$$PRG_{fish}(\mu g/kg) = \frac{THQ \times BW_c \times RfD \times AT_c}{ED_c \times EF \times CR_c \times 10^{-3} kg/g \times 10^{-3} mg/\mu g}$$

$$PRG_{fish-cancer} = \frac{TR \times AT_c}{SF \times EF \times CR_{adj} \times 10^{-3} kg/g \times 10^{-3} mg/\mu g}$$ where: $$CR_{adj} = \frac{ED_c \times CR_c}{BW_c} + \frac{ED_a \times CR_a}{BW_a}$$

$$PRG_{fish}\ (\mu g/kg) = \frac{\left(\frac{BW_{inf} \times AT_{inf} \times RfD}{f \times CR_{milk} \times ED_{inf}}\right) \times \left[\ln(2) \times f_{fm}\right] \times BW_a \times AT_m}{(h \times f_f) \times EF_a \times ED_a \times 10^{-3} kg/g \times 10^{-3} \mu g/g \times IR_{fish}}$$

Consumption rate - adult	CR_a	mg/day	142
Consumption rate - children	CR_c	mg/day	60
Exposure frequency	EF	days/yr	350
Exposure duration	ED	yrs	30
Exposure duaration - children	ED_c	yrs	6
Body weight - adult	BW_a	kg	70
Body weight - child	BW_c	kg	15
Averaging time - noncancer	AT_{nc}	days	2190
Averaging time - cancer	AT_c	days	25550
Averaging time - maternal	AT_m	days	10950
Target Risk	TR		1E-06
Target Hazard Quotient	THQ		1
Age-adjusted consumption rate	CR_{adj}	g-yr/kg-day	73
Maternal Daily absorbed dose	$DAI_{maternal}$	mg/kg-day	
Fraction of body weight lipid	f_{fm}		0.3
Fraction stored in fat	f_f		0.9
Fraction of fat in breast milk	f_{mbm}		0.04
Consumption rate milk	CR_{milk}	kg/day	0.98
Body weight - infant	BW_{inf}	kg	7.8
Averaging time - infant	AT_{inf}	days	365
Exposure duration - infant	ED_{inf}	days	365

	Consumption Rate	PRGs (µg/kg) fillet fish tissue)				
	142	Cancer	Noncancer	Infant	PRG	Basis
Antimony			1.0.E+03		1.0.E+03	nc
Arsenic		6.7.E-01	7.9.E+01		6.7.E-01	ca
Mercury			2.6.E+01		2.6.E+01	nc
cPAHs		1.4.E-01			1.4.E-01	ca
Bis(2-ethylhexyl)phthalate		7.2.E+01	5.2.E+03		7.2.E+01	ca
Dieldrin		6.3.E-02	1.3.E+01		6.3.E-02	ca
Chlordane		2.9.E+00	1.3.E+02		2.9.E+00	ca
DDx		3.0.E+00	1.3.E+02	9.8E+01	3.0.E+00	ca
DDD		4.2.E+00	1.3.E+02	9.8E+01	4.2.E+00	ca
DDE		3.0.E+00	1.3.E+02	9.8E+01	3.0.E+00	ca
DDT		3.0.E+00	1.3.E+02	9.8E+01	3.0.E+00	ca
PCBs		5.0.E-01	5.2.E+00	2.8E-01	2.8.E-01	infant
TCDD		7.7.E-06	1.8.E-04	6.5E-06	6.5.E-06	infant
PDBEs			2.6.E+01	9.3E-01	9.3.E-01	infant

	Toxicity criteria			
	SF	RfD	Infant RfD	h
Antimony		4.0E-03		
Arsenic	1.5E+00	3.0E-04		
Mercury		1.0E-04		
cPAHs	7.3E+00			
Bis(2-ethylhexyl)phthalate	1.4E-02	2.0E-02	2.0E-02	
Dieldrin	1.6E+01	5.0E-05	5.0E-05	
Chlordane	3.5E-01	5.0E-04	5.0E-04	
DDx	3.4E-01	5.0E-04	5.0E-04	120
DDD	2.4E-01	5.0E-04	5.0E-04	120
DDE	3.4E-01	5.0E-04	5.0E-04	120
DDT	3.4E-01	5.0E-04	5.0E-04	120
PCBs	2.0E+00	2.0E-05	3.0E-05	2555
TCDD	1.3E+05	7.0E-10	7.0E-10	2550
PDBEs		1.0E-04	1.0E-04	2555

	Rate	PRGs (µg/kg fillet fish tissue)					Whole body/Fillet Concentration Ratio			
	142	Cancer	Noncancer	Infant	PRG	Basis	Smallmouth Bass	Common Carp	Brown Bullhead	Black Crappie
Antimony			1.0.E+03		1.0.E+03	nc				
Arsenic		6.7.E-01	7.9.E+01		6.7.E-01	ca	1			
Mercury			2.6.E+01		2.6.E+01	nc				
cPAHs		1.4.E-01			1.4.E-01	ca				
Bis(2-ethylhexyl)phthalate		7.2.E+01	5.2.E+03		7.2.E+01	ca			14	
Dieldrin		6.3.E-02	1.3.E+01		6.3.E-02	ca	6	1		
Chlordane		2.9.E+00	1.3.E+02		2.9.E+00	ca	6	1	10	12
DDx		3.0.E+00	1.3.E+02	9.4E+01	3.0.E+00	ca	7	1	4	6
DDD		4.2.E+00	1.3.E+02	9.4E+01	4.2.E+00	ca	9	2	4	5
DDE		3.0.E+00	1.3.E+02	9.4E+01	3.0.E+00	ca	7	1	4	8
DDT		3.0.E+00	1.3.E+02	9.4E+01	3.0.E+00	ca	5	1	4	5
PCBs		5.0.E-01	5.2.E+00	2.7E-01	2.7.E-01	infant	8	2	2	5
TCDD		7.7.E-06	1.8.E-04	6.2E-06	6.2.E-06	infant	6	2		
PDBEs			2.6.E+01	8.9E-01	8.9.E-01	infant				

	PRGs (µg/kg whole body fish tissue)			
	Smallmouth Bass	**Common Carp**	**Brown Bullhead**	**Black Crappie**
Antimony				
Arsenic	1			
Mercury				
cPAHs				
Bis(2-ethylhexyl)phthalate			998	
Dieldrin	0.4	0.09		
Chlordane	17	4	30	35
DDx	21	4	12	19
DDD	37	6	18	23
DDE	22	4	11	24
DDT	16	4	13	16
PCBs	2	0.5	0.4	1
TCDD	0.00004	0.000009		
PDBEs				

	PRGs (µg/kg sediment)			
	Smallmouth Bass	**Common Carp**	**Brown Bullhead**	**Black Crappie**
Antimony				
Arsenic				
Mercury				
cPAHs				
Bis(2-ethylhexyl)phthalate				
Dieldrin	-1.4	-1.8		
Chlordane	4.3	0.4		
DDx	-2.7	-5.1		
DDD	5.3	-1.7		
DDE	-1.2	-1.6		
DDT	6.2	3.5		
PCBs	-10.4	-11.2		
TCDD	-0.0003	0.000001		
PDBEs				

	PRGs (µg/kg sediment), water =0			
	Smallmouth Bass	**Common Carp**	**Brown Bullhead**	**Black Crappie**
Antimony				
Arsenic				
Mercury				
cPAHs				
Bis(2-ethylhexyl)phthalate				
Dieldrin	0.4	0.07		
Chlordane	5.3	1.4		
DDx	17	4.0		
DDD	8.6	1.8		
DDE	4.0	0.8		
DDT	7.1	4.0		
PCBs	0.015	0.07		
TCDD	0.0001	0.00005		
PDBEs				

Sediment PRGs (µg/kg)			
Cancer	Noncancer	Infant	PRG
#REF!	#REF!	#REF!	

	Brown Bullhead						Black Crappie							
	RM 3-6			RM 6-9			RM 3-6			RM 6-9				
	F	WB		F	WB		F	WB		F	WB			
Bis(2-ethylhexyl)phthalate	67	930	**14**	0									14	
Dieldrin	1	1.6	**2**	0										
Chlordane	1.4	25	**18**	1.6	4.9	**3**	0.8	9.6	**12**	0	5.5		10	12
DDD	3.6	8.7	**2**	2.8	17	**6**	2.1	9.5	**5**	2.4	15	**6**	4	5
DDE	12	48	**4**	15	47	**3**	6	38	**6**	7.5	74	**10**	4	8
DDT	6.8	23	**3**	6	32	**5**	2	14	**7**	3.3	13	**4**	4	5
PCBs	49	100	**2**	680	730	**1**	22	88	**4**	26	180	**7**	2	5
TCDD														
PDBEs														

	Common Carp						Common Carp						Common Ca	
	RM 0-4			RM 4-8			RM 8-12			RM 3-6			RM 6-9	
	F	WB		F	WB		F	WB		F	WB		F	WB
Bis(2-ethylhexyl)phthalate														
Dieldrin	1.9	2.3	**1**	1.8	2.5		1.4	2.1	**2**					
Chlordane	9.7	12	**1**	10	14	**1**	9	13	**1**	10	15	**2**		11
DDD	20	27	**1**	120	190	**2**	14	20	**1**	36	86	**2**	55	51
DDE	67	86	**1**	160	220	**1**	44	71	**2**	110	150	**1**	86	120
DDT	1	0.29	**0.3**	22	81	**4**	0.63	0.34	**1**	23	18	**1**		
PCBs	240	340	**1**	6800	8700	**1**	510	920	**2**	690	2500	**4**	990	990
TCDD	2.2	2.9	**1**	4.1	6	**1**	2.2	3.9	**2**					
PDBEs														

	SMB	Carp
RM 3-6	513	
RM 6-9	577	
RM 0-4	935	
RM 4-8	583	
RM 8-12	1670	

rp
1
1
1

1
1

2
1
1
2
2

	RM 2			RM 3			
	F	**WB**		**F**	**WB**		**F**
Arsenic				0.028	0.035	**1**	0.019
Bis(2-ethylhexyl)phthalate							
Dieldrin	0.42	2.4	**6**	1.4	2.5	**2**	0.38
Chlordane	1.5	9	**6**	3.6	9.1	**3**	2.1
DDD	2.9	18	**6**	3.5	25	**7**	3.8
DDE	11	69	**6**	15	98	**7**	11
DDT	0.72	5.1	**7.1**	5	11	**2**	1.6
PCBs	200	1400	**7**	34	470	**14**	140
TCDD	0.22	1.4	**6**	0.22	1.5	**7**	0.35
PDBEs							

RM 3-6	RM 6-9	RM 0-4	RM 4-8	RM 8-12
513	577	935	583	1670

RM 4		RM 5			RM 6			RM 7	
WB		**F**	**WB**		**F**	**WB**		**F**	**WB**
0.029	**2**	0.02	0.028	**1**	0.018	0.021	**1**	0.018	0.024
2.5	**7**	0.37	2.6	**7**	0.28	2	**7**	0.29	2
8.9	**4**	1.7	14	**8**	2.3	8.5	**4**	1.5	13
36	**9**	4.4	36	**8**	5.4	43	**8**	32	160
120	**11**	12	97	**8**	9.6	87	**9**	34	220
11	**7**	6.1	31	**5**	4.1	22	**5**	30	160
730	**5**	34	340	**10**	56	430	**8**	140	830
2.1	**6**	0.25	1.9	**8**	0.33	1.8	**5**	5.5	18

	RM 8			RM 9			RM 10		
		WB		F	WB		F	WB	
1	0.017	0.023	**1**	0.017	0.021	**1**	0.015	0.022	**1**
7	0.66	3.7	**6**	0.63	2.9	**5**	0.27	1.7	**6**
9	2.8	9.1	**3**	1.6	13	**8**	1.3	10	**8**
5	5.7	60	**11**	2.3	27	**12**	1.9	28	**15**
6	15	120	**8**	130	110	**1**	7.5	76	**10**
5.3	10	41	**4**	3.7	4.2	**1**	2.3	20	**9**
6	47	470	**10**	79	690	**9**	100	720	**7**
3	0.54	3.3	**6**	0.42	2.9	**7**	0.34	2.4	**7**

RM 11			
F	**WB**		
0.016	0.019	**1**	1
0.25	1.5	**6**	6
1.3	8.8	**7**	6
0.75	5.5	**7**	9
5.4	40	**7**	7
0.74	5.4	**7**	5
780	3600	**5**	8
0.44	2.5	**6**	6

Whole body/Fillet Concentration Ratio		
Smallmouth Bass	Common Carp	Brown Bullhead
1		
		14
6	1	
6	1	10
9	2	4
7	1	4
5	1	4
8	2	2
6	2	

Black Crappie
12
5
8
5
5

Sediment	Carp	Bass	Ratio
0.1	81	144	1.8
1	88	156	1.8
5	117	211	1.8
10	152	278	1.8
50	439	821	1.9
92.6	745	1400	1.9
100	798	1500	1.9
200	1516	2858	1.9
300	2233	4216	1.9
400	2951	5574	1.9
500	3668	6931	1.9
750	5462	10326	1.9
1000	5969	7256	1.2
2500	18018	34086	1.9
5000	35955	68030	1.9

	RM 3-6	RM 6-9	RM 0-4	RM 4-8	RM 8-12
Bass	513	577	935	583	1670
Carp	2500	990	340	8700	990