mammalian herbivore)	66	660	mg/kg	VOC	Mammal
Toluene	108-88-3	Occult little brown myotis bat (Mammalian aerial insectivore)	25	250	mg/kg	VOC	Mammal
Toluene	108-88-3	Gray fox (Mammalian top carnivore)	12000	120000	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Toxaphene (Technical Grade)	8001-35-2	American kestrel (Avian top carnivore)	550	5500	mg/kg	PEST	Mammal
Toxaphene (Technical Grade)	8001-35-2	American kestrel (insectivore / carnivore)	19	190	mg/kg	PEST	Bird
Toxaphene (Technical Grade)	8001-35-2	American robin (Avian herbivore)	69	690	mg/kg	PEST	Bird
Toxaphene (Technical Grade)	8001-35-2	American robin (Avian omnivore)	7.8	78	mg/kg	PEST	Bird
Toxaphene (Technical Grade)	8001-35-2	Mountain cottontail (Mammalian herbivore)	290	2900	mg/kg	PEST	Mammal
Toxaphene (Technical Grade)	8001-35-2	Occult little brown myotis bat (Mammalian aerial insectivore)	6.6	66	mg/kg	PEST	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Toxaphene (Technical Grade)	8001-35-2	Gray fox (Mammalian top carnivore)	1300	13000	mg/kg	PEST	Mammal
Toxaphene (Technical Grade)	8001-35-2	Violet-green Swallow (Avian aerial insectivore)	5.4	54	mg/kg	PEST	Bird
Trichlorobenzene[1,2,4-]	120-82-1	Mountain cottontail (Mammalian herbivore)	12	120	mg/kg	VOC	Mammal
Trichlorobenzene[1,2,4-]	120-82-1	Occult little brown myotis bat (Mammalian aerial insectivore)	0.3	3	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Trichlorobenzene[1,2,4-]	120-82-1	Gray fox (Mammalian top carnivore)	110	1100	mg/kg	VOC	Mammal
Trichloroethane[1,1,1-]	71-55-6	Mountain cottontail (Mammalian herbivore)	2000	20000	mg/kg	VOC	Mammal
Trichloroethane[1,1,1-]	71-55-6	Occult little brown myotis bat (Mammalian aerial insectivore)	290	2900	mg/kg	VOC	Mammal
Trichloroethane[1,1,1-]	71-55-6	Gray fox (Mammalian top carnivore)	310000	3100000	mg/kg	VOC	Mammal
Trichloroethene	79-01-6	Deer mouse (Mammalian omnivore)	54	540	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Trichloroethene	79-01-6	Mountain cottontail (Mammalian herbivore)	190	1900	mg/kg	VOC	Mammal
Trichloroethene	79-01-6	Occult little brown myotis bat (Mammalian aerial insectivore)	46	460	mg/kg	VOC	Mammal
Trichloroethene	79-01-6	Gray fox (Mammalian top carnivore)	42000	420000	mg/kg	VOC	Mammal
Trichlorofluoromethane	75-69-4	Deer mouse (Mammalian omnivore)	97	650	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Trichlorofluoromethane	75-69-4	Mountain cottontail (Mammalian herbivore)	1800	12000	mg/kg	VOC	Mammal
Trichlorofluoromethane	75-69-4	Occult little brown myotis bat (Mammalian aerial insectivore)	58	390	mg/kg	VOC	Mammal
Trichlorofluoromethane	75-69-4	Gray fox (Mammalian top carnivore)	62000	420000	mg/kg	VOC	Mammal
Trinitrobenzene[1,3,5-]	99-35-4	Deer mouse (Mammalian omnivore)	110	1100	mg/kg	HE	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Trinitrobenzene[1,3,5-]	99-35-4	Mountain cottontail (Mammalian herbivore)	150	1500	mg/kg	HE	Mammal
Trinitrobenzene[1,3,5-]	99-35-4	Montane shrew (Mammalian insectivore)	720	7200	mg/kg	HE	Mammal
Trinitrobenzene[1,3,5-]	99-35-4	Occult little brown myotis bat (Mammalian aerial insectivore)	1100	11000	mg/kg	HE	Mammal
Trinitrotoluene[2,4,6-]	118-96-7	American kestrel (Avian top carnivore)	3100	5700	mg/kg	HE	Mammal
Trinitrotoluene[2,4,6-]	118-96-7	American kestrel (insectivore / carnivore)	1300	2400	mg/kg	HE	Bird
Trinitrotoluene[2,4,6-]	118-96-7	American robin (Avian insectivore)	120	220	mg/kg	HE	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Trinitrotoluene[2,4,6-]	118-96-7	Mountain cottontail (Mammalian herbivore)	110	540	mg/kg	HE	Mammal
Trinitrotoluene[2,4,6-]	118-96-7	Montane shrew (Mammalian insectivore)	1900	9100	mg/kg	HE	Mammal
Trinitrotoluene[2,4,6-]	118-96-7	Occult little brown myotis bat (Mammalian aerial insectivore)	3300	15000	mg/kg	HE	Mammal
Uranium	U	American kestrel (Avian top carnivore)	26000	260000	mg/kg	INORG	Mammal
Uranium	U	American kestrel (insectivore / carnivore)	14000	140000	mg/kg	INORG	Bird
Uranium	U	American robin (Avian herbivore)	1500	15000	mg/kg	INORG	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Uranium	U	American robin (Avian insectivore)	1100	11000	mg/kg	INORG	Bird
Uranium	U	American robin (Avian omnivore)	1200	12000	mg/kg	INORG	Bird
Uranium	U	Mountain cottontail (Mammalian herbivore)	1000	2600	mg/kg	INORG	Mammal
Uranium	U	Montane shrew (Mammalian insectivore)	480	1200	mg/kg	INORG	Mammal
Uranium	U	Occult little brown myotis bat (Mammalian aerial insectivore)	1000	2500	mg/kg	INORG	Mammal
Uranium	U	Violet-green Swallow (Avian aerial insectivore)	8600	86000	mg/kg	INORG	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Vanadium	V	American kestrel (Avian top carnivore)	110	230	mg/kg	INORG	Mammal
Vanadium	V	American kestrel (insectivore / carnivore)	56	110	mg/kg	INORG	Bird
Vanadium	V	American robin (Avian herbivore)	6.8	13	mg/kg	INORG	Bird
Vanadium	V	American robin (Avian insectivore)	4.7	9.5	mg/kg	INORG	Bird
Vanadium	V	American robin (Avian omnivore)	5.5	11	mg/kg	INORG	Bird
Vanadium	V	Deer mouse (Mammalian omnivore)	470	1000	mg/kg	INORG	Mammal
Vanadium	V	Mountain cottontail (Mammalian herbivore)	740	1500	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Vanadium	V	Montane shrew (Mammalian insectivore)	290	610	mg/kg	INORG	Mammal
Vanadium	V	Occult little brown myotis bat (Mammalian aerial insectivore)	550	1100	mg/kg	INORG	Mammal
Vanadium	V	Gray fox (Mammalian top carnivore)	3200	6900	mg/kg	INORG	Mammal
Vanadium	V	Violet-green Swallow (Avian aerial insectivore)	29	59	mg/kg	INORG	Bird
Vinyl Chloride	75-01-4	Mountain cottontail (Mammalian herbivore)	0.34	3.4	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Vinyl Chloride	75-01-4	Occult little brown myotis bat (Mammalian aerial insectivore)	0.14	1.4	mg/kg	VOC	Mammal
Xylene (Total)	1330-20-7	American kestrel (Avian top carnivore)	13000	130000	mg/kg	VOC	Mammal
Xylene (Total)	1330-20-7	American kestrel (insectivore / carnivore)	190	1900	mg/kg	VOC	Bird
Xylene (Total)	1330-20-7	American robin (Avian herbivore)	89	890	mg/kg	VOC	Bird
Xylene (Total)	1330-20-7	Mountain cottontail (Mammalian herbivore)	7.6	9.5	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Xylene (Total)	1330-20-7	Occult little brown myotis bat (Mammalian aerial insectivore)	1.6	2	mg/kg	VOC	Mammal
Xylene (Total)	1330-20-7	Gray fox (Mammalian top carnivore)	750	930	mg/kg	VOC	Mammal
Xylene (Total)	1330-20-7	Violet-green Swallow (Avian aerial insectivore)	53	530	mg/kg	VOC	Bird
Zinc	ZN	American kestrel (Avian top carnivore)	2600	7000	mg/kg	INORG	Mammal
Zinc	ZN	American kestrel (insectivore / carnivore)	220	590	mg/kg	INORG	Bird
Zinc	ZN	American robin (Avian herbivore)	330	120	mg/kg	INORG	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Zinc	ZN	American robin (Avian insectivore)	47	120	mg/kg	INORG	Bird
Zinc	ZN	American robin (Avian omnivore)	83	220	mg/kg	INORG	Bird
Zinc	ZN	Mountain cottontail (Mammalian herbivore)	1800	18000	mg/kg	INORG	Mammal
Zinc	ZN	Montane shrew (Mammalian insectivore)	99	980	mg/kg	INORG	Mammal
Zinc	ZN	Occult little brown myotis bat (Mammalian aerial insectivore)	110	1100	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Zinc	ZN	Gray fox (Mammalian top carnivore)	9600	94000	mg/kg	INORG	Mammal
Zinc	ZN	Violet-green Swallow (Avian aerial insectivore)	63	630	mg/kg	INORG	Bird
Aldrin	309-00-2	Deer mouse (Mammalian omnivore)	0.074	0.37	mg/kg	PEST	Mammal
Aroclor-1016	12674-11-2	Montane shrew (Mammalian insectivore)	1.1	3.1	mg/kg	PCB	Mammal
Aroclor-1242	53469-21-9	Deer mouse (Mammalian omnivore)	0.75	3	mg/kg	PCB	Mammal
Aroclor-1242	53469-21-9	Montane shrew (Mammalian insectivore)	0.39	1.5	mg/kg	PCB	Mammal
Aroclor-1254	11097-69-1	Montane shrew (Mammalian insectivore)	0.45	2.4	mg/kg	PCB	Mammal

Analyte Name	**Analyte Code**	**ESL Receptor**	**No Effect ESL**	**Low Effect ESL**	**Units**	**Analyte Group**	**ESL Receptor Class**
BHC[gamma-]	58-89-9	American robin (Avian omnivore)	0.35	1.4	mg/kg	PEST	Bird
BHC[gamma-]	58-89-9	Violet-green Swallow (Avian aerial insectivore)	0.27	1.1	mg/kg	PEST	Bird
Boron	B	American robin (Avian omnivore)	3.1	15	mg/kg	INORG	Bird
Chlordane[gamma-]	5103-74-2	American kestrel (Avian top carnivore)	270	1300	mg/kg	PEST	Mammal
Chlordane[gamma-]	5103-74-2	American robin (Avian insectivore)	2.2	11	mg/kg	PEST	Bird
Copper	CU	Deer mouse (Mammalian omnivore)	63	100	mg/kg	INORG	Mammal
DDE[4,4'-]	72-55-9	Deer mouse (Mammalian omnivore)	7.2	18	mg/kg	PEST	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
DDE[4,4'-]	72-55-9	Mountain cottontail (Mammalian herbivore)	540	1300	mg/kg	PEST	Mammal
DDT[4,4'-]	50-29-3	American robin (Avian omnivore)	0.71	2.1	mg/kg	PEST	Bird
DDT[4,4'-]	50-29-3	Deer mouse (Mammalian omnivore)	0.088	0.44	mg/kg	PEST	Mammal
Dichlorobenzene[1,4-]	106-46-7	Montane shrew (Mammalian insectivore)	0.89	3.5	mg/kg	VOC	Mammal
Dichloroethane[1,2-]	107-06-2	Violet-green Swallow (Avian aerial insectivore)	6.1	12	mg/kg	VOC	Bird
Dieldrin	60-57-1	Deer mouse (Mammalian omnivore)	0.0087	0.017	mg/kg	PEST	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Hexanone[2-]	591-78-6	Gray fox (Mammalian top carnivore)	5900	22000	mg/kg	VOC	Mammal
Iodomethane	74-88-4	Violet-green Swallow (Avian aerial insectivore)	0.081	0.16	mg/kg	VOC	Bird
Kepone	143-50-0	Deer mouse (Mammalian omnivore)	0.042	0.21	mg/kg	PEST	Mammal
Mercury (methyl)	HGM	Deer mouse (Mammalian omnivore)	0.0062	0.031	mg/kg	INORG	Mammal
Methoxychlor[4,4'-]	72-43-5	Deer mouse (Mammalian omnivore)	9	18	mg/kg	PEST	Mammal
Methoxychlor[4,4'-]	72-43-5	Montane shrew (Mammalian insectivore)	5.1	10	mg/kg	PEST	Mammal
Methylene Chloride	75-09-2	Gray fox (Mammalian top carnivore)	4300	36000	mg/kg	VOC	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Naphthalene	91-20-3	Deer mouse (Mammalian omnivore)	9.6	27	mg/kg	PAH	Mammal
Nitroaniline[2-]	88-74-4	Deer mouse (Mammalian omnivore)	5.3	10	mg/kg	SVOC	Mammal
Selenium	SE	Deer mouse (Mammalian omnivore)	0.82	1.2	mg/kg	INORG	Mammal
Selenium	SE	Gray fox (Mammalian top carnivore)	92	130	mg/kg	INORG	Mammal
Trinitrotoluene[2,4,6-]	118-96-7	American robin (Avian herbivore)	7.5	13	mg/kg	HE	Bird
Trinitrotoluene[2,4,6-]	118-96-7	Deer mouse (Mammalian omnivore)	95	440	mg/kg	HE	Mammal
Trinitrotoluene[2,4,6-]	118-96-7	Violet-green Swallow (Avian aerial insectivore)	610	1100	mg/kg	HE	Bird
Uranium	U	Deer mouse (Mammalian omnivore)	740	1800	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Xylene (Total)	1330-20-7	Deer mouse (Mammalian omnivore)	1.9	2.4	mg/kg	VOC	Mammal

Table 14b. ESL Updates – Non-Radionulcide N-ESL Only (September 2017)

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Aldrin	309-00-2	Deer mouse (Mammalian omnivore)	0.074	0.37	mg/kg	PEST	Mammal
Aroclor-1016	12674-11-2	Montane shrew (Mammalian insectivore)	1.1	3.1	mg/kg	PCB	Mammal
Aroclor-1242	53469-21-9	Deer mouse (Mammalian omnivore)	0.75	3	mg/kg	PCB	Mammal
Aroclor-1242	53469-21-9	Montane shrew (Mammalian insectivore)	0.39	1.5	mg/kg	PCB	Mammal
Aroclor-1254	11097-69-1	Montane shrew (Mammalian insectivore)	0.45	2.4	mg/kg	PCB	Mammal
BHC[gamma-]	58-89-9	American robin (Avian omnivore)	0.35	1.4	mg/kg	PEST	Bird

Analyte Name	**Analyte Code**	**ESL Receptor**	**No Effect ESL**	**Low Effect ESL**	**Units**	**Analyte Group**	**ESL Receptor Class**
BHC[gamma-]	58-89-9	Violet-green Swallow (Avian aerial insectivore)	0.27	1.1	mg/kg	PEST	Bird
Boron	B	American robin (Avian omnivore)	3.1	15	mg/kg	INORG	Bird
Chlordane[gamma-]	5103-74-2	American kestrel (Avian top carnivore)	270	1300	mg/kg	PEST	Mammal
Chlordane[gamma-]	5103-74-2	American robin (Avian insectivore)	2.2	11	mg/kg	PEST	Bird
Copper	CU	Deer mouse (Mammalian omnivore)	63	100	mg/kg	INORG	Mammal
DDE[4,4'-]	72-55-9	Deer mouse (Mammalian omnivore)	7.2	18	mg/kg	PEST	Mammal
DDE[4,4'-]	72-55-9	Mountain cottontail (Mammalian herbivore)	540	1300	mg/kg	PEST	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
DDT[4,4'-]	50-29-3	American robin (Avian omnivore)	0.71	2.1	mg/kg	PEST	Bird
DDT[4,4'-]	50-29-3	Deer mouse (Mammalian omnivore)	0.088	0.44	mg/kg	PEST	Mammal
Dichlorobenzene[1,4-]	106-46-7	Montane shrew (Mammalian insectivore)	0.89	3.5	mg/kg	VOC	Mammal
Dichloroethane[1,2-]	107-06-2	Violet-green Swallow (Avian aerial insectivore)	6.1	12	mg/kg	VOC	Bird
Dieldrin	60-57-1	Deer mouse (Mammalian omnivore)	0.0087	0.017	mg/kg	PEST	Mammal
Hexanone[2-]	591-78-6	Gray fox (Mammalian top carnivore)	5900	22000	mg/kg	VOC	Mammal
Iodomethane	74-88-4	Violet-green Swallow (Avian aerial insectivore)	0.081	0.16	mg/kg	VOC	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Kepone	143-50-0	Deer mouse (Mammalian omnivore)	0.042	0.21	mg/kg	PEST	Mammal
Mercury (methyl)	HGM	Deer mouse (Mammalian omnivore)	0.0062	0.031	mg/kg	INORG	Mammal
Methoxychlor[4,4'-]	72-43-5	Deer mouse (Mammalian omnivore)	9	18	mg/kg	PEST	Mammal
Methoxychlor[4,4'-]	72-43-5	Montane shrew (Mammalian insectivore)	5.1	10	mg/kg	PEST	Mammal
Methylene Chloride	75-09-2	Gray fox (Mammalian top carnivore)	4300	36000	mg/kg	VOC	Mammal
Naphthalene	91-20-3	Deer mouse (Mammalian omnivore)	9.6	27	mg/kg	PAH	Mammal
Nitroaniline[2-]	88-74-4	Deer mouse (Mammalian omnivore)	5.3	10	mg/kg	SVOC	Mammal
Selenium	SE	Deer mouse (Mammalian omnivore)	0.82	1.2	mg/kg	INORG	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Selenium	SE	Gray fox (Mammalian top carnivore)	92	130	mg/kg	INORG	Mammal
Trinitrotoluene[2,4,6-]	118-96-7	American robin (Avian herbivore)	7.5	13	mg/kg	HE	Bird
Trinitrotoluene[2,4,6-]	118-96-7	Deer mouse (Mammalian omnivore)	95	440	mg/kg	HE	Mammal
Trinitrotoluene[2,4,6-]	118-96-7	Violet-green Swallow (Avian aerial insectivore)	610	1100	mg/kg	HE	Bird
Uranium	U	Deer mouse (Mammalian omnivore)	740	1800	mg/kg	INORG	Mammal
Xylene (Total)	1330-20-7	Deer mouse (Mammalian omnivore)	1.9	2.4	mg/kg	VOC	Mammal

Table 14c. ESL Updates – Non-Radionulcide L-ESL Only (September 2017)

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class

Acetone	67-64-1	Montane shrew (Mammalian insectivore)	15	79	mg/kg	VOC	Mammal
Aroclor-1242	53469-21-9	Mountain cottontail (Mammalian herbivore)	27	110	mg/kg	PCB	Mammal
Aroclor-1260	11096-82-5	American kestrel (Avian top carnivore)	400	560	mg/kg	PCB	Mammal
Barium	BA	Deer mouse (Mammalian omnivore)	1800	8700	mg/kg	INORG	Mammal
Barium	BA	Mountain cottontail (Mammalian herbivore)	2900	14000	mg/kg	INORG	Mammal

Barium	BA	Gray fox (Mammalian top carnivore)	41000	190000	mg/kg	INORG	Mammal
BHC[gamma-]	58-89-9	American robin (Avian herbivore)	1.1	4.5	mg/kg	PEST	Bird
BHC[gamma-]	58-89-9	American robin (Avian insectivore)	0.21	0.85	mg/kg	PEST	Bird
Boron	B	Violet-green Swallow (Avian aerial insectivore)	10	52	mg/kg	INORG	Bird
Cadmium	CD	American robin (Avian insectivore)	0.29	1.6	mg/kg	INORG	Bird
Cadmium	CD	American robin (Avian omnivore)	0.54	3	mg/kg	INORG	Bird
Cadmium	CD	Montane shrew (Mammalian insectivore)	0.27	3.6	mg/kg	INORG	Mammal
Chlordane[gamma-]	5103-74-2	Deer mouse (Mammalian omnivore)	4.3	43	mg/kg	PEST	Mammal

Chloroform	67-66-3	Deer mouse (Mammalian omnivore)	8	21	mg/kg	VOC	Mammal
Chromium (total)	CR	Deer mouse (Mammalian omnivore)	110	11000	mg/kg	INORG	Mammal
Chromium (total)	CR	Gray fox (Mammalian top carnivore)	1800	180000	mg/kg	INORG	Mammal
Cobalt	CO	Deer mouse (Mammalian omnivore)	400	1000	mg/kg	INORG	Mammal
Copper	CU	Gray fox (Mammalian top carnivore)	4000	6700	mg/kg	INORG	Mammal
Copper	CU	Violet-green Swallow (Avian aerial insectivore)	23	69	mg/kg	INORG	Bird
DDD[4,4'-]	72-54-8	American robin (Avian insectivore)	0.0063	0.032	mg/kg	PEST	Bird

DDD[4,4'-]	72-54-8	American robin (Avian omnivore)	0.012	0.062	mg/kg	PEST	Bird
DDD[4,4'-]	72-54-8	Montane shrew (Mammalian insectivore)	4.1	8.3	mg/kg	PEST	Mammal
DDE[4,4'-]	72-55-9	Violet-green Swallow (Avian aerial insectivore)	0.14	0.71	mg/kg	PEST	Bird
Dieldrin	60-57-1	Violet-green Swallow (Avian aerial insectivore)	0.015	0.82	mg/kg	PEST	Bird
Di-n-Butyl Phthalate	84-74-2	Montane shrew (Mammalian insectivore)	180	450	mg/kg	SVOC	Mammal
Diphenylamine	122-39-4	American robin (Avian insectivore)	10	16	mg/kg	VOC	Bird
Fluorene	86-73-7	Montane shrew (Mammalian insectivore)	250	510	mg/kg	PAH	Mammal
Iodomethane	74-88-4	American robin (Avian herbivore)	0.038	0.076	mg/kg	VOC	Bird

Lithium	LI	Deer mouse (Mammalian omnivore)	100	480	mg/kg	INORG	Mammal
Manganese	MN	Deer mouse (Mammalian omnivore)	1400	5400	mg/kg	INORG	Mammal
Methoxychlor[4,4'-]	72-43-5	Violet-green Swallow (Avian aerial insectivore)	24	240	mg/kg	PEST	Bird
Nickel	NI	Deer mouse (Mammalian omnivore)	20	40	mg/kg	INORG	Mammal
RDX	121-82-4	American robin (Avian herbivore)	2.3	4.3	mg/kg	HE	Bird
RDX	121-82-4	American robin (Avian insectivore)	2.4	4.5	mg/kg	HE	Bird
RDX	121-82-4	Deer mouse (Mammalian omnivore)	16	51	mg/kg	HE	Mammal
RDX	121-82-4	Montane shrew (Mammalian insectivore)	16	53	mg/kg	HE	Mammal
Tetrachlorodibenzodioxin[2,3,7,8-]	1746-01-6	Deer mouse (Mammalian omnivore)	0.00000058	0.0000038	mg/kg	D/F	Mammal

Tetryl	479-45-8	Deer mouse (Mammalian omnivore)	1.5	7.2	mg/kg	HE	Mammal
Xylene (Total)	1330-20-7	Montane shrew (Mammalian insectivore)	1.4	1.8	mg/kg	VOC	Mammal
Zinc	ZN	Deer mouse (Mammalian omnivore)	170	1700	mg/kg	INORG	Mammal

Table 15. ESL Updates – Radionuclide (September 2017)

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Americium-241	AM-241	American kestrel (Avian top carnivore)	57000	570000	pCi/g	RAD	Mammal
Americium-241	AM-241	American kestrel (insectivore / carnivore)	43000	430000	pCi/g	RAD	Bird
Americium-241	AM-241	American robin (Avian herbivore)	4600	46000	pCi/g	RAD	Bird
Americium-241	AM-241	American robin (Avian insectivore)	10000	100000	pCi/g	RAD	Bird
Americium-241	AM-241	American robin (Avian omnivore)	6100	61000	pCi/g	RAD	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Americium-241	AM-241	Mountain cottontail (Mammalian herbivore)	26000	260000	pCi/g	RAD	Mammal
Americium-241	AM-241	Montane shrew (Mammalian insectivore)	34000	340000	pCi/g	RAD	Mammal
Americium-241	AM-241	Occult little brown myotis bat (Mammalian aerial insectivore)	3500	35000	pCi/g	RAD	Mammal
Americium-241	AM-241	Violet-green Swallow (Avian aerial insectivore)	1000	10000	pCi/g	RAD	Bird
Cesium-134	CS-134	American kestrel (Avian top carnivore)	980	9800	pCi/g	RAD	Mammal
Cesium-134	CS-134	American robin (Avian herbivore)	680	6800	pCi/g	RAD	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Cesium-134	CS-134	Mountain cottontail (Mammalian herbivore)	790	7900	pCi/g	RAD	Mammal
Cesium-134	CS-134	Occult little brown myotis bat (Mammalian aerial insectivore)	1200	12000	pCi/g	RAD	Mammal
Cesium-134	CS-134	Violet-green Swallow (Avian aerial insectivore)	320	3200	pCi/g	RAD	Bird
Cesium-137 + Barium-137	CS-137/ BA-137	American kestrel (Avian top carnivore)	3700	37000	pCi/g	RAD	Mammal
Cesium-137 + Barium-137	CS-137/ BA-137	American kestrel (insectivore / carnivore)	4200	42000	pCi/g	RAD	Bird
Cesium-137 + Barium-137	CS-137/ BA-137	American robin (Avian insectivore)	4500	45000	pCi/g	RAD	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Cesium-137 + Barium-137	CS-137/ BA-137	Mountain cottontail (Mammalian herbivore)	1700	17000	pCi/g	RAD	Mammal
Cesium-137 + Barium-137	CS-137/ BA-137	Occult little brown myotis bat (Mammalian aerial insectivore)	2600	26000	pCi/g	RAD	Mammal
Cobalt-60	CO-60	American kestrel (Avian top carnivore)	1500	15000	pCi/g	RAD	Mammal
Cobalt-60	CO-60	Mountain cottontail (Mammalian herbivore)	760	7600	pCi/g	RAD	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Cobalt-60	CO-60	Occult little brown myotis bat (Mammalian aerial insectivore)	760	7600	pCi/g	RAD	Mammal
Cobalt-60	CO-60	Violet-green Swallow (Avian aerial insectivore)	200	2000	pCi/g	RAD	Bird
Europium-152	EU-152	American kestrel (Avian top carnivore)	1000	10000	pCi/g	RAD	Mammal
Europium-152	EU-152	Mountain cottontail (Mammalian herbivore)	520	5200	pCi/g	RAD	Mammal
Europium-152	EU-152	Occult little brown myotis bat (Mammalian aerial insectivore)	120	1200	pCi/g	RAD	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Europium-152	EU-152	Violet-green Swallow (Avian aerial insectivore)	34	340	pCi/g	RAD	Bird
Lead-210	PB-210	American kestrel (Avian top carnivore)	8900	88000	pCi/g	RAD	Mammal
Lead-210	PB-210	American kestrel (insectivore / carnivore)	8500	85000	pCi/g	RAD	Bird
Lead-210	PB-210	American robin (Avian herbivore)	6000	60000	pCi/g	RAD	Bird
Lead-210	PB-210	American robin (Avian insectivore)	6200	61000	pCi/g	RAD	Bird
Lead-210	PB-210	American robin (Avian omnivore)	5600	56000	pCi/g	RAD	Bird
Lead-210	PB-210	Mountain cottontail (Mammalian herbivore)	4400	44000	pCi/g	RAD	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Lead-210	PB-210	Occult little brown myotis bat (Mammalian aerial insectivore)	7400	74000	pCi/g	RAD	Mammal
Lead-210	PB-210	Violet-green Swallow (Avian aerial insectivore)	2100	21000	pCi/g	RAD	Bird
Neptunium-237	NP-237	American kestrel (Avian top carnivore)	1700	17000	pCi/g	RAD	Mammal
Neptunium-237	NP-237	American kestrel (insectivore / carnivore)	1100	11000	pCi/g	RAD	Bird
Neptunium-237	NP-237	American robin (Avian herbivore)	590	5900	pCi/g	RAD	Bird
Neptunium-237	NP-237	American robin (Avian insectivore)	210	2100	pCi/g	RAD	Bird
Neptunium-237	NP-237	American robin (Avian omnivore)	200	2000	pCi/g	RAD	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Neptunium-237	NP-237	Mountain cottontail (Mammalian herbivore)	3200	32000	pCi/g	RAD	Mammal
Neptunium-237	NP-237	Montane shrew (Mammalian insectivore)	3600	36000	pCi/g	RAD	Mammal
Neptunium-237	NP-237	Occult little brown myotis bat (Mammalian aerial insectivore)	190	1900	pCi/g	RAD	Mammal
Neptunium-237	NP-237	Gray fox (Mammalian top carnivore)	740	7400	pCi/g	RAD	Mammal
Neptunium-237	NP-237	Violet-green Swallow (Avian aerial insectivore)	56	560	pCi/g	RAD	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Plutonium-238	PU-238	American kestrel (Avian top carnivore)	110000	1100000	pCi/g	RAD	Mammal
Plutonium-238	PU-238	American kestrel (insectivore / carnivore)	100000	1000000	pCi/g	RAD	Bird
Plutonium-238	PU-238	American robin (Avian herbivore)	4300	43000	pCi/g	RAD	Bird
Plutonium-238	PU-238	American robin (Avian insectivore)	10000	100000	pCi/g	RAD	Bird
Plutonium-238	PU-238	American robin (Avian omnivore)	5900	59000	pCi/g	RAD	Bird
Plutonium-238	PU-238	Mountain cottontail (Mammalian herbivore)	75000	750000	pCi/g	RAD	Mammal
Plutonium-238	PU-238	Montane shrew (Mammalian insectivore)	190000	1900000	pCi/g	RAD	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Plutonium-238	PU-238	Occult little brown myotis bat (Mammalian aerial insectivore)	1700	17000	pCi/g	RAD	Mammal
Plutonium-238	PU-238	Violet-green Swallow (Avian aerial insectivore)	500	5000	pCi/g	RAD	Bird
Plutonium-239, 240	PU-239/240	American kestrel (Avian top carnivore)	130000	1300000	pCi/g	RAD	Mammal
Plutonium-239, 240	PU-239/240	American kestrel (insectivore / carnivore)	120000	1200000	pCi/g	RAD	Bird
Plutonium-239, 240	PU-239/240	American robin (Avian herbivore)	4400	44000	pCi/g	RAD	Bird
Plutonium-239, 240	PU-239/240	American robin (Avian insectivore)	10000	100000	pCi/g	RAD	Bird
Plutonium-239, 240	PU-239/240	American robin (Avian omnivore)	6100	61000	pCi/g	RAD	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Plutonium-239, 240	PU-239/240	Mountain cottontail (Mammalian herbivore)	94000	930000	pCi/g	RAD	Mammal
Plutonium-239, 240	PU-239/240	Montane shrew (Mammalian insectivore)	320000	3200000	pCi/g	RAD	Mammal
Plutonium-239, 240	PU-239/240	Occult little brown myotis bat (Mammalian aerial insectivore)	1800	18000	pCi/g	RAD	Mammal
Plutonium-239, 240	PU-239/240	Violet-green Swallow (Avian aerial insectivore)	520	5200	pCi/g	RAD	Bird
Plutonium-241	PU-241	American kestrel (Avian top carnivore)	730000	7300000	pCi/g	RAD	Mammal
Plutonium-241	PU-241	American robin (Avian herbivore)	700000	7000000	pCi/g	RAD	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Plutonium-241	PU-241	American robin (Avian omnivore)	710000	7100000	pCi/g	RAD	Bird
Plutonium-241	PU-241	Mountain cottontail (Mammalian herbivore)	360000	3600000	pCi/g	RAD	Mammal
Plutonium-241	PU-241	Occult little brown myotis bat (Mammalian aerial insectivore)	1000000	10000000	pCi/g	RAD	Mammal
Plutonium-241	PU-241	Violet-green Swallow (Avian aerial insectivore)	270000	2700000	pCi/g	RAD	Bird
Radium-226	RA-226	American kestrel (Avian top carnivore)	870	8700	pCi/g	RAD	Mammal
Radium-226	RA-226	American kestrel (insectivore / carnivore)	61	610	pCi/g	RAD	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Radium-226	RA-226	American robin (Avian herbivore)	34	340	pCi/g	RAD	Bird
Radium-226	RA-226	American robin (Avian insectivore)	8.2	82	pCi/g	RAD	Bird
Radium-226	RA-226	American robin (Avian omnivore)	8.4	84	pCi/g	RAD	Bird
Radium-226	RA-226	Mountain cottontail (Mammalian herbivore)	340	3400	pCi/g	RAD	Mammal
Radium-226	RA-226	Montane shrew (Mammalian insectivore)	510	5100	pCi/g	RAD	Mammal
Radium-226	RA-226	Occult little brown myotis bat (Mammalian aerial insectivore)	3.2	32	pCi/g	RAD	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Radium-226	RA-226	Violet-green Swallow (Avian aerial insectivore)	0.94	9.4	pCi/g	RAD	Bird
Radium-228	RA-228	American kestrel (Avian top carnivore)	1400	14000	pCi/g	RAD	Mammal
Radium-228	RA-228	American kestrel (insectivore / carnivore)	83	830	pCi/g	RAD	Bird
Radium-228	RA-228	American robin (Avian herbivore)	46	460	pCi/g	RAD	Bird
Radium-228	RA-228	Mountain cottontail (Mammalian herbivore)	420	4200	pCi/g	RAD	Mammal
Radium-228	RA-228	Montane shrew (Mammalian insectivore)	770	7700	pCi/g	RAD	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Radium-228	RA-228	Occult little brown myotis bat (Mammalian aerial insectivore)	2.9	29	pCi/g	RAD	Mammal
Radium-228	RA-228	Violet-green Swallow (Avian aerial insectivore)	0.85	8.5	pCi/g	RAD	Bird
Sodium-22	NA-22	American kestrel (Avian top carnivore)	11000	110000	pCi/g	RAD	Mammal
Sodium-22	NA-22	Mountain cottontail (Mammalian herbivore)	9000	90000	pCi/g	RAD	Mammal
Sodium-22	NA-22	Occult little brown myotis bat (Mammalian aerial insectivore)	38000	380000	pCi/g	RAD	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Sodium-22	NA-22	Gray fox (Mammalian top carnivore)	4600	46000	pCi/g	RAD	Mammal
Sodium-22	NA-22	Violet-green Swallow (Avian aerial insectivore)	10000	100000	pCi/g	RAD	Bird
Strontium-90 + Yittrium-90	SR-90/ Y-90	American kestrel (Avian top carnivore)	1700	17000	pCi/g	RAD	Mammal
Strontium-90 + Yittrium-90	SR-90/ Y-90	American kestrel (insectivore / carnivore)	2400	24000	pCi/g	RAD	Bird
Strontium-90 + Yittrium-90	SR-90/ Y-90	American robin (Avian insectivore)	2800	28000	pCi/g	RAD	Bird
Strontium-90 + Yittrium-90	SR-90/ Y-90	American robin (Avian omnivore)	790	7900	pCi/g	RAD	Bird

Analyte Name	**Analyte Code**	**ESL Receptor**	**No Effect ESL**	**Low Effect ESL**	**Units**	**Analyte Group**	**ESL Receptor Class**
Strontium-90 + Yittrium-90	SR-90/ Y-90	Mountain cottontail (Mammalian herbivore)	1300	13000	pCi/g	RAD	Mammal
Strontium-90 + Yittrium-90	SR-90/ Y-90	Occult little brown myotis bat (Mammalian aerial insectivore)	2100	21000	pCi/g	RAD	Mammal
Strontium-90 + Yittrium-90	SR-90/ Y-90	Violet-green Swallow (Avian aerial insectivore)	630	6300	pCi/g	RAD	Bird
Thorium-228	TH-228	American kestrel (Avian top carnivore)	1600	16000	pCi/g	RAD	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Thorium-228	TH-228	Mountain cottontail (Mammalian herbivore)	800	8000	pCi/g	RAD	Mammal
Thorium-228	TH-228	Occult little brown myotis bat (Mammalian aerial insectivore)	2200	22000	pCi/g	RAD	Mammal
Thorium-228	TH-228	Violet-green Swallow (Avian aerial insectivore)	640	6400	pCi/g	RAD	Bird
Thorium-229	TH-229	American kestrel (Avian top carnivore)	3100	31000	pCi/g	RAD	Mammal
Thorium-229	TH-229	American kestrel (insectivore / carnivore)	2600	26000	pCi/g	RAD	Bird
Thorium-229	TH-229	American robin (Avian herbivore)	850	8500	pCi/g	RAD	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Thorium-229	TH-229	American robin (Avian insectivore)	1200	12000	pCi/g	RAD	Bird
Thorium-229	TH-229	American robin (Avian omnivore)	950	9500	pCi/g	RAD	Bird
Thorium-229	TH-229	Mountain cottontail (Mammalian herbivore)	1400	14000	pCi/g	RAD	Mammal
Thorium-229	TH-229	Occult little brown myotis bat (Mammalian aerial insectivore)	1800	18000	pCi/g	RAD	Mammal
Thorium-229	TH-229	Violet-green Swallow (Avian aerial insectivore)	540	5400	pCi/g	RAD	Bird
Thorium-230	TH-230	American kestrel (Avian top carnivore)	170000	1700000	pCi/g	RAD	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Thorium-230	TH-230	American kestrel (insectivore / carnivore)	17000	170000	pCi/g	RAD	Bird
Thorium-230	TH-230	American robin (Avian herbivore)	1200	12000	pCi/g	RAD	Bird
Thorium-230	TH-230	American robin (Avian insectivore)	2200	22000	pCi/g	RAD	Bird
Thorium-230	TH-230	American robin (Avian omnivore)	1400	14000	pCi/g	RAD	Bird
Thorium-230	TH-230	Mountain cottontail (Mammalian herbivore)	21000	210000	pCi/g	RAD	Mammal
Thorium-230	TH-230	Montane shrew (Mammalian insectivore)	110000	1100000	pCi/g	RAD	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Thorium-230	TH-230	Occult little brown myotis bat (Mammalian aerial insectivore)	2000	20000	pCi/g	RAD	Mammal
Thorium-230	TH-230	Violet-green Swallow (Avian aerial insectivore)	580	5800	pCi/g	RAD	Bird
Thorium-232	TH-232	American kestrel (Avian top carnivore)	50000	500000	pCi/g	RAD	Mammal
Thorium-232	TH-232	American kestrel (insectivore / carnivore)	2200	22000	pCi/g	RAD	Bird
Thorium-232	TH-232	American robin (Avian insectivore)	260	2600	pCi/g	RAD	Bird
Thorium-232	TH-232	American robin (Avian omnivore)	170	1700	pCi/g	RAD	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Thorium-232	TH-232	Mountain cottontail (Mammalian herbivore)	2900	29000	pCi/g	RAD	Mammal
Thorium-232	TH-232	Montane shrew (Mammalian insectivore)	49000	490000	pCi/g	RAD	Mammal
Thorium-232	TH-232	Occult little brown myotis bat (Mammalian aerial insectivore)	240	2400	pCi/g	RAD	Mammal
Thorium-232	TH-232	Violet-green Swallow (Avian aerial insectivore)	69	690	pCi/g	RAD	Bird
Tritium	H-3	American kestrel (Avian top carnivore)	550000	5500000	pCi/g	RAD	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Tritium	H-3	Mountain cottontail (Mammalian herbivore)	270000	2700000	pCi/g	RAD	Mammal
Tritium	H-3	Occult little brown myotis bat (Mammalian aerial insectivore)	1000000000	10000000000	pCi/g	RAD	Mammal
Tritium	H-3	Gray fox (Mammalian top carnivore)	240000	2400000	pCi/g	RAD	Mammal
Tritium	H-3	Violet-green Swallow (Avian aerial insectivore)	290000000	2900000000	pCi/g	RAD	Bird
Uranium-233	U-233	American kestrel (Avian top carnivore)	680000	6800000	pCi/g	RAD	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Uranium-233	U-233	American kestrel (insectivore / carnivore)	660000	6600000	pCi/g	RAD	Bird
Uranium-233	U-233	American robin (Avian herbivore)	14000	140000	pCi/g	RAD	Bird
Uranium-233	U-233	American robin (Avian insectivore)	82000	820000	pCi/g	RAD	Bird
Uranium-233	U-233	American robin (Avian omnivore)	28000	280000	pCi/g	RAD	Bird
Uranium-233	U-233	Mountain cottontail (Mammalian herbivore)	43000	430000	pCi/g	RAD	Mammal
Uranium-233	U-233	Montane shrew (Mammalian insectivore)	500000	5000000	pCi/g	RAD	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Uranium-233	U-233	Occult little brown myotis bat (Mammalian aerial insectivore)	2200	22000	pCi/g	RAD	Mammal
Uranium-233	U-233	Violet-green Swallow (Avian aerial insectivore)	610	6100	pCi/g	RAD	Bird
Uranium-234	U-234	American kestrel (Avian top carnivore)	260000	2600000	pCi/g	RAD	Mammal
Uranium-234	U-234	American robin (Avian herbivore)	14000	140000	pCi/g	RAD	Bird
Uranium-234	U-234	American robin (Avian insectivore)	69000	690000	pCi/g	RAD	Bird
Uranium-234	U-234	American robin (Avian omnivore)	27000	270000	pCi/g	RAD	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Uranium-234	U-234	Mountain cottontail (Mammalian herbivore)	36000	360000	pCi/g	RAD	Mammal
Uranium-234	U-234	Occult little brown myotis bat (Mammalian aerial insectivore)	2200	22000	pCi/g	RAD	Mammal
Uranium-234	U-234	Violet-green Swallow (Avian aerial insectivore)	610	6100	pCi/g	RAD	Bird
Uranium-235	U-235	American kestrel (Avian top carnivore)	10000	100000	pCi/g	RAD	Mammal
Uranium-235	U-235	American robin (Avian herbivore)	6300	63000	pCi/g	RAD	Bird
Uranium-235	U-235	American robin (Avian insectivore)	9500	95000	pCi/g	RAD	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Uranium-235	U-235	American robin (Avian omnivore)	7900	79000	pCi/g	RAD	Bird
Uranium-235	U-235	Mountain cottontail (Mammalian herbivore)	4700	47000	pCi/g	RAD	Mammal
Uranium-235	U-235	Occult little brown myotis bat (Mammalian aerial insectivore)	2400	24000	pCi/g	RAD	Mammal
Uranium-235	U-235	Violet-green Swallow (Avian aerial insectivore)	660	6600	pCi/g	RAD	Bird
Uranium-236	U-236	American kestrel (Avian top carnivore)	2100000	21000000	pCi/g	RAD	Mammal
Uranium-236	U-236	American kestrel (insectivore / carnivore)	1900000	19000000	pCi/g	RAD	Bird

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Uranium-236	U-236	American robin (Avian herbivore)	15000	150000	pCi/g	RAD	Bird
Uranium-236	U-236	American robin (Avian insectivore)	96000	950000	pCi/g	RAD	Bird
Uranium-236	U-236	American robin (Avian omnivore)	31000	310000	pCi/g	RAD	Bird
Uranium-236	U-236	Mountain cottontail (Mammalian herbivore)	50000	500000	pCi/g	RAD	Mammal
Uranium-236	U-236	Montane shrew (Mammalian insectivore)	15000000	150000000	pCi/g	RAD	Mammal
Uranium-236	U-236	Occult little brown myotis bat (Mammalian aerial insectivore)	2400	24000	pCi/g	RAD	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Uranium-238	U-238	American kestrel (Avian top carnivore)	4200	42000	pCi/g	RAD	Mammal
Uranium-238	U-238	American robin (Avian herbivore)	3300	33000	pCi/g	RAD	Bird
Uranium-238	U-238	American robin (Avian insectivore)	4000	40000	pCi/g	RAD	Bird
Uranium-238	U-238	American robin (Avian omnivore)	3700	37000	pCi/g	RAD	Bird
Uranium-238	U-238	Mountain cottontail (Mammalian herbivore)	2000	20000	pCi/g	RAD	Mammal
Uranium-238	U-238	Occult little brown myotis bat (Mammalian aerial insectivore)	2500	25000	pCi/g	RAD	Mammal

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Units	Analyte Group	ESL Receptor Class
Uranium-238	U-238	Violet-green Swallow (Avian aerial insectivore)	670	6700	pCi/g	RAD	Bird

Table 16a. Final (Minimum) ESL Updates – Non-radionucludes (September 2017)

		Updated		Previous	
Analyte	**Medium**	**Final ESL (mg/kg)**	**Final ESL Receptor**	**Final ESL (mg/kg)**	**Final ESL Screening Receptor**
Benzyl alcohol	Soil	0.27	American robin (Avian omnivore)	2.3	Montane shrew (Mammalian insectivore)
Styrene	Soil	1.5	Deer mouse (Mammalian omnivore)	1.8	Mountain cottontail (Mammalian herbivore)
Chloroaniline[4-]	Soil	120	Mountain cottontail (Mammalian herbivore)	100	No change.
Dichlorobenzene[1,4-]	Soil	2.3	American robin (Avian omnivore)	2.4	No change.
Dichloroethane[1,2-]	Soil	0.098	American robin (Avian insectivore)	0.1	No change.
Methyl-2-pentanone[4-]	Soil	0.099	American robin (Avian omnivore)	0.1	No change.

Table 16b. Final (Minimum) ESL Updates – Radionucludes, Soil (September 2017)

		Updated		Previous	
Analyte	**Medium**	**Final ESL (pCi/g)**	**Final ESL Receptor**	**Final ESL (pCi/g)**	**Final ESL Screening Receptor**
Cesium-134	Soil	680	American robin (Avian herbivore)	790	Mountain cottontail (Mammalian herbivore)
Cesium-137 + Barium-137	Soil	1400	American robin (Avian herbivore)	1700	Mountain cottontail (Mammalian herbivore)
Benzyl Alcohol	Sediment	300	No change	330	Occult Little Brown Myotis Bat (invert diet)

		Updated		Previous	
Analyte	**Medium**	**Final ESL (pCi/g)**	**Final ESL Receptor**	**Final ESL (pCi/g)**	**Final ESL Screening Receptor**
Dichloroethane[1,2-]	Sediment	6.1	No change	6.3	Violet Green Swallow (invert diet)
Methyl-2-pentanone[4-]	Sediment	17	No change	19	Occult Little Brown Myotis Bat (invert diet)
Phenol	Sediment	750	No change	840	Occult Little Brown Myotis Bat (invert diet)
Aroclor-1254	Sediment	0.053	No change	0.054	Violet Green Swallow (invert diet)
Di-n-octylphthalate	Sediment	1	No change	1.1	Occult Little Brown Myotis Bat (invert diet)
Hexachlorobenzene	Sediment	0.1	No change	0.1	Violet Green Swallow (invert diet)
Hexachlorobenzene	Sediment	REMOVED	REMOVED	0.24	Occult Little Brown Myotis Bat (invert diet)
RDX	Sediment	3.2	No change	3.3	Violet Green Swallow (invert diet)
Aroclor-1248	Sediment	0.0081	No change	0.009	Occult Little Brown Myotis Bat (invert diet)
Dimethyl Phthalate	Sediment	90	No change	100	Occult Little Brown Myotis Bat (invert diet)
Kepone	Sediment	0.024	No change	0.027	Occult Little Brown Myotis Bat (invert diet)
Tetrachlorodibenzodioxin[2,3,7,8-]	Sediment	0.00000033	No change	0.00000036	Occult Little Brown Myotis Bat (invert diet)
Amino-2,6-dinitrotoluene[4-]	Sediment	14	No change	15	Occult Little Brown Myotis Bat (invert diet)
Aldrin	Sediment	0.042	No change	0.046	Occult Little Brown Myotis Bat (invert diet)
BHC[alpha-]	Sediment	66	No change	73	Occult Little Brown Myotis Bat (invert diet)
Amino-4,6-dinitrotoluene[2-]	Sediment	17	No change	20	Occult Little Brown Myotis Bat (invert diet)

		Updated		Previous	
Analyte	**Medium**	**Final ESL (pCi/g)**	**Final ESL Receptor**	**Final ESL (pCi/g)**	**Final ESL Screening Receptor**
Tetryl	Sediment	91	No change	100	Occult Little Brown Myotis Bat (invert diet)
Aroclor-1242	Sediment	0.053	No change	0.054	Violet Green Swallow (invert diet)
Dichlorobenzene[1,3-]	Sediment	0.82	No change	0.92	Occult Little Brown Myotis Bat (invert diet)
Nitroglycerine	Sediment	1500	No change	1700	Occult Little Brown Myotis Bat (invert diet)
Hexanone[2-]	Sediment	0.47	No change	0.48	Violet Green Swallow (invert diet)
Hexanone[2-]	Sediment	REMOVED	REMOVED	6.7	Occult Little Brown Myotis Bat (invert diet)
Dinitrotoluene[2,6-]	Sediment	8.6	No change	9.7	Occult Little Brown Myotis Bat (invert diet)
Benzoic Acid	Sediment	1.2	No change	1.3	Occult Little Brown Myotis Bat (invert diet)
Chloroform	Sediment	9.2	No change	10	Occult Little Brown Myotis Bat (invert diet)
Endrin	Sediment	0.0018	No change	0.0019	Violet Green Swallow (invert diet)
DDD[4,4'-]	Sediment	0.0082	No change	0.0084	Violet Green Swallow (invert diet)
DDD[4,4'-]	Sediment	REMOVED	REMOVED	5.1	Occult Little Brown Myotis Bat (invert diet)
Iodomethane	Sediment	0.081	No change	0.082	Violet Green Swallow (invert diet)
Vinyl Chloride	Sediment	0.14	No change	0.15	Occult Little Brown Myotis Bat (invert diet)
Carbon Disulfide	Sediment	1.3	No change	1.5	Occult Little Brown Myotis Bat (invert diet)
Trichlorofluoromethane	Sediment	58	No change	65	Occult Little Brown Myotis Bat (invert diet)

		Updated		Previous	
Analyte	**Medium**	**Final ESL (pCi/g)**	**Final ESL Receptor**	**Final ESL (pCi/g)**	**Final ESL Screening Receptor**
PETN	Sediment	1300	No change	1400	Occult Little Brown Myotis Bat (invert diet)
Butanone[2-]	Sediment	3000	No change	3300	Occult Little Brown Myotis Bat (invert diet)
Pentachloronitrobenzene	Sediment	0.9	No change	0.92	Violet Green Swallow (invert diet)
Diethyl Phthalate	Sediment	4000	No change	4500	Occult Little Brown Myotis Bat (invert diet)
Carbazole	Sediment	130	No change	140	Occult Little Brown Myotis Bat (invert diet)
Nitrotoluene[2-]	Sediment	25	No change	28	Occult Little Brown Myotis Bat (invert diet)
Nitroaniline[2-]	Sediment	7.3	No change	8.1	Occult Little Brown Myotis Bat (invert diet)
Methylphenol[2-]	Sediment	1700	No change	1900	Occult Little Brown Myotis Bat (invert diet)
Dichlorobenzene[1,2-]	Sediment	1	No change	1.1	Occult Little Brown Myotis Bat (invert diet)
Nitrobenzene	Sediment	24	No change	27	Occult Little Brown Myotis Bat (invert diet)
Nitrotoluene[3-]	Sediment	21	No change	24	Occult Little Brown Myotis Bat (invert diet)
Trinitrobenzene[1,3,5-]	Sediment	1.1	Aquatic (sediment)	1.1	Aquatic (sediment)
Trinitrobenzene[1,3,5-]	Sediment	REMOVED	REMOVED	1300	Occult Little Brown Myotis Bat (invert diet)
Dinitrobenzene[1,3-]	Sediment	1.1	No change	1.2	Occult Little Brown Myotis Bat (invert diet)
Nitrotoluene[4-]	Sediment	46	No change	52	Occult Little Brown Myotis Bat (invert diet)
Aluminum	Sediment	25000	Aquatic (sediment)		Occult Little Brown Myotis Bat (invert diet)

		Updated		Previous	
Analyte	**Medium**	**Final ESL (pCi/g)**	**Final ESL Receptor**	**Final ESL (pCi/g)**	**Final ESL Screening Receptor**
Aluminum	Sediment	REMOVED	REMOVED		Violet Green Swallow (invert diet)
Beryllium	Sediment	66	No change	73	Occult Little Brown Myotis Bat (invert diet)
Cadmium	Sediment	0.3	No change	0.33	Occult Little Brown Myotis Bat (invert diet)
Cobalt	Sediment	220	No change	230	Violet Green Swallow (invert diet)
Chromium(+6)	Sediment	660	No change	680	Violet Green Swallow (invert diet)
Fluoride	Sediment	350	No change	360	Violet Green Swallow (invert diet)
Mercury (inorganic)	Sediment	0.017	No change	0.018	Violet Green Swallow (invert diet)
Mercury (methyl)	Sediment	0.00045	No change	0.00046	Violet Green Swallow (invert diet)
Lithium	Sediment	130	No change	150	Occult Little Brown Myotis Bat (invert diet)
Molybdenum	Sediment	26	No change	27	Violet Green Swallow (invert diet)
Nickel	Sediment	12	No change	13	Occult Little Brown Myotis Bat (invert diet)
Lead	Sediment	26	No change	27	Violet Green Swallow (invert diet)
Antimony	Sediment	45	No change	50	Occult Little Brown Myotis Bat (invert diet)
Strontium (stable)	Sediment	1600	No change	1700	Occult Little Brown Myotis Bat (invert diet)
Titanium	Sediment	88	No change	98	Occult Little Brown Myotis Bat (invert diet)
Thallium	Sediment	0.73	No change	0.82	Occult Little Brown Myotis Bat (invert diet)

		Updated		Previous	
Analyte	Medium	Final ESL (pCi/g)	Final ESL Receptor	Final ESL (pCi/g)	Final ESL Screening Receptor
Vanadium	Sediment	29	No change	30	Violet Green Swallow (invert diet)
Zinc	Sediment	63	No change	65	Violet Green Swallow (invert diet)

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