

3.5 View Inputs

The last tab on the CONFIGURE MODEL screen is the INPUTS tab. Here, you can review all inputs as they are currently set and that the Tool will use for the next run if you run now. Many of these inputs cannot be directly changed. This tab contains seven sub-tabs (note that screen captures show inputs for an LAU only; for surface disposal, parameters and values may differ, but the layout is the same):

- **SCENARIO:** This sub-tab shows general inputs that vary by application scenario, such as tilling depth, or liner scenarios, for scenarios currently selected (**Figure 20**). These inputs cannot be modified.
- **FATE AND TRANSPORT:** This sub-tab shows general inputs that do not vary by application or liner scenario (**Figure 21**). Most of these inputs, except percent solids in land-applied biosolids, cannot be modified. Percent solids in land-applied biosolids can be modified on the SCENARIO tab of the CONFIGURE MODEL screen; percent solids in a surface disposal unit cannot be modified.

[scroll to next page]

- **CHEMICAL:** This sub-tab shows most chemical-specific inputs, including physical-chemical properties and human toxicity values (**Figure 22**). It does not include ecological toxicity values (those are on the eco toxicity tab) or ecological BAFs (those are on the eco BAFs tab). Because these values can be modified on the VIEW/EDIT CHEMICAL form, the table includes a column called USER MODIFIED that is checked if the value has been changed.
- **HUMAN EXPOSURE:** This sub-tab shows human exposure factor inputs, such as body weight, consumption rates, etc. (**Figure 23**). These inputs cannot be modified.
- **ECO EXPOSURE:** This sub-tab shows ecological exposure factors for the ecological receptors currently selected (**Figure 24**). Only the diet fractions can be modified, on the VIEW/EDIT RECEPTOR DIET form. Note these inputs are only used for LAUs.
- **ECO BAFs:** This sub-tab shows ecological bioaccumulation factors for chemicals currently selected (**Figure 25**). Because these values can be modified on the VIEW/EDIT CHEMICAL form, the table includes a column called USER MODIFIED that is checked if the value has been changed. Note these inputs are only used for LAUs.
- **ECO TOXICITY:** This sub-tab shows ecological toxicity values for chemicals and ecological receptors currently selected (**Figure 26**). Because these values can be modified on the VIEW/EDIT CHEMICAL form, the table includes a column called USER MODIFIED that is checked if the value has been changed. Note these inputs are only used for LAUs.

Scenario						
Fate and Transport	Chemical	Human Exposure	Eco Exposure	Eco BAFs	Eco Toxicity	
Scenario	Climate	Model_Co -1	Description	Value	Units	Reference
Pasture	Avg	Nappl	Number of biosolids applications per year	1.0E+00	[1/yr]	Biosolids 2003 (U.S. EPA 2003)
Crop	Avg	Nappl	Number of biosolids applications per year	1.0E+00	[1/yr]	Biosolids 2003 (U.S. EPA 2003)
Pasture	Avg	OpLife	Number of year of biosolids applications to field	4.0E+01	[yrs]	Biosolids 2003 (U.S. EPA 2003)
Crop	Avg	OpLife	Number of year of biosolids applications to field	4.0E+01	[yrs]	Biosolids 2003 (U.S. EPA 2003)
Pasture	Avg	Rappl	Biosolids application rate (wet weight)	2.5E-03	[MTwet/m2-yr]	Calculated
Crop	Avg	Rappl	Biosolids application rate (wet weight)	2.5E-03	[MTwet/m2-yr]	Calculated
Pasture	Avg	zruf	Roughness height (field)	3.7E+00	[cm]	TSDf Fugit. Air (U.S. EPA, 1989b)
Crop	Avg	zruf	Roughness height (field)	1.0E+00	[cm]	TSDf Fugit. Air (U.S. EPA, 1989b)
Pasture	Avg	Ztilling	Tilling depth	2.0E-02	[m]	Biosolids 2003 (U.S. EPA 2003)
Crop	Avg	Ztilling	Tilling depth	2.0E-01	[m]	Biosolids 2003 (U.S. EPA 2003)

Figure 20. Inputs tab: Scenario inputs.

Scenario	Fate and Transport	Chemical	Human Exposure	Eco Exposure	Eco BAFs	Eco Toxicity
Model Code	Description	Value	Units	Reference	Comments	
%solids	Percent solids in land applied biosolids	40	[mass %]	Biosolids 2003 (U.S. EPA)		
AirTemp	Average air temperature	9.69	[C]	SAMSON (U.S. DOC & D)	determined by m	
Area_reserv	Area (index reservoir)	52555	[m2]	VVWM		
asdm	Mode of the aggregate size distribution	0.5	[mm]	TSDF Fugit. Air (U.S. EPA)		
Bdwmte	Dry bulk density (biosolids)	0.7	[g DW/cm3]	Gunn et al. (2004)		
bsp	Porosity (bed sediment)	0.6	[fraction]	MPE/IEM (U.S. EPA, 199		
C	USLE cover management factor	0.1	[fraction]	HHRAP (U.S. EPA, 2005a)		
db	Depth of upper benthic layer	0.05	[m]	MPE/IEM (U.S. EPA, 199	changed for VVW	
DTR	Drainage area to capacity ratio (water)	12	[m2/m3]	SAB (Index Res)		
dwc_pond	Water column depth (farm pond)	2	[m]	VVWM		
dwc_reservoir	Water column depth (index reservoir)	2.74	[m]	VVWM		
foc_bedsed	Fraction organic carbon (bed sediment)	0.04	[fraction]	VVWM		
foc_biosolids	Fraction organic carbon (biosolids)	0.4	[fraction]	Biosolids 2003 (U.S. EPA)		
foc_sw	Fraction organic carbon (suspended solids)	0.04	[fraction]	VVWM		
N	Saturated volumetric water content (index reservoir)	2	[fraction]	Carsel & Parrish, 1988	based on surface	
P	USLE supporting practice factor (water)	1	[fraction]	Wanielista & Yousef, 19		
PI_field	Percent impervious (field)	0	[%]	CWP, 1998		
R	USLE rainfall/erosivity factor	155	[1/yr]	Wischmeier & Smith, 19	determined by m	
SiteLatitude	Site latitude	41.983	[degrees]	SAMSON (U.S. DOC & D)	determined by m	
Sw	Silt content of biosolids	10	[mass %]	AP-42 (U.S. EPA, 1995)		
Theta_water	Temperature correction factor	1.024	[empirical]	Chapra, 1996		
Twater01	Waterbody temperature (January)	270	[deg K]	Water Enc. (van der Lee	depends on HUC	
Twater02	Waterbody temperature (February)	267	[deg K]	Water Enc. (van der Lee	depends on HUC	

Figure 21. Inputs tab: Fate and transport inputs.

Scenario	Fate and Transport	Chemical	Human Exposure	Eco Exposure	Eco BAFs	Eco Toxicity
CAS Num	Chemical Name	Model Code	Description	Value	Units	
50328	Benzo(a)pyrene	BCF_beef	Bioconcentration factor (beef)	0.443	[mg/kg beef]/[mg/kg D	
50328	Benzo(a)pyrene	BCF_milk	Bioconcentration factor (milk)	0.158	[mg/kg milk]/[mg/kg D	
50328	Benzo(a)pyrene	BCF_T3F	Bioaccumulation factor (TL3 fish, filet; use	499.5	[mg/kg fish]/[mg/L wa	
50328	Benzo(a)pyrene	BCF_T3W	Bioaccumulation factor (TL3 fish, whole; use	499.5	[mg/kg fish]/[mg/L wa	
50328	Benzo(a)pyrene	BCF_T4F	Bioaccumulation factor (TL4 fish, filet; use	364.2	[mg/kg fish]/[mg/L wa	
50328	Benzo(a)pyrene	BCF_T4W	Bioaccumulation factor (TL4 fish, whole; use	364.2	[mg/kg fish]/[mg/L wa	
50328	Benzo(a)pyrene	BrExfruit	Biotransfer (soil to exposed fruit)	0.00348	[mg/kg DW plant]/[mg	
50328	Benzo(a)pyrene	BrExveg	Biotransfer factor (soil to exposed vegetat	0.00348	[mg/kg DW plant]/[mg	
50328	Benzo(a)pyrene	BrForage	Biotransfer factor (soil to forage)	0.00348	[mg/kg DW plant]/[mg	
50328	Benzo(a)pyrene	BrGrain	Biotransfer factor (soil to grain)	0.00348	[mg/kg DW plant]/[mg	
50328	Benzo(a)pyrene	BrProfruit	Biotransfer factor (soil to protected fruit)	0.00348	[mg/kg DW plant]/[mg	
50328	Benzo(a)pyrene	BrProveg	Biotransfer factor (soil to protected vege	0.00348	[mg/kg DW plant]/[mg	
50328	Benzo(a)pyrene	BrSilage	Biotransfer factor (soil to silage)	0.00348	[mg/kg DW plant]/[mg	
50328	Benzo(a)pyrene	Bv	Biotransfer factor (vapor phase air to all p	3490000	[ug/g DW plant]/[ug/g	

Figure 22. Inputs tab: Chemical inputs.

Scenario	Fate and Transport	Chemical	Human Exposure	Eco Exposure	Eco BAFs	Eco Toxicity
----------	--------------------	----------	----------------	--------------	----------	--------------

Scenario	Model Code	Description	Model Val	Units	Refer
Pasture	BW_adult	Body weight (adult)	7.90E+01 [kg]		EFH:2011 (U.S. E
Crop	BW_adult	Body weight (adult)	7.90E+01 [kg]		EFH:2011 (U.S. E
Crop	BW_child12-19	Body weight (child aged 12-19)	6.10E+01 [kg]		EFH:2011 (U.S. E
Pasture	BW_child12-19	Body weight (child aged 12-19)	6.10E+01 [kg]		EFH:2011 (U.S. E
Pasture	BW_child1-5	Body weight (child aged 1-5)	1.50E+01 [kg]		CSEFH (U.S. EPA
Crop	BW_child1-5	Body weight (child aged 1-5)	1.50E+01 [kg]		CSEFH (U.S. EPA
Pasture	BW_child6-11	Body weight (child aged 6-11)	2.90E+01 [kg]		CSEFH (U.S. EPA
Crop	BW_child6-11	Body weight (child aged 6-11)	2.90E+01 [kg]		CSEFH (U.S. EPA
Pasture	CR_beef_adult	Consumption rate, beef (adult)	7.50E+00 [g WW/kg BW/day]		EFH:2011 (U.S. E
Pasture	CR_beef_child1	Consumption rate, beef (child aged 12-19)	3.60E+00 [g WW/kg BW/day]		EFH:2011 (U.S. E
Pasture	CR_beef_child1	Consumption rate, beef (child aged 1-5)	1.30E+01 [g WW/kg BW/day]		EFH:2011 (U.S. E

Figure 23. Inputs tab: Human exposure factors.

Scenario	Fate and Transport	Chemical	Human Exposure	Eco Exposure	Eco BAFs	Eco Toxicity
----------	--------------------	----------	----------------	--------------	----------	--------------

Receptor Name	Model Code	Description	Value	Units
Meadow Vole	BW	Body weight (ecological receptor)	0.0208	[kg]
Meadow Vole	CR_Food	Consumption rate, food/prey items (ecological receptors)	0.019	[kg/day]
Meadow Vole	CR_Water	Consumption rate, water (ecological receptors)	0.00304	[L/day]
Meadow Vole	CRfrac_Soil	Consumption rate, soil as a fraction of total diet (ecological receptors)	0.024	[fraction]
Meadow Vole	DF_exfruit	Diet fraction, exposed fruits (eco receptors)	0	[fraction]
Meadow Vole	DF_exveg	Diet fraction, exposed vegetables (eco receptors)	0	[fraction]
Meadow Vole	DF_forage	Diet fraction, forage (eco receptors)	0.75	[fraction]
Meadow Vole	DF_grain	Diet fraction, grains (eco receptors)	0.075	[fraction]
Meadow Vole	DF_root	Diet fraction, roots (eco receptors)	0.175	[fraction]

Figure 24. Inputs tab: Ecological exposure factors.

Scenario	Fate and Transport	Chemical	Human Exposure	Eco Exposure	Eco BAFs	Eco Toxicity
----------	--------------------	----------	----------------	--------------	----------	--------------

CAS	Chemical Name	Model Code	Description
	Acetaminophen	BAF_HerbVert	Bioaccumulation factor (soil to herbivorous verte
	Acetaminophen	BAF_OmnVert	Bioaccumulation factor (soil to omnivorous verte
	Acetaminophen	BAF_SmBirds	Bioaccumulation factor (soil to small birds)
	Acetaminophen	BAF_SmHerp	Bioaccumulation factor (soil to small herpetofaur
	Acetaminophen	BAF_SmMamm	Bioaccumulation factor (soil to small mammals)
	Acetaminophen	BAF_SoilInvert	Bioaccumulation factor (soil to soil invertebrates)
103902	Acetaminophen	BAF_Worms	Bioaccumulation factor (soil to worms)
103902	Acetaminophen	BCF_Bff	Bioaccumulation factor (sediment to benthic filte
103902	Acetaminophen	BCF_WaterVeg	Bioaccumulation factor (surface water to aquatic
7429905	Aluminum	BAF_HerbVert	Bioaccumulation factor (soil to herbivorous verte

Figure 25. Inputs tab: Ecological bioaccumulation factors.

Scenario	Fate and Transport	Chemical	Human Exposure	Eco Exposure	Eco BAFs	Eco Toxicity
----------	--------------------	----------	----------------	--------------	----------	--------------

CAS	Chemical Name	Receptor	Model Code	Description	Model Value	Units
103902	Acetaminophen	American Kestrel	BMD	Benchmark dose fo	2.1E+03	[mg chem/kg BW/day]
3380345	Triclosan	American Kestrel	BMD	Benchmark dose fo	7.7E+02	[mg chem/kg BW/day]
7429905	Aluminum	American Kestrel	BMD	Benchmark dose fo	1.1E+02	[mg chem/kg BW/day]
50328	Benzo(a)pyrene	American Kestrel	BMD	Benchmark dose fo	0.0E+00	[mg chem/kg BW/day]
103902	Acetaminophen	American Robin	BMD	Benchmark dose fo	2.0E+03	[mg chem/kg BW/day]
3380345	Triclosan	American Robin	BMD	Benchmark dose fo	7.2E+02	[mg chem/kg BW/day]
7429905	Aluminum	American Robin	BMD	Benchmark dose fo	9.9E+01	[mg chem/kg BW/day]
50328	Benzo(a)pyrene	American Robin	BMD	Benchmark dose fo	0.0E+00	[mg chem/kg BW/day]
103902	Acetaminophen	American Woodcock	BMD	Benchmark dose fo	2.2E+03	[mg chem/kg BW/day]

Figure 26. Inputs tab: Ecological toxicity values.

Inputs cannot be edited on these tabs. However, you can sort the table on any column by clicking on the column heading. You can also export the inputs on all seven sub-tabs by clicking on the EXPORT TO EXCEL button at the top of the INPUTS tab. **Section 7** includes a section with all references used in the Tool and the full citation for each.

When you are done configuring an analysis, click on the red CLOSE FORM button in the upper right corner, or on the × at the top right corner of the CONFIGURE MODEL window. This will return you to the MAIN MENU shown in Figure 6.

The derivation of input data are documented in the following appendices:

- **Appendix B:** Non-chemical-specific parameters
- **Appendix C:** Chemical-specific parameters
- **Appendix D:** Human and ecological toxicity values.

Values are provided in Appendix B (non-chemical specific parameters) for convenience, as these values may not all be readily viewable in the Tool. However, all chemical-specific parameters, including toxicity values, are readily viewable in the Tool and for brevity, data are not provided here.