Table 1. Mercury Emissions Sources

Sources to Atmosphere	Annual Emission Rate (tons yr^{-1})	Reference
Natural Emissions Land	1000 1100	Mason et al., 2002; Lamborg et al., 2002
Oceanic Evasion	2850[a] 900	Mason et al., 2002; Lamborg et al., 2002
Anthropogenic Northern Hemisphere[a]	2450	Lamborg et al., 2002
Anthropogenic Southern Hemisphere	450	Lamborg et al., 2002
Total Global Anthropogenic	2650 2850	Mason et al., 2002; Lamborg et al., 2002
Total Global Emissions	4850	U.S. EPA, 2003a
U.S. Utility Boilers Coal Oil Natural gas	48.9 (36%)[b] 48.0 0.5 0.4	U.S. EPA, 2003a
U.S. Ore Gold Ore Iron Ore Silver Ore Ferroalloy Ores, Except Vanadium	11.7 (9%) 11.5 0.2 4.0E-3 5.5E-4	U.S. EPA, 2003a
U.S. Chlorine Production	6.5 (5%)	U.S. EPA, 2003a
U.S. Municipal Waste Combustors	5.1 (4%)	U.S. EPA, 2003a
U.S. Hazardous Waste Combustion Commercial Hazardous Waste Incinerators On-Site Hazardous Waste Incinerators Hazardous Waste Incineration	5.0 (4%) 2.48 2.38 0.98	U.S. EPA, 2003a
U.S. Industrial Boilers Industrial/Commercial/Institutional Boilers & Process Heaters Stationary Combustion Turbines	3.8 (3%) 3.28 0.51	U.S. EPA, 2003a
U.S. Medical Waste Incinerators	2.8 (2%)	U.S. EPA, 2003a
Subtotal (U.S. Sources)	83.8 (61%)	U.S. EPA, 2003a
Total Point and Non-point U.S. Emissions	136.3	
Natural Emissions from U.S. [c]	64	

[a] In the Mason and Scheu (2002) model much of the mercury released to the atmosphere from the ocean redeposits into ocean.
[b] The percentage of total U.S. anthropogenic emissions as simulated in U.S. EPA (2003a) is based on 1999 emission estimates. U.S. anthropogenic emission estimates have been updated (www.epa.gov/ttn/chief).
[c] We developed this estimate based on natural global mercury emissions estimates of Lamborg et al. (2002). Using Lamborg's approach, the U.S. estimate is based on the ratio of U.S. landmass to total landmass of northern hemisphere.

Table 2. The Pounds Per Capita, Methylmercury Concentration, Market Share, and Fractional Contribution of Fish in Commerce From Each U.S. Fishery or Import for Top 24 Types of Fish Consumed in U.S. (Sources: Carrington and Bolger, 2003; NMFS, 2002)

Type	Annual Consumption Rate (Pounds per capita)	Arithmetic Mean MeHg Concentration (ppm)	Atlantic (%)	Gulf (%)	Pacific (%)	Import (%)
Tuna-canned*	3.1	0.17	migratory species			
Shrimp	2.7	0.05	1.1	10.3	2.5	86.2
Pollock	1.64	0.15	0.2	0.0	84.8	14.9
Salmon	1.299	0.05	0.0	0.0	41.7	58.2
Cod	1.057	0.12	2.2	0.0	30.5	67.4
Catfish	1.02	0.05	aquaculture			
Clams	0.46	0.02	84.0	0.4	1.8	13.9
Flatfish	0.33	0.09	9.4	0.1	41.8	48.8
Halibut	0.29	0.31	0.0	0.0	62.0	38.0
Scallops	0.25	0.04	49.5	0.0	0.3	50.3
Crabs-Blue	0.24	0.15	12.8	6.7	0.0	80.5
Oysters	0.22	0.05	4.8	34.9	15.0	45.3
Sardines	0.18	0.03	32.0	0.8	39.6	27.7
Rockfish	0.127	0.20	0.0	0.0	63.6	36.4
Crabs-Snow	0.092	0.15	0.0	0.0	0.0	100.0
Lobster-American	0.09	0.46	16.0	0.0	0.0	84.0
Lobster-Spiney	0.09	0.12	1.5	9.8	2.4	86.3
Swordfish	0.08	1.07	migratory species			
Crawfish	0.065	0.05	aquaculture			
Perch-Ocean	0.056	0.06	4.0	0.0	55.4	40.6
Crabs-Dungeness	0.054	0.17	0.0	0.0	99.8	0.2
Crabs-King	0.037	0.09	0.0	0.0	81.0	19.0
Sable fish	0.024	0.27	0.0	0.0	100.0	0.0
Shark	0.02	0.96	migratory species			

* Recent analyses have shown that canned albacore/white tuna have higher mean methylmercury concentrations (0.29 ppm) than light tuna (0.12 ppm) (FDA, 2004; www.cfsan.fda.gov).

Table 3. Estimates of the Size of the Saltwater Angler Population Annually in the U.S. and the Number of Consumers of Recreationally-Caught Saltwater Fish

Waters Fished	Population Size	Source	Estimated Number of Consumers Recreationally-caught Marine Fish
U.S. Saltwaters	9,051,000 10,577,000	U.S. FWS (for year 2001) NMFS (for year 2002)	--
Gulf of Mexico	3,138,000 2,655,000	U.S. FWS (for year 2001) NMFS (for year 2002)	5,793,000
Atlantic Ocean	4,766,000 5,258,000	U.S. FWS (for year 2001) NMFS (for year 2002)	10,024,000

Table 4. Median, Mean, and Maximum Methylmercury Concentrations (µg/g) Reported Fish Species Harvested via Recreational Angling in the Atlantic Ocean

Type	Median	Mean	Maximum	Number of Samples	Harvest (lbs)[a]
Striped Bass	0.1	0.15	0.8	215	12,919,000
Summer Flounder	0.03	0.04	0.1	34	12,523,000
Bluefish	0.35	0.4	1.6	174	12,334,000
Other Tunas/Mackerels[b]					8,135,000
Blackfin Tuna	1.16	1.16	1.2	1	
Cero Mackerel	0.15	0.19	0.3	3	
Dolphins	0.06	0.07	0.2	14	7,676,000
Atlantic Croaker	0.06	0.09	0.6	58	7,913,000
King Mackerel	0.67	0.98	3.5	118	4,789,000
Weakfish	0.2	0.27	0.8	61	4,045,000
Black Sea Bass	0.15	0.15	0.2	2	1,514,000
Scup	0.03	0.03	0.1	10	875,000
Subtotal (for 10 species listed)					72,721,000
Total Recreational Catch					105,215,000

[a] NMFS (1998) Data

[b] Note that we divided the estimated harvest weight for the category of other tunas and cero mackerels evenly between the two types of fish.

Table 5. Median, Mean, and Maximum Methylmercury Concentrations (µg/g) Reported Fish Species Harvested via Recreational Angling in the Gulf of Mexico

Type	Median	Mean	Max	# Samples	Harvest (lbs)*
Red Drum	0.19	0.5	4.62	590	8,522,000
Spotted Seatrout	0.28	0.32	1.5	546	8,256,000
Red Snapper	0.11	0.09	0.16	13	4,259,000
Dolphins	0.06	0.13	0.49	29	4,246,000
Groupers (myctera)	0.29	0.37	1.4	94	4,146,000
King Mackerel	0.86	1.09	4.47	385	3,933,000
Sheepshead	0.12	0.18	1.73	224	3,471,000
Black Drum	0.15	0.44	6.62	233	2,146,000
Spanish Mackerel	0.47	0.53	2.9	204	1,910,000
Sand Seatrout	0.45	0.48	1.2	99	1,815,000
Subtotal (for 10 species listed)					42,705,000
Total Recreational Catch					62,548,000

*Source of marine recreational catches: NMFS, 1998.

Table 6. Tests Employed by Kjellstrom et al. (1986, 1989) in the New Zealand Studies

Developmental Domain	4 Years of Age	6 Years of Age
Vision	vision test	
Sensory	sensory test	
Academic attainment		Clay Diagnostic Survey Concepts Letter Test Word Test Reading Accuracy
		Burt Word Recognition Test Age Equivalent Score
		Key Mathematical test Grade Score
Language Development	Denver Developmental Screening Tests (DDST)	Test of Language Development (TOLD) Grammar completion Grammar understanding Oral Vocabulary Picture Vocabulary Sentence Imitation Spoken Language Quotient (TOLD-SL)
		Peabody Percentile Rank Standard Score Stanine
Motor Coordination	DDST-gross and fine	McCarthy Scales Motoric (MCC-MOT)
Intelligence		McCarthy Scales Verbal Quantitative Memory General Cognitive
		Wechsler Intelligence Scale for Children-Revised Verbal IQ Performance IQ Fullscale IQ
Visuospatial/ Visuomotor		McCarthy Scales Perceptual (MCC-PP)
Personal-social	DDST	

Table 7. Regression Coefficients and 95% Confidence Intervals for Hair Mercury Concentrations (ppm) Calculated by Crump et al. (1998)

	Test of Language Development - Spoken Language Quotient	Wechsler Intelligence Scale for Children-Revised Performance	Wechsler Intelligence Scale for Children-Revised Fullscale IQ	McCarthy Scales Perceptual	McCarthy Scales Motoric
1st Regression Analysis [a,b]	-0.60 (-1.2,-0.03)	-0.54 (-0.45,0.21)	-0.53 (-1.1,0.069)	-0.53 (-0.95,-0.11)	-0.01 (-0.02,0.003)
2nd Regression Analysis [a,b,c]	-0.42 (-0.98,0.13)	-0.47 (-1.1,0.16)	-0.42 (-1.1,0.18)	-0.50 (-0.92,-0.08)	-0.01 (-0.02,0.002)

[a] Omitted maternal-infant pair with highest maternal hair mercury level
[b] Statistically controlled for smoking, alcohol intake, social class, birth weight, maternal age, breastfeeding, gender, ethnicity, residence, residence time in New Zealand, and other siblings.
[c] Statistically controlled for age of child at testing and parental education levels

Table 8. Tests Employed in the Seychelles Islands Child Development Study

Developmental Domain	Age of Child (months)				
	6.5	19	29	66	168
Marsh et al. (1995)					
Global-cognitive	DDST-R	BSID, MDI	BSID, MDI	MSCA, GCI	
Visual-perceptive		Kohen-Raz	Kohen-Raz	Bender-Gestalt, MSCA Perceptual	
Speech language	DDST-R			MSCA Verbal PLS Total Language Aud. Comprehension Verbal Ability	
Memory	Fagen Infantest			MSCA Memory	
Visual Attention	Fagen Infantest				
Neuromotor exam	Neurological DDST-R	BSID PDI	BSID PDI	Bender-Gestalt MSCA Motor	
Behavioral	DDST-R		BSID IBR	CBCL	
Learning-achievement				Woodcock-Johnson	
Auditory response				Audiometry Tympanometry	
Davidson et al. (1998)					
Global-cognitive				MSCA, GCI	
Visual-perceptive				Bender-Gestalt	
Speech-language				PLS Total Score	

Table 8 cont.

Developmental Domain	Age of Child (months)				
	6.5	19	29	66	168
Behavioral				CBCL	
Learning-achievement				Woodcock-Johnson Letter and Word Recognition, Applied Problems	
Myers et al. (2003)					
Global-cognitive					WISC-FSIQ
Speech-language					BNT
Memory					visual memory subtest of the wide-range assessment of memory and learning
Sustained Attention					Connors Continuous Performance Test
Behavioral					Connors Teacher rating scale, parent-child behavior checklist
Learning-achievement					Woodcock-Johnson Letter and Word Recognition, Applied Problems CVLT

Table 8 cont.

Developmental Domain	Age of Child (months)				
	6.5	19	29	66	168
Motor functions					finger-tapping, trail making, grooved peg board, Bruininks-Oseretsky,
Visual motor integration					Beery-Buktenica, test of haptic matching

Adapted from: U.S. EPA, 2000
Symbols and Abbreviations: BSID = Bailey Scales of Infant Development; IBR = Infant Behavior Record; MDI = Mental Developmental Index; PDI = Psychomotor Developmental Index; CBCL = Child Behavior Checklist; DDST-R = Denver Developmental Screening Test - Revised; GCI = General Cognitive Index; MSCA = McCarthy Scales of Children's Abilities; PLS = Preschool Language Scale. WISC-FSIQ= Wechsler intelligence scale for children- full scale IQ, BNT= Boston naming test, CVLT= California Verbal Learning Test
Sources: Marsh et al., 1995; Davidson et al., 1998; Myers et al., 2003

Table 9. Tests Employed in Studies of Faroese Children

Developmental Domain	Age of Child		
	12 months Grandjean et al. (1992)	7 years Grandjean et al. (1997) - Main Prospective Study; Grandjean et al. (1998) - Nested Case Control Study; Dahl et al. (1996); Murata et al. (1999)	14 years- Murata et al. (2004)
Developmental milestones	sitting creeping standing		
Motor coordination		Hand-Eye Coordination	
General cognitive		WISC-R Similarities	
Visuospatial		WISC-R Block Designs Bender Motor Visual Gestalt Test	
Attention		NES2 Continuous Performance WISC-R Digit Spans Forward	
Speech-language		Boston Naming Test	
Memory		California Verbal Learning Test	
Motor speed		NES2 Finger Tapping NES2 Hand-Eye Coordination NES2 Tactual Performance	
Personal-social		Nonverbal Analogue Profile of Mood States	
Neuropathological Abnormalities		Brain-stem auditory evoked potentials, visual-evoked potentials	auditory brain-stem evoked potential latency

Table 10. Coefficients for Logarithmic Transformation of Cord Blood Mercury Concentrations on Selected Neuropsychological Tests (only for mothers with hair mercury concentrations less than 10 ppm) (Grandjean et al., 1997)

Test	Regression Coefficient	p-value
Wechsler intelligence scale for children-Revised	-0.31	0.05
Bender Visual Motor Gestalt Test Reproduction	-0.43	0.02
Boston naming test, No cues	-1.42	0.01
Boston naming test with cues	-1.57	<0.01
California Verbal Learning Test-Children short term reproduction	-0.74	<0.01
Statistically controlled for age of child at testing, gender, maternal cognitive function as measure by scores on Raven's Progressive Matricies, major medical risk factors, smoking, alcohol intake, parental education levels, father's employment status, current residence, child's computer acquaintance, day care, and other siblings. NRC (2000) presents a summary table (Table 7-1) that provides estimates of the regression coefficients for all of the subjects.		

Table 11. Measures of Cohort Methylmercury Intake Rates Reported in Salonen et al. (1995)

	Mean	Standard Deviation	Minimum	Maximum
Self-reported fish intake g/day	46.5	55.5	0	619
daily dietary intake of mercury µg/day	7.6	7.7	1.1	95
Hair mercury concentration ppm	1.92	1.98	0	16
Urinary excretion rate µg/day	1.18	1.1	0	5

Table 12. Results of Cox Proportional Hazards Models Reported by Salonen et al. (1995)

	Fatal and Nonfatal AMI			All Cause Mortality		
Model 1	RR	p value	95% CI	RR	p value	95% CI
Hair Mercury (ppm)	1.094	0.037	1.01, 1.19	1.132	0.001	1.05, 1.22
Hair Mercury (>2 ppm)	1.96	0.005	1.23, 3.13	2.26	0.001	1.43, 3.56
Statistically Controlled for age, exam year, ischemic exercise ECG, maximal oxygen uptake						
Model 2						
Hair Mercury (ppm)	1.068	0.175	0.97, 1.18	1.09	0.043	1.003, 1.186
Hair Mercury (>2 ppm)	1.69	0.038	1.03, 2.76	1.93	0.007	1.2, 3.10
Statistically Controlled for Same variables as Model 1 + family CHD history, smoking, systolic blood pressure, diabetes, socioeconomic status, residence, dietary iron intake, serum apolipoprotein B, HDL2 cholesterol, and ferritin concentrations						
The Cox proportional hazards model is described in Equation 6 in Section 2.5.1.						

Table 13. Relative Risk of Acute Coronary Events in a Middle-Aged Finish Male Cohort Based on Serum Fatty Acid Composition, Stratified by Hair Mercury Levels (Rissanen, 2000)

	Quintiles, by Proportion of Serum Fatty Acids comprised of DHA and DPA				
Hair mercury concentration	<2.38%	2.38%-2.73%	2.74%-3.07%	3.08%-3.58%	>3.58%
< 2 ppm	0.85	0.50	0.48	0.41	0.33
> 2 ppm	1.00	0.83	0.63	0.76	0.76
Statistically Controlled for age, examination year, ischemic exercise ECG, maximal oxygen uptake, family CHD history, smoking, systolic blood pressure, diabetes, body mass index, socioeconomic status, serum insulin, ADP-induced platelet aggregation, residence, dietary iron intake, dietary energy intake, serum apolipoprotein B, HDL2 cholesterol, and ferritin concentrations.					

Table 14. Co-Occurrence of Minamata Disease Diagnoses and Diagnosis of Hypertension and the Occurrence of Hypertension in the Control Group from the City of Ine

Disease Status	Hypertensive/ Total Disease*	
	Minamata	Goshonoura
Minamata Disease	83/269 (31%)	19/34 (56%)
Suspected Minamata Disease	7/19 (37%)	12/31 (39%)
Deferred Diagnosis	5/15 (33%)	10/29 (34%)
	Hypertensive/ Total Evaluated	
No Disease (Residents of Ine)	109/608 (18%)	

*Data exclude congenital Minamata Cases

Table 15. Comparison of Hypertensive Diagnoses Between Those with and Without Minamata Disease in Two Different Age Categories

Minamata Disease Status/City/Age category	Hypertensive/Total Examined
Positive Diagnosis/Minamata/>39 Years old	79/214 (36.9%)
Positive Diagnosis/Minamata/<39 Years old	4/55 (7.3%)
Disease-Free/Ine/>39 Years old	107/378 (28.3%)
Disease-Free/Ine/<39 Years old	2/230 (0.9%)

Table 16. Blood Methylmercury Concentrations (µg/L) in U.S. Women Aged 16 to 49

Population	n	Geo.[b] Mean	5th [d]	10th	25th	50th	75th	90th	95th
0 fish and shellfish meal in previous 30 days [a]	480	0.39	--	--	--	--	0.44	1.1	1.6
1-4 fish and shellfish meals in previous 30 days	780	0.7	--	--	--	0.6	1.29	2.9	4.7
5-8 fish and shellfish meals in previous 30 days	230	1.33	--	--	0.43	1.29	3.29	6.1	9.9
>8 fish and meals in previous 30 days	153	2.46	--	0.44	1.15	2.75	5.2	11.1	12.1
Total	1707	0.8	--	--	--	0.6	1.7	4.44	6.73

Source: Mahaffey et al., 2004

[a] Fish meal - self-reported number of fish meals in the 30 day period prior to study participation.

[b] Geo. Mean – reported geometric mean.

[c] 5th, 10th, … 95th – percentiles of total blood methylmercury concentration

Table 17. Comparison of Body Weight, Blood Volume and Fish Intake Between U.S. Males and Females

	Body Weight[a] (Kg)	Total Blood Volume[a] (L)	Mean Fish Intake (g/person/day) Uncooked Fish Weight[b] (Age= 15-44 years)
Adult Female	60	3.9	0.29118
Adult Male	73	5.3	0.30978

[a] Source: ICRP, 1975, 2003.

[b] U.S. EPA, 1997b. For general U.S. population.

Table 18. Fish Size Restrictions Imposed on Model Data

U.S. FWS Designation	Minimum Length[a] (inches)	Examples of Types of Fish Included from NLFWA Database
Crappie	5[b]	Black and white crappie
Panfish	5[b]	Rock bass, bluegill, sunfishes, perch
White Bass, Striped Bass, Striped Bass Hybrids	12	White bass and striped bass
Black Bass	12	Largemouth, smallmouth and spotted bass
Catfish, Bullheads	5[b]	Bullheads, channel catfish, fathead catfish, white catfish, flathead catfish
Walleye/Sauger	15/12	Walleye and sauger
Northern Pike/Pickerel/ Muskie, Muskie Hybrids	24/15/30	Muskellunge, chain pickerel, and Northern Pike
Trout	7	Rainbow, lake, brook, splake, and brown trout
Salmon	7	Coho salmon, Atlantic Salmon, Lake Whitefish, cisco, Chinook salmon

[a] State of Pennsylvania (2003).
[b] The State of Pennsylvania has no minimum length requirement for crappie, panfish and catfish; we imposed a minimum length of 5 inches for fish to be included in these categories.

Table 19. Percentage of Fishing Days Targeting Selected Species

State	Crappie	Panfish	White and Striped Bass	Black Bass	Catfish	Walleye and Sauger	Northern Pike, Pickerel and Muskie	Steelhead	Trout	Salmon	Anything	Other Species
AL	18	16	10	36	11	0	0	0	1	0	5	3
AZ	5	5	12	24	13	0	0	0	28	0	13	0
AR	22	9	13	21	22	0	0	0	3	0	5	4
CA	4	4	10	15	10	0	0	0	35	13	7	3
CO	5	2	3	7	9	2	4	0	60	3	5	0
CN	0	10	12	32	2	0	4	0	31	0	8	0
DE	10	10	15	29	9	0	0	0	8	0	19	0
FL	13	15	8	27	14	0	0	0	1	0	13	9
GA	15	15	13	18	23	0	0	0	4	0	7	3
ID	2	3	2	12	7	0	0	11	54	10	0	0
IL	15	20	9	15	23	6	0	0	4	0	9	0
IN	16	27	11	23	16	3	0	0	0	0	4	0
IA	17	15	9	15	18	15	5	0	3	0	3	0
KS	19	9	7	21	25	9	0	0	2	0	7	0
KY	20	13	13	24	19	4	0	0	1	0	6	0
LA	20	1	9	22	18	0	0	0	2	0	5	5
ME	0	5	7	24	0	0	9	0	34	16	4	1
MD	4	8	12	30	13	4	0	0	13	0	7	9
MA	0	6	12	36	4	0	6	0	23	0	11	2
MI	7	34	5	14	0	9	9	3	7	3	7	0
MN	16	20	2	9	1	32	18	0	2	0	1	0
MS	18	17	9	18	27	0	0	0	2	0	9	0
MO	21	15	8	24	22	0	0	0	5	0	3	1
MT	0	5	0	6	2	12	12	0	49	4	9	1

Table 19 cont.

State	Crappie	Panfish	White and Striped Bass	Black Bass	Catfish	Walleye and Sauger	Northern Pike, Pickerel and Muskie	Steehead	Trout	Salmon	Anything	Other Species
NE	13	9	9	19	18	15	5	0	2	0	9	2
NV	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NH	0	8	3	28	0	0	7	0	32	5	14	2
NJ	0	13	10	36	6	0	7	0	16	0	4	8
NM	2	3	7	9	11	0	0	0	58	7	3	0
NY	3	11	3	28	4	10	10	2	19	4	7	0
NC	19	11	12	24	17	0	0	0	5	0	8	5
ND	3	16	0	2	2	52	18	0	1	1	5	1
OH	11	17	7	31	16	11	0	0	3	0	4	1
OK	20	6	8	31	20	4	0	0	2	0	9	0
OR	1	2	2	5	3	0	0	14	41	21	6	7
PA	5	7	10	25	7	7	3	0	26	0	9	0
RI	0	9	19	26	0	0	0	0	30	0	17	0
SC	16	15	9	25	22	0	0	0	2	0	8	3
SD	5	18	2	5	6	42	12	0	3	0	7	0
TN	17	15	10	27	15	6	0	0	7	0	4	0
TX	18	5	14	27	30	0	0	0	2	0	4	0
UT	0	4	3	11	4	1	0	0	68	0	6	3
VT	0	13	3	10	3	7	7	0	34	9	11	3
VA	14	11	14	30	14	0	0	0	10	0	7	0
WA	1	3	2	10	0	0	0	18	39	21	2	4
WV	7	9	6	28	17	0	0	0	22	0	11	0
WI	11	29	3	17	1	17	15	0	4	0	3	0
WY	0	0	0	0	0	1	0	0	78	0	0	3

ND= No data reported from State

Table 20. Commercial Fish Intake Rates Among Consumers of Recreationally Caught Fish

	Percentile					
Source: Conolly et al., 1996	25	50	75	90	95	99
Recreational fish intake g/ day	0.6	2.2	6.6	13.2	17.9	39.8
All fish intake g/day	8.8	14.1	23.2	34.2	42.3	56.6

Table 21. Fishing Days by U.S. Region and Estimated Number of Consumers of Fish Caught in Each U.S. Freshwater Region

Region	Days Fishing	Percent of Total	Estimated Number of Consumers (thousands of fishers)
Northeast	36,685,000	8.7	2,965
Mid-Atlantic	3,053,000	0.7	247
SouthEast	109,505,000	25.9	8,852
MidWest	150,895,000	35.7	12,197
West	122,953,000	29.1	9,939
Total	423,091,000	100	34,200

Table 22. Parameter Values Developed by Salkever (1995)

Effect	Symbol	Male	Female
Direct impact of a 1 IQ point change on:			
Years of schooling	IQ_S	0.1007	0.1007
Workforce participation probability	IQ_P	0.0016	0.0037
Wages (proportional wage change)	IQ_W	0.0124	0.014
Direct impact of a 1 year of schooling change on:			
Workforce participation probability	S_P	0.0035	0.0282
Wages (proportional wage change)	S_W	0.049	0.10

Table 23. Description of Cognitive Decrement and Associated Utility Weight Based on Torrance et al. (1996)

	Description of Levels for Health Utilities Index Mark 2: Cognition	Multiattribute Function on Dead Healthy Scale
1	Learns and remembers school work normally for age	1.00
2	Learns and remembers school work more slowly as judged by parents and teachers	0.95
3	Learns and remembers very slowly and usually requires special education	0.88

Table 24. Description of Cognitive Decrement and Associated Utility Weight Based on Feeny et al. (2002)

	Description of Levels for Health Utilities Index Mark 3: Cognition	Multiattribute Function on Dead Healthy Scale
1	Able to remember most things, think clearly and solve day-to-day problems	1.00
2	Able to remember most things, but have a little difficulty when trying to think and solve day-to-day problems	0.92
3	Somewhat forgetful, but able to think clearly and solve day-to-day problems	0.95
4	Somewhat forgetful and have a little difficulty when trying to think and solve day-to-day problems	0.83

Table 25. Predicted Percent Decreases in Mercury Deposition to the Coastal Atlantic Ocean Region, the Gulf of Mexico Region, and the All Other Waters Region Under CSI

	Coastal Atlantic Ocean	Gulf of Mexico	All Other Waters
Current Deposition Rate (µg/m^2/yr)	22.6	22.1	NA
Baseline 1	5.87%	3.52%	0.6%
Scenario 1	7.04%	3.89%	1%
Baseline 2	6.00%	3.54%	0.6%
Scenario 2	7.53%	4.29%	1.2%

Notes: Percent decreases are based on 2001 deposition levels.

Table 26. Predicted Percent Decreases in Mercury Deposition in the Five Freshwater Regions Relative to Current Emissions

	Baseline1	Scenario 1	Baseline 2	Scenario 2
Northeast	Current deposition rate: 12.6 µg/m^2/yr (199 Receptors)			
Average Decrease	9%	12%	9%	13%
Standard deviation	9%	9%	9%	9%
MidAtlantic	Current deposition rate: 14.1 µg/m^2/yr (201 Receptors)			
Average Decrease	22%	31%	24%	34%
Standard deviation	12%	12%	12%	12%
Southeast	Current deposition rate: 10.2 µg/m^2/yr (661 Receptors)			
Average Decrease	17%	20%	18%	24%
Standard deviation	12%	12%	13%	12%
Midwest	Current deposition rate: 12.5 µg/m^2/yr (841 Receptors)			
Average Decrease	9%	12%	9%	14%
Standard deviation	7%	9%	8%	10%
West	Current deposition rate: 6.5 µg/m^2/yr (3001 Receptors)			
Average Decrease	3%	4%	3%	4%
Standard deviation	5%	5%	5%	6%

Table 27. Weighted Mean Methylmercury Concentrations in Commercial Fish

Commercial Fish	Concentration (µg/g)	Percent Change
Current	0.116	
Baseline 1	0.115	0.8%
Scenario 1	0.114	1.5%
Baseline 2	0.114	1.5%
Scenario 2	0.113	2.4%

Table 28. Predicted Weighted Mean Non-commercial Fish Methylmercury Concentrations (µg/g)

	Atlantic Ocean	Gulf of Mexico
Current Fish Methylmercury concentration (µg/g)	0.28	0.40
Baseline 1 Fish Methylmercury concentration (µg/g)	0.26	0.39
Scenario 1 Fish Methylmercury concentration (µg/g)	0.26	0.38
Baseline 2 Fish Methylmercury concentration (µg/g)	0.26	0.39
Scenario 2 Fish Methylmercury concentration (µg/g)	0.26	0.38

Table 29. Northeastern Fish Consumption Data

Statistic	Crappie	Panfish	White and Striped Bass	Black Bass	Catfish	Northern Pike, Pickerel and Muskie	Trout	Salmon
Consumption Frequency* (unitless)	0.02	0.11	0.07	0.33	0.04	0.10	0.29	0.06
Sample Size	3	1131	121	755	237	34	173	8
Mean MeHg Concentration (ppm)	0.38	0.37	0.35	0.57	0.17	0.66	0.31	0.22
Standard Deviation MeHg Concentration (ppm)	0.18	0.28	0.22	0.35	0.17	0.37	0.24	0.20
Mean Length (inches)	10.03	8.08	24.61	14.58	9.84	18.42	16.97	12.56
Std. Dev. Length (inches)	1.48	1.78	5.32	1.88	2.12	3.63	5.90	5.57

*Consumption frequency refers to the relative targeting frequency for region. This was used as a surrogate for consumption frequency.

Table 30. MidAtlantic Fish Consumption Summary Data

Statistic	Crappie	Panfish	White and Striped Bass	Black Bass	Catfish	Walleye and Sauger	Northern Pike, Pickerel and Muskie	Trout
Consumption Frequency* (unitless)	0.07	0.10	0.12	0.32	0.12	0.04	0.03	0.21
Sample Size	25	20	190	161	186	5	49	17
Mean MeHg Concentration (ppm)	0.14	0.14	0.18	0.69	0.14	0.10	0.80	0.22
Std. Dev. Concentration (ppm)	0.08	0.13	0.21	1.03	0.20	0.02	0.67	0.27
Mean Length (inches)	7.68	6.18	25.19	14.68	15.78	14.73	18.86	16.84
Std. Dev. Length (inches)	1.82	0.54	6.34	1.80	4.12	2.32	3.12	5.42

*Consumption frequency refers to the relative targeting frequency for region. This was used as a surrogate for consumption frequency.

Table 31. Southeastern Fish Consumption Data

Statistic	Crappie	Panfish	White and Striped Bass	Black Bass	Catfish	Walleye and Sauger	Trout
Consumption Frequency* (unitless)	0.19	0.16	0.12	0.28	0.20	0.01	0.04
Sample Size	952	1914	99	5431	1335	14	43
Mean MeHg Concentration (ppm)	0.26	0.25	0.21	0.62	0.29	0.28	0.04
Std. Dev. MeHg Concentration (ppm)	0.32	0.24	0.17	0.53	0.37	0.22	0.04
Mean Length (inches)	11.55	7.94	18.64	15.42	15.99	18.48	9.11
Std. Dev. Length (inches)	8.90	3.43	4.70	5.18	8.49	2.34	2.48

*Consumption frequency refers to the relative targeting frequency for region. This was used as a surrogate for consumption frequency.

Table 32. Midwest Fish Consumption Summary Data

	Crappie	Panfish	White and Striped Bass	Black Bass	Catfish	Walleye and Sauger	Northerns, Pickerel and Muskie	Trout	Salmon
Consumption Frequency* (unitless)	0.15	0.23	0.07	0.19	0.11	0.14	0.07	0.03	< 0.01
Sample Size	905	1824	100	1446	617	5163	2448	1404	322
Mean MeHg (ppm)	0.17	0.15	0.25	0.35	0.22	0.45	0.50	0.24	0.10
Std. Dev. MeHg conc(ppm)	0.12	0.12	0.17	0.21	0.36	0.34	0.37	0.22	0.09
Length (inches)	10.76	7.84	13.57	14.58	15.91	19.30	28.17	20.24	20.88
Std. Dev. (inches)	17.72	1.51	1.18	1.84	5.44	3.12	3.37	5.78	4.82

*Consumption frequency refers to the relative targeting frequency for region. This was used as a surrogate for consumption frequency.

Table 33. Western Fish Consumption Summary Data

	Crappie	Panfish	White and Striped Bass	Black Bass	Catfish	Walleye and Sauger	Northern Pike, Pickerel and Muskie	Trout	Salmon
Consumption Frequency* (unitless)	0.10	0.05	0.08	0.18	0.16	0.05	0.02	0.30	0.07
Sample Size	153	132	105	353	461	122	48	236	338
Mean MeHg Concentration (ppm)	0.32	0.30	0.41	0.45	0.25	0.67	0.46	0.21	0.12
Standard Deviation MeHg Concentration (ppm)	0.24	0.25	0.29	0.38	0.21	0.59	0.26	0.35	0.22
Mean Length (inches)	9.60	7.80	16.26	14.54	16.03	20.11	31.06	12.45	22.43
Std. Dev. Length (inches)	2.53	1.88	3.91	2.04	4.62	4.34	4.74	4.47	6.31

*Consumption frequency refers to the relative targeting frequency for region. This was used as a surrogate for consumption frequency.

Table 34. Estimated Population Sizes

	Estimated Angler Population	Estimated Non-commercial Fish Consumer Population	Estimated Women of Child-bearing Age	Estimated Annual Childbirths	Men >39 Years of Age	Women >39 Years of Age
Atlantic	5,012,000	10,024,000	2,205,000	137,000	1,983,000	2,269,000
Gulf	2,897,000	5,793,000	1,274,000	79,000	1,146,000	1,311,000
Northeast	2,471,000	4,942,000	1,087,000	67,000	978,000	1,119,000
Mid-Atlantic	206,000	411,000	90,000	6,000	81,000	93,000
Southeast	7,376,000	14,753,000	3,246,000	201,000	2,919,000	3,340,000
Midwest	10,164,000	20,329,000	4,472,000	277,000	4,022,000	4,602,000
West	8,282,000	16,565,000	3,644,000	226,000	3,277,000	3,750,000
General Population (Total Population = 281,421,906)	NA	NA	45,893,000	2,845,000	41,274,000	47,221,000
Total	36,409,000	72,817,000	61,913,000	3,839,000	55,681,000	63,705,000

NA=not applicable

Table 35. Predicted Tissue Methylmercury Concentrations in Commercial Fish Consumers

General Population	Mean MeHg Blood Conc. (µg/L Blood)	Mean MeHg Hair Conc. (µg/g hair)	Percent Population Below RfD	Conditional Mean MeHg Blood Concentration (µg/L Blood) for those above RfD
Current [a] Female	1.64	0.41	92.1%	8.82
Baseline 1 Female	1.63	0.41	92.2%	8.80
Scenario 1 Female	1.62	0.40	92.4%	8.79
Baseline 2 Female	1.62	0.40	92.4%	8.79
Scenario 2 Female	1.60	0.40	92.5%	8.77
Current Male[b]	1.56	0.39		
Baseline 1 Male	1.55	0.39		
Scenario 1 Male	1.54	0.38		
Baseline 2 Male	1.54	0.38		
Scenario 2 Male	1.53	0.38		

[a] The data in this row results from fitting the female blood methylmercury concentrations reported by Mahaffey et al. (2004). For the total sample population, the 50th, 75th, 90th and 95th percentile values were 0.6, 1.7, 4.4 and 6.7 µg/L, respectively. See Table 16 for additional details of the Mahaffey data set.
[b] Male blood data are based on fitted distribution for female blood methylmercury concentrations and Equation 7.

Table 36. Predicted Methylmercury Intake Rates (µg/kg-day) in Consumers of Non-Commercial Atlantic Ocean Fish*

Population	Mean Intake (µg/kg-day)	50th % (µg/kg-day)	95th % (µg/kg-day)	Percent Population Below RfD	Conditional Mean Intake for those above RfD (µg/kg-day)
Atlantic Current	0.048	0.038	0.123	93.7%	0.144
Atlantic Baseline 1	0.047	0.038	0.119	94.9%	0.147
Atlantic Scenario 1	0.047	0.037	0.118	94.9%	0.146
Atlantic Baseline 2	0.047	0.038	0.119	94.9%	0.147
Atlantic Scenario 2	0.046	0.037	0.117	94.9%	0.145

* This population also is assumed to consume a mix of commercial fish (see Section 2.2.2.3).

Table 37. Predicted Methylmercury Intake Rates (µg/kg-day) in Consumers of Non-Commercial Gulf Fish*

Population	Mean Intake (µg/kg-day)	50th % (µg/kg-day)	95th % (µg/kg-day)	Percent Population Below RfD	Conditional Mean Intake for those above RfD (µg/kg-day)
Gulf Current	0.065	0.044	0.187	79.7%	0.203
Gulf Baseline 1	0.063	0.043	0.182	80.0%	0.200
Gulf Scenario 1	0.063	0.043	0.181	80.1%	0.199
Gulf Baseline 2	0.063	0.043	0.182	80.0%	0.200
Gulf Scenario 2	0.063	0.043	0.180	80.2%	0.198

* This population also is assumed to consume a mix of commercial fish (see Section 2.2.2.3).

Table 38. Predicted Methylmercury Intake Rates (µg/kg-day) in Consumers of Non-Commercial Northeast Fish*

Population	Mean Intake (µg/kg-day)	50th % (µg/kg-day)	95th % (µg/kg-day)	Percent Population Below RfD	Conditional Mean Intake for those above RfD (µg/kg-day)
Northeast Current	0.075	0.053	0.196	79.5%	0.173
Northeast Baseline 1	0.069	0.050	0.179	82.3%	0.168
Northeast Scenario 1	0.069	0.049	0.176	82.7%	0.167
Northeast Baseline 2	0.070	0.050	0.182	81.9%	0.169
Northeast Scenario 2	0.068	0.049	0.175	82.9%	0.167

* This population also is assumed to consume a mix of commercial fish (see Section 2.2.2.3).

Table 39. Predicted Methylmercury Intake Rates (µg/kg-day) in Consumers of Non-Commercial Mid-Atlantic Fish*

Population	Mean Intake (µg/kg-day)	50th % (µg/kg-day)	95th % (µg/kg-day)	Percent Population Below RfD	Conditional Mean Intake for those above RfD (µg/kg-day)
Mid-Atlantic Current	0.066	0.045	0.171	85.3%	0.186
Mid-Atlantic Baseline 1	0.057	0.040	0.140	89.4%	0.176
Mid-Atlantic Scenario 1	0.053	0.038	0.129	91.1%	0.173
Mid-Atlantic Baseline 2	0.056	0.040	0.139	89.6%	0.175
Mid-Atlantic Scenario 2	0.052	0.037	0.125	91.5%	0.169

* This population also is assumed to consume a mix of commercial fish (see Section 2.2.2.3).

Table 40. Predicted Methylmercury Intake Rates (µg/kg-day) in Consumers of Non-Commercial Southeast Fish*

Population	Mean Intake (µg/kg-day)	50th % (µg/kg-day)	95th % (µg/kg-day)	Percent Population Below RfD	Conditional Mean Intake for those above RfD (µg/kg-day)
Southeast Current	0.067	0.048	0.170	84.1%	0.171
Southeast Baseline 1	0.059	0.044	0.147	87.6%	0.163
Southeast Scenario 1	0.058	0.043	0.143	88.3%	0.162
Southeast Baseline 2	0.059	0.044	0.146	87.8%	0.163
Southeast Scenario 2	0.057	0.042	0.138	89.0%	0.160

* This population also is assumed to consume a mix of commercial fish (see Section 2.2.2.3).

Table 41. Predicted Methylmercury Intake Rates (µg/kg-day) in Consumers of Non-Commercial Midwest Fish*

Population	Mean Intake (µg/kg-day)	50th % (µg/kg-day)	95th % (µg/kg-day)	Percent Population Below RfD	Conditional Mean Intake for those above RfD (µg/kg-day)
Midwest Current	0.057	0.042	0.137	88.4%	0.149
Midwest Baseline 1	0.054	0.041	0.129	89.7%	0.144
Midwest Scenario 1	0.053	0.040	0.125	90.4%	0.143
Midwest Baseline 2	0.054	0.041	0.128	89.8%	0.144
Midwest Scenario 2	0.053	0.039	0.123	90.6%	0.142

* This population also is assumed to consume a mix of commercial fish (see Section 2.2.2.3).

Table 42. Predicted Methylmercury Intake Rates (µg/kg-day) in Consumers of Non-Commercial West Fish*

Population	Mean Intake (µg/kg-day)	50th % (µg/kg-day)	95th % (µg/kg-day)	Percent Population Below RfD	Conditional Mean Intake for those above RfD (µg/kg-day)
West Current	0.061	0.044	0.151	86.4%	0.159
West Baseline 1	0.060	0.044	0.147	87.0%	0.158
West Scenario 1	0.060	0.043	0.146	87.1%	0.157
West Baseline 2	0.060	0.044	0.147	86.8%	0.157
West Scenario 2	0.060	0.043	0.146	87.1%	0.157

* This population also is assumed to consume a mix of commercial fish (see Section 2.2.2.3).

Table 43. Predicted Methylmercury Intakes Among High-End Freshwater Fish Consumers in the U.S.

Population	Mean Intake (µg/kg-day)	Percent Population Below RfD	Conditional Mean Intake for those above RfD (µg/kg-day)
Northeast Current	0.363	18%	0.428
Northeast Baseline 1	0.324	21.6%	0.396
Northeast Scenario 1	0.318	22.1%	0.391
Northeast Baseline 2	0.330	21%	0.401
Northeast Scenario 2	0.316	22.5%	0.389
Mid-Atlantic Current	0.296	35.1%	0.426
Mid-Atlantic Baseline 1	0.230	44.6%	0.374
Mid-Atlantic Scenario 1	0.204	48.9%	0.353
Mid-Atlantic Baseline 2	0.227	45.2%	0.371
Mid-Atlantic Scenario 2	0.195	50.7%	0.345
Southeast Current	0.296	28.8%	0.392
Southeast Baseline 1	0.244	36.2%	0.351
Southeast Scenario 1	0.237	37.4%	0.345
Southeast Baseline 2	0.243	36.3%	0.350
Southeast Scenario 2	0.226	39.1%	0.335
Midwest Current	0.230	33.2%	0.314
Midwest Baseline 1	0.210	37%	0.298
Midwest Scenario 1	0.202	38.6%	0.293
Midwest Baseline 2	0.209	37.2%	0.299
Midwest Scenario 2	0.198	39.6%	0.290
West Current	0.260	30.7%	0.349
West Baseline 1	0.252	31.9%	0.343
West Scenario 1	0.251	32.1%	0.341
West Baseline 2	0.253	31.9%	0.343
West Scenario 2	0.250	32.4%	0.341

Table 44. Predicted Mean Hair Methylmercury Concentrations, Mean IQ Point Loss, IQ Losses in Annual Birth Cohort, and Estimated Monetary Value (Cost-of-Illness) (2000$) in Consumers of Non-Commercial Atlantic Ocean Fish* (Assuming No Neurotoxicity Threshold)

Population	Mean MeHg Hair Conc. (µg/g hair)	Mean IQ Loss per person	Children born per year	IQ Loss per Annual birth cohort	$ Value IQ point Loss
Atlantic Current	0.649	0.390	137,000	53,300	$894,522,000
Atlantic Baseline 1	0.630	0.378	137,000	51,700	$867,343,000
Atlantic Scenario 1	0.625	0.375	137,000	51,300	$860,587,000
Atlantic Baseline 2	0.629	0.378	137,000	51,600	$866,891,000
Atlantic Scenario 2	0.623	0.374	137,000	51,100	$857,959,000
Benefit Scenario 1		0.003		400	$6,756,000
Benefit Scenario 2		0.004		500	$8,932,000

* This population also is assumed to consume a mix of commercial fish (see Section 2.2.2.3).

Table 45. Predicted Mean Hair Methylmercury Concentrations, Mean IQ Point Loss, IQ Losses in Annual Birth Cohort, and Estimated Monetary Value (Cost-of-Illness) (2000$) in Consumers of Non-Commercial Gulf Fish* (Assuming No Neurotoxicity Threshold)

Population	Mean MeHg Hair Conc. (µg/g hair)	Mean IQ Loss per person	Children born per year	IQ Loss per Annual birth cohort	$ Value IQ point Loss
Gulf Current	0.866	0.520	79,000	41,100	$689,416,000
Gulf Baseline 1	0.845	0.507	79,000	40,000	$672,311,000
Gulf Scenario 1	0.841	0.505	79,000	39,900	$669,680,000
Gulf Baseline 2	0.845	0.507	79,000	40,000	$672,286,000
Gulf Scenario 2	0.839	0.503	79,000	39,800	$667,593,000
Benefit Scenario 1		0.002		100	$2,631,000
Benefit Scenario 2		0.004		200	$4,693,000

* This population also is assumed to consume a mix of commercial fish (see Section 2.2.2.3).

Table 46. Predicted Mean Hair Methylmercury Concentrations, Mean IQ Point Loss, IQ Losses in Annual Birth Cohort, and Estimated Monetary Value (Cost-of-Illness) (2000$) in Consumers of Non-Commercial Northeast Fish* (Assuming No Neurotoxicity Threshold)

Population	Mean MeHg Hair Conc. (µg/g hair)	Mean IQ Loss per person	Children born per year	IQ Loss per Annual birth cohort	$ Value IQ point Loss
Northeast Current	1.006	0.604	67,000	40,700	$683,094,000
Northeast Baseline 1	0.932	0.559	67,000	37,700	$632,940,000
Northeast Scenario 1	0.922	0.553	67,000	37,300	$625,877,000
Northeast Baseline 2	0.945	0.567	67,000	38,200	$641,447,000
Northeast Scenario 2	0.916	0.550	67,000	37,100	$622,248,000
Benefit Scenario 1		0.006		400	$7,063,000
Benefit Scenario 2		0.017		1,100	$19,199,000

* This population also is assumed to consume a mix of commercial fish (see Section 2.2.2.3).

Table 47. Predicted Mean Hair Methylmercury Concentrations, Mean IQ Point Loss, IQ Losses in Annual Birth Cohort, and Estimated Monetary Value (Cost-of-Illness) (2000$) in Consumers of Non-Commercial Mid-Atlantic Fish* (Assuming No Neurotoxicity Threshold)

Population	Mean MeHg Hair Conc. (µg/g hair)	Mean IQ Loss per Person	Children Born per Year	IQ Loss per Annual Birth Cohort	$ Value IQ Point Loss
Mid-Atlantic Current	0.881	0.529	6,000	3,000	$49,817,000
Mid-Atlantic Baseline 1	0.760	0.456	6,000	2,600	$42,948,000
Mid-Atlantic Scenario 1	0.713	0.428	6,000	2,400	$40,303,000
Mid-Atlantic Baseline 2	0.754	0.452	6,000	2,500	$42,597,000
Mid-Atlantic Scenario 2	0.695	0.417	6,000	2,300	$39,289,000
Benefit Scenario 1		0.028		200	$2,645,000
Benefit Scenario 2		0.035		200	$3,308,000

* This population also is assumed to consume a mix of commercial fish (see Section 2.2.2.3).

Table 48. Predicted Mean Hair Methylmercury Concentrations, Mean IQ Point Loss, IQ Losses in Annual Birth Cohort, and Estimated Monetary Value (Cost-of-Illness) (2000$) in Consumers of Non-Commercial Southeast Fish* (Assuming No Neurotoxicity Threshold)

Population	Mean MeHg Hair Conc. (µg/g hair)	Mean IQ Loss per Person	Children Born per Year	IQ Loss per Annual Birth Cohort	$ Value IQ Point Loss
Southeast Current	0.892	0.535	201,000	107,700	$1,808,796,000
Southeast Baseline 1	0.798	0.479	201,000	96,300	$1,617,526,000
Southeast Scenario 1	0.780	0.468	201,000	94,200	$1,581,019,000
Southeast Baseline 2	0.794	0.477	201,000	95,900	$1,609,977,000
Southeast Scenario 2	0.761	0.457	201,000	91,900	$1,542,468,000
Benefit Scenario 1		0.011		2,100	$36,507,000
Benefit Scenario 2		0.020		4,000	$67,509,000

* This population also is assumed to consume a mix of commercial fish (see Section 2.2.2.3).

Table 49. Predicted Mean Hair Methylmercury Concentrations, Mean IQ Point Loss, IQ Losses in Annual Birth Cohort, and Estimated Monetary Value (Cost-of-Illness) (2000$) in Consumers of Non-Commercial Midwest Fish* (Assuming No Neurotoxicity Threshold)

Population	Mean MeHg Hair Conc. (µg/g hair)	Mean IQ Loss per Person	Children Born per Year	IQ Loss per Annual Birth Cohort	$ Value IQ Point Loss
Midwest Current	0.767	0.460	277,000	127,500	$2,141,187,000
Midwest Baseline 1	0.730	0.438	277,000	121,400	$2,038,527,000
Midwest Scenario 1	0.714	0.428	277,000	118,800	$1,994,266,000
Midwest Baseline 2	0.729	0.438	277,000	121,300	$2,036,886,000
Midwest Scenario 2	0.705	0.423	277,000	117,400	$1,970,379,000
Benefit Scenario 1		0.010		2,600	$44,261,000
Benefit Scenario 2		0.014		3,900	$66,507,000

* This population also is assumed to consume a mix of commercial fish (see Section 2.2.2.3).

Table 50. Predicted Mean Hair Methylmercury Concentrations, Mean IQ point Loss, IQ Losses in Annual Birth Cohort, and Estimated Monetary Value (Cost-of-Illness) (2000$) in Consumers of Non-Commercial West Fish* (Assuming No Neurotoxicity Threshold)

Population	Mean MeHg Hair Conc. (µg/g hair)	Mean IQ Loss per Person	Children Born per Year	IQ Loss per Annual Birth Cohort	$ Value IQ Point Loss
West Current	0.824	0.494	226,000	111,700	$1,875,787,000
West Baseline 1	0.809	0.485	226,000	109,700	$1,841,484,000
West Scenario 1	0.804	0.482	226,000	109,000	$1,829,600,000
West Baseline 2	0.809	0.486	226,000	109,700	$1,842,501,000
West Scenario 2	0.801	0.481	226,000	108,600	$1,823,060,000
Benefit Scenario 1		0.003		700	$11,884,000
Benefit Scenario 2		0.005		1,100	$19,441,000

* This population also is assumed to consume a mix of commercial fish (see Section 2.2.2.3).

Table 51. Predicted Mean Hair Methylmercury Concentrations, Mean IQ Point Loss, IQ Losses in Annual Birth Cohort, and Estimated Monetary Value (Cost-of-Illness) (2000$) in Consumers of Commercial Fish and Non-Fish Consumers (Assuming No Neurotoxicity Threshold)

Population	Mean MeHg Hair Conc. (µg/g hair)	Mean IQ Loss per Person	Children Born per Year	IQ Loss per Annual Birth Cohort	$ Value IQ Point Loss
Current Female	0.410	0.246	2,845,000	700,600	$11,763,387,000
Baseline 1 Female	0.407	0.244	2,845,000	695,000	$11,668,494,000
Scenario 1 Female	0.404	0.243	2,845,000	690,100	$11,586,300,000
Baseline 2 Female	0.404	0.242	2,845,000	689,900	$11,583,590,000
Scenario 2 Female	0.401	0.240	2,845,000	684,000	$11,484,931,000
Benefit Scenario 1		0.002		4,900	$82,194,000
Benefit Scenario 2		0.002		5,900	$98,659,000

Table 52. Summary of IQ Point Losses and Associated Costs per Annual Birth Cohort for the Entire U.S. Population (2000$)

	IQ Points Lost per Annual Birth Cohort	Monetary Value of Lost IQ Points
Assuming no Neurotoxicity Threshold		
Total Population Current	1,185,600	$19,906,000,000
Total Population Baseline 1	1,154,400	$19,382,000,000
Total Population Scenario 1	1,143,000	$19,188,000,000
Total Population Baseline 2	1,149,100	$19,296,000,000
Total Population Scenario 2	1,132,200	$19,008,000,000
Assuming a Neurotoxicity Threshold		
Total Population Current	187,000	$3,137,000,000
Total Population Baseline 1	173,000	$2,897,000,000
Total Population Scenario 1	168,000	$2,821,000,000
Total Population Baseline 2	170,000	$2,862,000,000
Total Population Baseline 2	163,000	$2,743,000,000

Table 53. Predicted Incremental IQ Gains per Annual U.S. Birth Cohort and Incremental Estimated Monetary Value of the IQ Gains (Cost-of-Illness) (2000$)

	IQ Point Gain per Annual Birth Cohort	$ Value IQ Point Gain	Number Children Born Above RfD Annually	QALY Gain per Annual Birth Cohort
Scenario 1 (Assuming No Neurotoxicity Threshold)	11,600	$193,940,000		
Scenario 2 (Assuming No Neurotoxicity Threshold)	17,200	$288,248,000		
Scenario 1 (Assuming RfD = Neurotoxicity Threshold)	4,500	$75,311,000	7,400	5,700
Scenario 2 (Assuming RfD = Neurotoxicity Threshold)	7,100	$119,002,000	9,600	7,400

Table 54. Predicted Mean IQ point loss, IQ Losses per Annual Birth Cohort, and Estimated Monetary Value (Cost-of-Illness) (2000$) in Consumers of Commercial Fish and Non-Commercial Atlantic Ocean Fish (Assuming RfD is Neurotoxicity Threshold)

Population	Average IQ Loss per Person	Number Children Born Above RfD per Annual Birth Cohort	IQ Loss per Annual Birth Cohort	Value IQ Point Loss
Atlantic Current	0.36	8,610	3,060	$51,391,000
Atlantic Baseline 1	0.38	7,000	2,630	$44,127,000
Atlantic Scenario 1	0.37	6,920	2,540	$42,680,000
Atlantic Baseline 2	0.38	6,970	2,620	$43,983,000
Atlantic Scenario 2	0.36	6,920	2,510	$42,092,000
Benefit Scenario 1		80	90	$1,447,000
Benefit Scenario 2		50	110	$1,891,000

Table 55. Predicted Mean IQ point loss, IQ Losses per Annual Birth Cohort, and Estimated Monetary Value (Cost-of-Illness) (2000$) in Consumers of Commercial Fish and Non-Commercial Gulf Fish (Assuming RfD is Neurotoxicity Threshold)

Population	Average IQ Loss per Person	Number Children Born Above RfD per Annual Birth Cohort	IQ Loss per Annual Birth Cohort	Value IQ Point Loss
Gulf Current	0.83	16,040	13,310	$223,413,000
Gulf Baseline 1	0.80	15,770	12,650	$212,369,000
Gulf Scenario 1	0.80	15,710	12,500	$209,904,000
Gulf Baseline 2	0.80	15,770	12,640	$212,296,000
Gulf Scenario 2	0.79	15,660	12,360	$207,561,000
Benefit Scenario 1		60	150	$2,465,000
Benefit Scenario 2		120	280	$4,735,000

Table 56. Predicted Mean IQ point loss, IQ Losses per Annual Birth Cohort, and Estimated Monetary Value (Cost-of-Illness) (2000$) in Consumers of Commercial Fish and Non-Commercial Northeast Fish (Assuming RfD is Neurotoxicity Threshold)

Population	Average IQ Loss per Person	Number Children Born Above RfD per Annual Birth Cohort	IQ Loss per Annual Birth Cohort	Value IQ Point Loss
Northeast Current	0.59	13,810	8,130	$136,501,000
Northeast Baseline 1	0.54	11,940	6,510	$109,278,000
Northeast Scenario 1	0.54	11,640	6,310	$105,909,000
Northeast Baseline 2	0.56	12,200	6,790	$114,047,000
Northeast Scenario 2	0.54	11,550	6,190	$103,933,000
Benefit Scenario 1		300	200	$3,369,000
Benefit Scenario 2		650	600	$10,114,000

Table 57. Predicted Mean IQ point loss, IQ Losses per Annual Birth Cohort, and Estimated Monetary Value (Cost-of-Illness) (2000$) in Consumers of Commercial Fish and Non-Commercial Mid-Atlantic Fish (Assuming RfD is Neurotoxicity Threshold)

Population	Average IQ Loss per Person	Number Children Born Above RfD per Annual Birth Cohort	IQ Loss per Annual Birth Cohort	Value IQ Point Loss
Mid-Atlantic Current	0.69	820	570	$9,574,000
Mid-Atlantic Baseline 1	0.61	590	360	$6,068,000
Mid-Atlantic Scenario 1	0.58	500	290	$4,900,000
Mid-Atlantic Baseline 2	0.60	590	350	$5,896,000
Mid-Atlantic Scenario 2	0.56	470	260	$4,427,000
Benefit Scenario 1		90	70	$1,168,000
Benefit Scenario 2		110	90	$1,469,000

Table 58. Predicted Mean IQ point loss, IQ Losses per Annual Birth Cohort, and Estimated Monetary Value (Cost-of-Illness) (2000$) in Consumers of Commercial Fish and Non-Commercial Southeast Fish (Assuming RfD is Neurotoxicity Threshold)

Population	Average IQ Loss per Person	Number Children Born Above RfD per Annual Birth Cohort	IQ Loss per Annual Birth Cohort	Value IQ Point Loss
Southeast Current	0.57	32,070	18,280	$306,955,000
Southeast Baseline 1	0.51	24,880	12,680	$212,816,000
Southeast Scenario 1	0.50	23,590	11,770	$197,686,000
Southeast Baseline 2	0.51	24,630	12,480	$209,572,000
Southeast Scenario 2	0.49	22,140	10,740	$180,298,000
Benefit Scenario 1		1,290	900	$15,130,000
Benefit Scenario 2		2,500	1,740	$29,273,000

Table 59. Predicted Mean IQ point loss, IQ Losses per Annual Birth Cohort, and Estimated Monetary Value (Cost-of-Illness) (2000$) in Consumers of Commercial Fish and Non-Commercial Midwest Fish (Assuming RfD is Neurotoxicity Threshold)

Population	Average IQ Loss per Person	Number Children Born Above RfD per Annual Birth Cohort	IQ Loss per Annual Birth Cohort	Value IQ Point Loss
Midwest Current	0.39	32,250	12,640	$212,145,000
Midwest Baseline 1	0.36	28,590	10,150	$170,484,000
Midwest Scenario 1	0.35	26,700	9,300	$156,139,000
Midwest Baseline 2	0.36	28,390	10,130	$170,154,000
Midwest Scenario 2	0.34	25,940	8,730	$146,517,000
Benefit Scenario 1		1,900	850	$14,345,000
Benefit Scenario 2		2,450	1,400	$23,637,000

Table 60. Predicted Mean IQ point loss, IQ Losses per Annual Birth Cohort, and Estimated Monetary Value (Cost-of-Illness) (2000$) in Consumers of Commercial Fish and Non-Commercial West Fish (Assuming RfD is Neurotoxicity Threshold)

Population	Average IQ Loss per Person	Number Children Born Above RfD per Annual Birth Cohort	IQ Loss per Annual Birth Cohort	Value IQ Point Loss
West Current	0.48	30,750	14,640	$245,866,000
West Baseline 1	0.47	29,420	13,700	$229,987,000
West Scenario 1	0.46	29,230	13,510	$226,851,000
West Baseline 2	0.46	29,770	13,720	$230,393,000
West Scenario 2	0.46	29,130	13,300	$223,274,000
Benefit Scenario 1		190	190	$3,136,000
Benefit Scenario 2		650	420	$7,120,000

Table 61. Predicted Mean IQ point loss, IQ Losses per Annual Birth Cohort, and Estimated Monetary Value (Cost-of-Illness) (2000$) in Commercial Fish Consumers (Assuming RfD is Neurotoxicity Threshold)

Population	Average IQ Loss per Person	Number Children Born Above RfD per Annual Birth Cohort	IQ Loss per Annual Birth Cohort	Value IQ Point Loss
Current	0.52	224,330	116,220	$1,951,400,000
Baseline 1	0.52	220,860	113,840	$1,911,439,000
Scenario 1	0.51	217,330	111,800	$1,877,187,000
Baseline 2	0.51	217,220	111,740	$1,876,063,000
Scenario 2	0.51	214,090	109,310	$1,835,300,000
Benefit Scenario 1		3,530	2,040	$34,251,000
Benefit Scenario 2		3,130	2,430	$40,763,000

Table 62. Distribution of Predicted Annual Cases of Acute Myocardial Infarction (AMI) and Premature Deaths (ACM) in Male Northern Pike Consumers

	Mean Daily Intake	Mean Blood Concentration	Mean Hair Concentration	Incidence Rate AMI	Incidence Rate ACM	Population	Non-Fatal AMI Cases	Premature Deaths	Non-Fatal AMI Avoided	Premature Deaths Avoided
Northeast Current	0.075	4.05	1.01	9.983E-03	1.123E-02	98,000	796	1,098		
Northeast Baseline1	0.067	3.61	0.90	9.911E-03	1.112E-02	98,000	790	1,088		
Northeast Scenario 1	0.066	3.55	0.89	9.902E-03	1.111E-02	98,000	790	1,086	0.7	1.3
Northeast Baseline2	0.069	3.69	0.92	9.924E-03	1.114E-02	98,000	791	1,089		
Northeast Scenario 2	0.066	3.53	0.88	9.898E-03	1.110E-02	98,000	789	1,086	2.0	3.7
MidAtlantic Current	0.092	4.93	1.23	1.013E-02	1.144E-02	2,000	17	23		
MidAtlantic Baseline 1	0.071	3.83	0.96	9.948E-03	1.118E-02	2,000	17	23		
MidAtlantic Scenario 1	0.063	3.40	0.85	9.877E-03	1.107E-02	2,000	16	23	0.1	0.2
MidAtlantic Baseline 2	0.070	3.78	0.95	9.939E-03	1.116E-02	2,000	17	23		
MidAtlantic Scenario 2	0.060	3.25	0.81	9.852E-03	1.104E-02	2,000	16	23	0.1	0.3
Midwest Current	0.057	3.05	0.76	9.820E-03	1.099E-02	292,000	2,340	3,211		
Midwest Baseline 1	0.052	2.78	0.70	9.777E-03	1.093E-02	292,000	2,330	3,193		

Table 62 cont.

	Mean Daily Intake	Mean Blood Concentration	Mean Hair Concentration	Incidence Rate AMI	Incidence Rate ACM	Population	Non-Fatal AMI Cases	Premature Deaths	Non-Fatal AMI Avoided	Premature Deaths Avoided
Midwest Scenario 1	0.050	2.69	0.67	9.762E-03	1.090E-02	292,000	2,326	3,186	3.6	6.4
Midwest Baseline 2	0.052	2.78	0.69	9.776E-03	1.093E-02	292,000	2,330	3,192		
Midwest Scenario 2	0.049	2.63	0.66	9.752E-03	1.089E-02	292,000	2,324	3,182	5.7	10.2
West Current	0.052	2.80	0.70	9.779E-03	1.093E-02	54,000	427	586		
West Baseline 1	0.050	2.71	0.68	9.766E-03	1.091E-02	54,000	427	585		
West Scenario 1	0.050	2.69	0.67	9.763E-03	1.091E-02	54,000	427	584	0.1	0.2
West Baseline 2	0.050	2.71	0.68	9.766E-03	1.091E-02	54,000	427	585		
West Scenario 2	0.050	2.68	0.67	9.761E-03	1.090E-02	54,000	427	584	0.2	0.4
Cases Avoided Scenario 1									4.5	8.2
Cases Avoided Scenario 2									8.1	14.6

Table 63. Using a Cost-of-Illness Approach and VSL, Annual Costs Associated with Cases of Non-Fatal AMI and Premature Death In Male Northern Pike Consumers (2000$)

	Predicted Annual decrease in cases of non-fatal AMI	Annual Avoided Costs due to reduction in non-fatal cases of AMI	Predicted Annual decrease in cases of ACM	Annual Avoided Costs (COI) due to reduction in cases of ACM	Annual Avoided Costs (VSL) due to reduction in cases of ACM	Annual Total Avoided Costs (COI) due to reduction in cases of AMI and ACM	Annual Total Avoided Costs (COI for AMI and VSL for ACM) due to reduction in cases of AMI and ACM
Change Scenario 1	4.5	$235,000	8.2	$2,624,000	$48,380,000	$2,858,000	$48,614,000
Change Scenario 2	8.1	$423,000	14.6	$4,671,000	$86,140,000	$5,094,000	$86,563,000

Table 64. Predicted Annual AMI and ACM Incidence and Valuation (2000$) in Male Consumers of Commercial Fish and Non-Commercial Atlantic Ocean Fish

Population	Male Non-Fatal AMI Cases	Male Total ACM Cases	Male Total AMI COSTS	Costs Male Mortality (COI)	Costs Male Mortality (VSL)
Atlantic Current	15,768	21,585	$823,048,000	$6,906,000,000	$127,353,000,000
Atlantic Baseline 1	15,747	21,549	$821,981,000	$6,894,000,000	$127,136,000,000
Atlantic Scenario 1	15,742	21,539	$821,716,000	$6,892,000,000	$127,083,000,000
Atlantic Baseline 2	15,747	21,548	$821,963,000	$6,894,000,000	$127,133,000,000
Atlantic Scenario 2	15,740	21,536	$821,612,000	$6,890,000,000	$127,062,000,000
Benefit Scenario 1	5	10	$265,000	$2,914,000	$53,728,000
Benefit Scenario 2	7	12	$351,000	$3,852,000	$71,026,000

Table 65. Predicted Annual AMI and ACM Incidence and Valuation (2000$) in Male Consumers of Commercial Fish and Non-Commercial Gulf Fish

Population	Male Non-Fatal AMI Cases	Male Total ACM Cases	Male Total AMI COSTS	Costs Male Mortality (COI)	Costs Male Mortality (VSL)
Gulf Current	9,243	12,710	$482,484,000	$4,066,000,000	$74,987,000,000
Gulf Baseline 1	9,230	12,686	$481,802,000	$4,059,000,000	$74,848,000,000
Gulf Scenario 1	9,228	12,682	$481,697,000	$4,058,000,000	$74,827,000,000
Gulf Baseline 2	9,230	12,686	$481,801,000	$4,059,000,000	$74,848,000,000
Gulf Scenario 2	9,227	12,680	$481,614,000	$4,057,000,000	$74,810,000,000
Benefit Scenario 1	2	4	$105,000	$1,156,000	$21,311,000
Benefit Scenario 2	3	6	$187,000	$2,062,000	$38,018,000

Table 66. Predicted Annual AMI and ACM Incidence and Valuation (2000$) in Male Consumers of Commercial Fish and Non-Commercial Northeast Fish

Population	Male Non-Fatal AMI Cases	Male Total ACM Cases	Male Total AMI COSTS	Costs Male Mortality (COI)	Costs Male Mortality (VSL)
Northeast Current	7,959	10,974	$415,430,000	$3,511,000,000	$64,749,000,000
Northeast Baseline 1	7,920	10,905	$413,416,000	$3,489,000,000	$64,339,000,000
Northeast Scenario 1	7,915	10,895	$413,134,000	$3,486,000,000	$64,281,000,000
Northeast Baseline 2	7,927	10,917	$413,757,000	$3,493,000,000	$64,408,000,000
Northeast Scenario 2	7,912	10,890	$412,988,000	$3,484,000,000	$64,251,000,000
Benefit Scenario 1	5	10	$283,000	$3,126,000	$57,642,000
Benefit Scenario 2	15	27	$769,000	$8,499,000	$156,718,000

Table 67. Predicted Annual AMI and ACM Incidence and Valuation (2000$) in Male Consumers of Commercial Fish and Non-Commercial Mid-Atlantic Fish

Population	Male Non-Fatal AMI Cases	Male Total ACM Cases	Male Total AMI COSTS	Costs Mortality Death (COI)	Costs Male Mortality (VSL)
Mid-Atlantic Current	657	904	$34,291,000	$289,000,000	$5,331,000,000
Mid-Atlantic Baseline 1	652	894	$34,018,000	$286,000,000	$5,276,000,000
Mid-Atlantic Scenario 1	650	891	$33,913,000	$285,000,000	$5,254,000,000
Mid-Atlantic Baseline 2	651	894	$34,004,000	$286,000,000	$5,273,000,000
Mid-Atlantic Scenario 2	649	889	$33,873,000	$284,000,000	$5,246,000,000
Benefit Scenario 1	2	3	$105,000	$1,151,000	$21,232,000
Benefit Scenario 2	2	5	$131,000	$1,439,000	$26,528,000

Table 68. Predicted Annual AMI and ACM Incidence and Valuation (2000$) in Male Consumers of Commercial Fish and Non-Commercial Southeastern Fish

Population	Male Non-Fatal AMI Cases	Male Total ACM Cases	Male Total AMI COSTS	Costs Male Mortality (COI)	Costs Male Mortality (VSL)
Southeast Current	23,580	32,440	$1,230,830,000	$10,379,000,000	$191,395,000,000
Southeast Baseline 1	23,434	32,177	$1,223,213,000	$10,295,000,000	$189,845,000,000
Southeast Scenario 1	23,406	32,127	$1,221,765,000	$10,279,000,000	$189,551,000,000
Southeast Baseline 2	23,428	32,167	$1,222,914,000	$10,292,000,000	$189,784,000,000
Southeast Scenario 2	23,377	32,075	$1,220,237,000	$10,262,000,000	$189,240,000,000
Benefit Scenario 1	28	50	$1,448,000	$15,965,000	$294,402,000
Benefit Scenario 2	51	92	$2,676,000	$29,494,000	$543,875,000

Table 69. Predicted Annual AMI and ACM Incidence and Valuation (2000$) in Male Consumers of Commercial Fish and Non-Commercial Midwestern Fish

Population	Male Non-Fatal AMI Cases	Male Total ACM Cases	Male Total AMI COSTS	Costs Male Mortality (COI)	Costs Male Mortality (VSL)
Midwest Current	32,225	44,219	$1,682,077,000	$14,148,000,000	$260,895,000,000
Midwest Baseline 1	32,147	44,080	$1,678,015,000	$14,103,000,000	$260,070,000,000
Midwest Scenario 1	32,114	44,019	$1,676,267,000	$14,084,000,000	$259,715,000,000
Midwest Baseline 2	32,146	44,077	$1,677,950,000	$14,103,000,000	$260,057,000,000
Midwest Scenario 2	32,096	43,987	$1,675,324,000	$14,074,000,000	$259,523,000,000
Benefit Scenario 1	33	61	$1,748,000	$19,245,000	$354,876,000
Benefit Scenario 2	50	90	$2,626,000	$28,906,000	$533,031,000

Table 70. Predicted Annual AMI and ACM Incidence and Valuation (2000$) in Male Consumers of Commercial Fish and Non-Commercial Western Fish

Population	Male Non-Fatal AMI Cases	Male Total ACM Cases	Male Total AMI COSTS	Costs Male Mortality (COI)	Costs Male Mortality (VSL)
West Current	26,357	36,210	$1,375,801,000	$11,586,000,000	$213,641,000,000
West Baseline 1	26,331	36,163	$1,374,438,000	$11,571,000,000	$213,364,000,000
West Scenario 1	26,322	36,147	$1,373,966,000	$11,565,000,000	$213,268,000,000
West Baseline 2	26,332	36,165	$1,374,478,000	$11,571,000,000	$213,372,000,000
West Scenario 2	26,317	36,138	$1,373,706,000	$11,562,000,000	$213,215,000,000
Benefit Scenario 1	9	16	$472,000	$5,205,000	$95,979,000
Benefit Scenario 2	15	27	$772,000	$8,514,000	$156,997,000

Table 71. Predicted Annual AMI and ACM Incidence and Valuation (2000$) in Male Consumers of Commercial Fish

Population	Male Non-Fatal AMI Cases	Male Total ACM Cases	Male Total AMI COSTS	Costs Male Mortality (COI)	Costs Male Mortality (VSL)
Current	322,603	439,302	$16,839,216,000	$140,555,000,000	$2,591,880,000,000
Baseline 1	322,536	439,182	$16,835,723,000	$140,517,000,000	$2,591,176,000,000
Scenario 1	322,478	439,079	$16,832,699,000	$140,484,000,000	$2,590,566,000,000
Baseline 2	322,476	439,076	$16,832,599,000	$140,483,000,000	$2,590,546,000,000
Scenario 2	322,406	438,952	$16,828,969,000	$140,443,000,000	$2,589,814,000,000
Benefit Scenario 1	58	103	$3,025,000	$33,069,000	$609,806,000
Benefit Scenario 2	70	124	$3,630,000	$39,683,000	$731,772,000

Table 72. Predicted Annual Decreased AMI and ACM Incidence and Annual Benefit (2000$) in Males

	Male Non-Fatal AMI Cases	Male Total ACM Cases	Male Total AMI COSTS	Costs Male Mortality (COI)	Costs Male Mortality (VSL)
Scenario 1	140	260	$7,451,000	$81,830,000	$1,508,976,000
Scenario 2	210	380	$11,141,000	$122,447,000	$2,257,964,000

Table 73. Predicted Annual AMI and ACM Incidence and Valuation (2000$) in Female Consumers of Commercial Fish and Non-Commercial Atlantic Ocean Fish

Population	Female Non-Fatal AMI Cases	Female Total ACM Cases	Female Total AMI COSTS	Costs Female Mortality (COI)	Costs Female Mortality (VSL)
Current	16,419	24,696	$813,199,000	$4,796,000,000	$145,704,000,000
Baseline 1	16,397	24,654	$812,144,000	$4,788,000,000	$145,456,000,000
Scenario 1	16,392	24,643	$811,882,000	$4,786,000,000	$145,395,000,000
Baseline 2	16,397	24,653	$812,127,000	$4,788,000,000	$145,452,000,000
Scenario 2	16,390	24,639	$811,780,000	$4,785,000,000	$145,371,000,000
Benefit Scenario 1	5	11	$262,000	$2,024,000	$61,471,000
Benefit Scenario 2	7	14	$346,000	$2,675,000	$81,260,000

Table 74. Predicted Annual AMI and ACM Incidence and Valuation (2000$) in Female Consumers of Commercial Fish and Non-Commercial Gulf Fish

Population	Female Non-Fatal AMI Cases	Female Total ACM Cases	Female Total AMI COSTS	Costs Female Mortality (COI)	Costs Female Mortality (VSL)
Current	9,625	14,541	$476,710,000	$2,824,000,000	$85,792,000,000
Baseline 1	9,611	14,514	$476,036,000	$2,819,000,000	$85,633,000,000
Scenario 1	9,609	14,510	$475,933,000	$2,818,000,000	$85,609,000,000
Baseline 2	9,611	14,514	$476,035,000	$2,819,000,000	$85,633,000,000
Scenario 2	9,608	14,507	$475,851,000	$2,818,000,000	$85,590,000,000
Benefit Scenario 1	2	4	$103,000	$803,000	$24,382,000
Benefit Scenario 2	3	7	$185,000	$1,432,000	$43,496,000

Table 75. Predicted Annual AMI and ACM Incidence and Valuation (2000$) in Female Consumers of Commercial Fish and Non-Commercial Northeast Fish

Population	Female Non-Fatal AMI Cases	Female Total ACM Cases	Female Total AMI COSTS	Costs Female Mortality (COI)	Costs Female Mortality (VSL)
Current	8,287	12,556	$410,458,000	$2,439,000,000	$74,080,000,000
Baseline 1	8,247	12,476	$408,469,000	$2,423,000,000	$73,610,000,000
Scenario 1	8,241	12,465	$408,190,000	$2,421,000,000	$73,544,000,000
Baseline 2	8,254	12,490	$408,806,000	$2,426,000,000	$73,689,000,000
Scenario 2	8,239	12,459	$408,046,000	$2,420,000,000	$73,510,000,000
Benefit Scenario 1	6	11	$279,000	$2,171,000	$65,948,000
Benefit Scenario 2	15	31	$760,000	$5,902,000	$179,301,000

Table 76. Predicted Annual AMI and ACM Incidence and Valuation (2000$) in Female Consumers of Commercial Fish and Non-Commercial Mid-Atlantic Fish

Population	Female Non-Fatal AMI Cases	Female Total ACM Cases	Female Total AMI COSTS	Costs Female Mortality (COI)	Costs Female Mortality (VSL)
Current	684	1,034	$33,881,000	$201,000,000	$6,099,000,000
Baseline 1	679	1,023	$33,611,000	$199,000,000	$6,036,000,000
Scenario 1	677	1,019	$33,508,000	$198,000,000	$6,011,000,000
Baseline 2	678	1,022	$33,597,000	$199,000,000	$6,033,000,000
Scenario 2	676	1,017	$33,468,000	$198,000,000	$6,002,000,000
Benefit Scenario 1	2	4	$103,000	$800,000	$24,292,000
Benefit Scenario 2	2	5	$129,000	$999,000	$30,351,000

Table 77. Predicted Annual AMI and ACM Incidence and Valuation (2000$) in Female Consumers of Commercial Fish and Non-Commercial Southeast Fish

Population	Female Non-Fatal AMI Cases	Female Total ACM Cases	Female Total AMI COSTS	Costs Female Mortality (COI)	Costs Female Mortality (VSL)
Current	24,553	37,114	$1,216,101,000	$7,208,000,000	$218,975,000,000
Baseline 1	24,401	36,814	$1,208,575,000	$7,150,000,000	$217,202,000,000
Scenario 1	24,372	36,757	$1,207,144,000	$7,139,000,000	$216,865,000,000
Baseline 2	24,395	36,802	$1,208,279,000	$7,148,000,000	$217,132,000,000
Scenario 2	24,342	36,697	$1,205,635,000	$7,127,000,000	$216,510,000,000
Benefit Scenario 1	29	57	$1,431,000	$11,088,000	$336,825,000
Benefit Scenario 2	53	105	$2,644,000	$20,484,000	$622,247,000

Table 78. Predicted Annual AMI and ACM Incidence and Valuation (2000$) in Female Consumers of Commercial Fish and Non-Commercial Midwest Fish

Population	Female Non-Fatal AMI Cases	Female Total ACM Cases	Female Total AMI COSTS	Costs Female Mortality (COI)	Costs Female Mortality (VSL)
Current	33,555	50,591	$1,661,948,000	$9,826,000,000	$298,489,000,000
Baseline 1	33,474	50,431	$1,657,935,000	$9,795,000,000	$297,545,000,000
Scenario 1	33,439	50,363	$1,656,207,000	$9,782,000,000	$297,139,000,000
Baseline 2	33,473	50,429	$1,657,870,000	$9,794,000,000	$297,530,000,000
Scenario 2	33,420	50,326	$1,655,276,000	$9,774,000,000	$296,921,000,000
Benefit Scenario 1	35	68	$1,727,000	$13,366,000	$406,013,000
Benefit Scenario 2	53	103	$2,595,000	$20,075,000	$609,840,000

Table 79. Predicted Annual AMI and ACM Incidence and Valuation (2000$) in Female Consumers of Commercial Fish and Non-Commercial West Fish

Population	Female Non-Fatal AMI Cases	Female Total ACM Cases	Female Total AMI COSTS	Costs Female Mortality (COI)	Costs Female Mortality (VSL)
Current	27,445	41,428	$1,359,337,000	$8,046,000,000	$244,427,000,000
Baseline 1	27,418	41,374	$1,357,990,000	$8,036,000,000	$244,109,000,000
Scenario 1	27,409	41,356	$1,357,524,000	$8,032,000,000	$244,000,000,000
Baseline 2	27,419	41,376	$1,358,030,000	$8,036,000,000	$244,119,000,000
Scenario 2	27,403	41,346	$1,357,267,000	$8,030,000,000	$243,939,000,000
Benefit Scenario 1	9	18	$466,000	$3,615,000	$109,810,000
Benefit Scenario 2	16	30	$763,000	$5,913,000	$179,620,000

Table 80. Predicted Annual AMI and ACM Incidence and Valuation (2000$) in Female Consumers of Commercial Fish

Population	Female Non-Fatal AMI Cases	Female Total ACM Cases	Female Total AMI COSTS	Costs Female Mortality (COI)	Costs Female Mortality (VSL)
Current	336,350	503,450	$16,659,069,000	$97,781,000,000	$2,970,356,000,000
Baseline 1	336,277	503,307	$16,655,441,000	$97,753,000,000	$2,969,509,000,000
Scenario 1	336,213	503,182	$16,652,299,000	$97,729,000,000	$2,968,775,000,000
Baseline 2	336,211	503,178	$16,652,196,000	$97,728,000,000	$2,968,751,000,000
Scenario 2	336,135	503,029	$16,648,426,000	$97,699,000,000	$2,967,870,000,000
Benefit Scenario 1	64	125	$3,142,000	$24,153,000	$733,710,000
Benefit Scenario 2	76	149	$3,770,000	$28,983,000	$880,447,000

Table 81. Predicted Annual Decreased AMI and ACM Incidence and Annual Benefit (2000$) in Females

	Female Non-Fatal AMI Cases	Female Total ACM Cases	Female Total AMI COSTS	Costs Female Mortality (COI)	Costs Female Mortality (VSL)
Scenario 1	150	300	$7,515,000	$58,018,000	$1,762,450,000
Scenario 2	230	450	$11,192,000	$86,464,000	$2,626,562,000

Table 82. Predicted Annual Decreased AMI and ACM Incidence and Annual Benefit (2000$) in Males and Females

	Non-Fatal AMI Cases	Total ACM Cases	Total AMI COSTS	Costs Mortality (COI)	Costs Mortality (VSL)
Scenario 1	300	600	$14,965,000	$139,849,000	$3,271,425,000
Scenario 2	400	800	$22,333,000	$208,911,000	$4,884,526,000

Table 83. Predicted Annual QALY Increase Resulting from Decreased AMI and ACM Incidence in Males and Females

	QALYs Non-Fatal AMI Cases	QALYs Total ACM Cases	Total QALYs
Scenario 1	470	8,900	9,300
Scenario 2	700	13,200	13,900

Table 84. Summary of Cost-of-Illness and Value-of-Statistical Life Approaches for Neurotoxicity and Cardiovascular Toxicity

	Neurotoxicity Threshold	No Neurotoxicity Threshold	Costs AMI+ ACM (VSL) Male Pike Consumers	Costs AMI+ ACM (COI)	Costs AMI+ ACM (VSL)
Scenario 1	$75,311,000	$193,940,000	$48,436,000	$154,814,000	$3,286,000,000
Scenario 2	$119,002,000	$288,247,000	$86,713,000	$231,244,000	$4,907,000,000
Scenario 1 Summary of neurotoxicity costs and cardiovascular toxicity costs (no threshold)			$242,376,000	$348,754,000	$3,480,000,000
Scenario 2 Summary neurotoxicity costs and cardiovascular toxicity costs (no threshold)			$374,959,000	$519,491,000	$5,195,000,000

Table 85. Summary of Estimates of QALY Gains due to Reductions in Neurotoxicity and Cardiovascular Toxicity

	Neurotoxicity	QALY Non-fatal AMI	QALY ACM	Total
Scenario 1	5,700	470	8,900	15,000
Scenario 2	7,400	700	13,200	21,300

Table 86. Predicted IQ Point Loss per Annual Birth Cohort in the Northeast Region and the Associated Cost-of-Illness Estimate (2000$), if Deposition Rates are Doubled or Halved

	IQ Loss per Annual Birth Cohort	Value IQ point Loss ($)
Scenario 1 Double	1350	$22,661,000
Scenario 1 Unchanged	400	$7,063,000
Scenario 1 Halved	90	$1,434,000

Table 87. Comparison of Predicted Incremental IQ Gains per Annual U.S. Birth Cohort and Incremental Estimated Monetary Value of the IQ Gains (Cost-of-Illness) (2000$) for 3 Neurotoxicity Models

	IQ Point Gain per Annual Birth Cohort	$ Value IQ Point Gain
Scenario 1 (No Neurotoxicity Threshold)	11,600	$193,940,000
Scenario 2 (No Neurotoxicity Threshold)	17,200	$288,248,000
Scenario 1 (Threshold; slope -0.6 IQ points per ppm)	4,500	$75,311,000
Scenario 2 (Threshold; slope -0.6 IQ points per ppm)	7,100	$119,002,000
Scenario 1 (Threshold; slope -1.1 IQ points per ppm)	8100	$135,560,000
Scenario 2 (Threshold; slope -1.1 IQ points per ppm)	12,800	$214,203,000

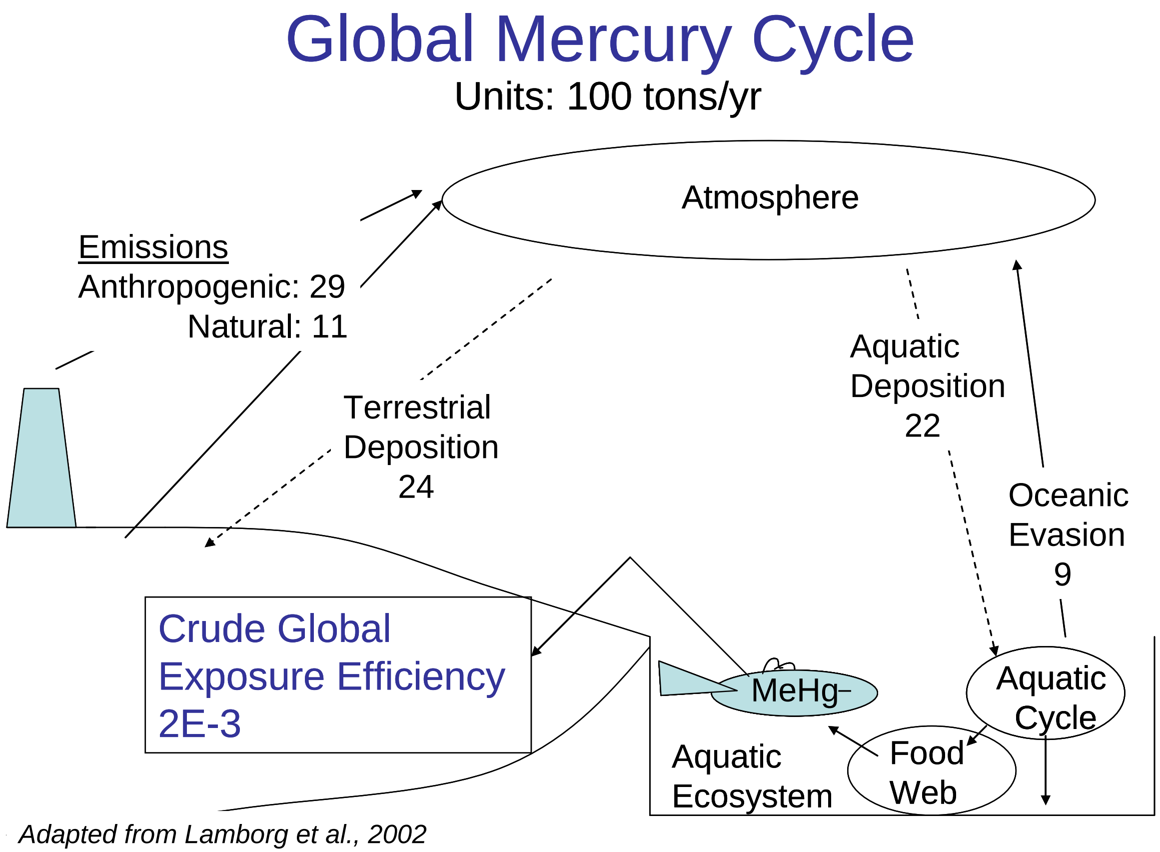


Figure 1

Global Mercury Cycle

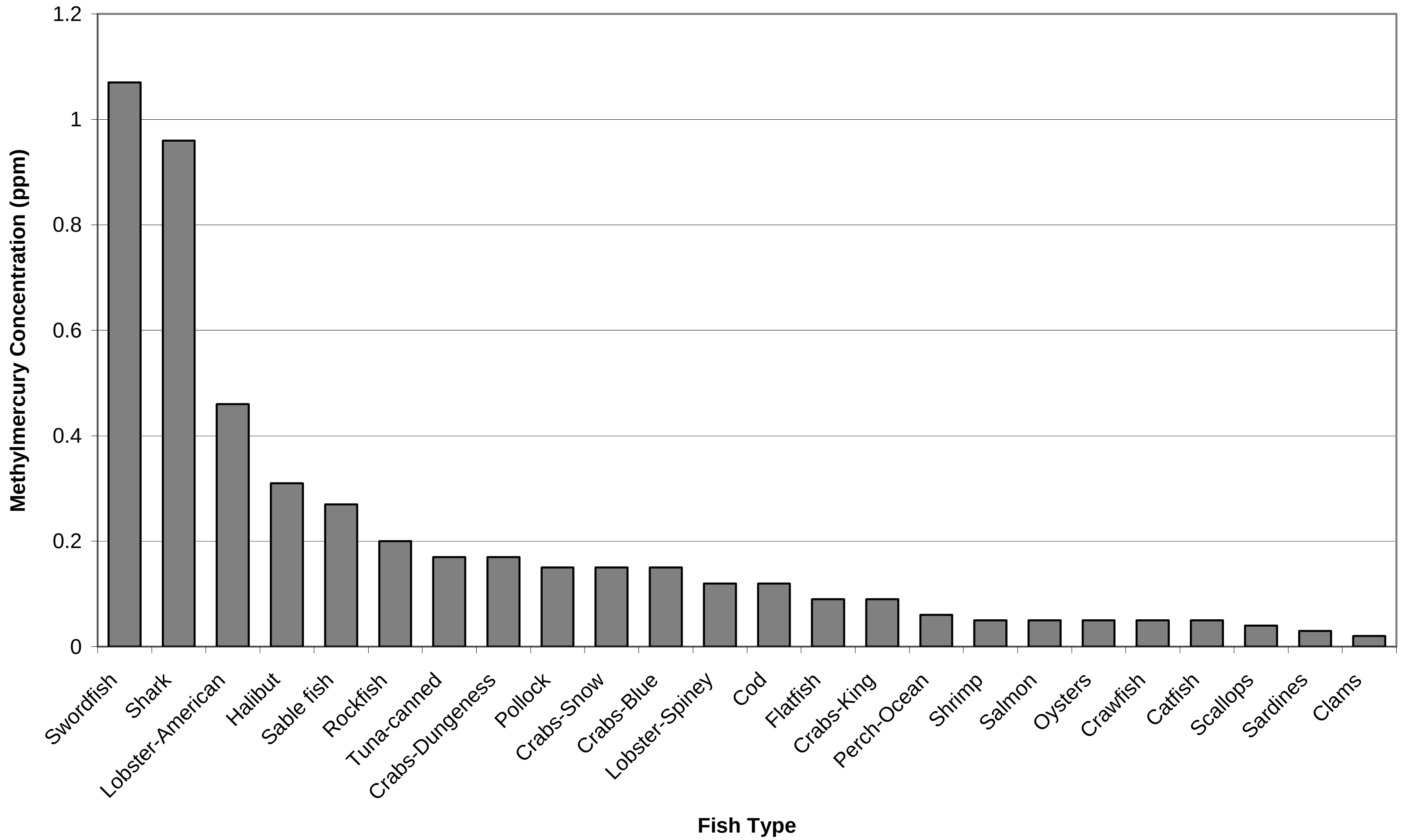


Figure 2

Average Methylmercury Concentrations for "Top 24" Types of Fish Consumed in the U.S. Commercial Seafood Market

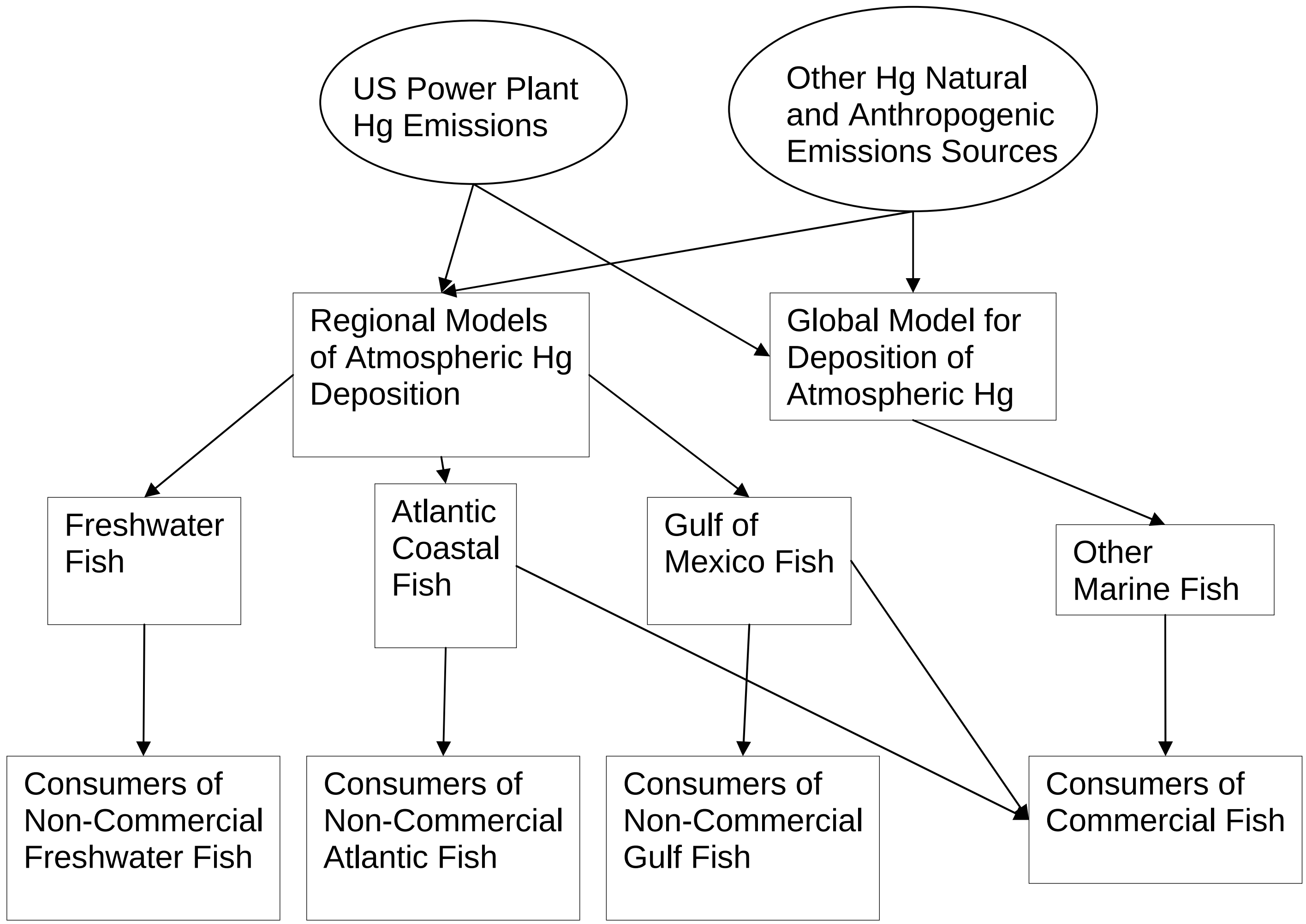


Figure 3

Conceptual Model of Human Mercury Exposures

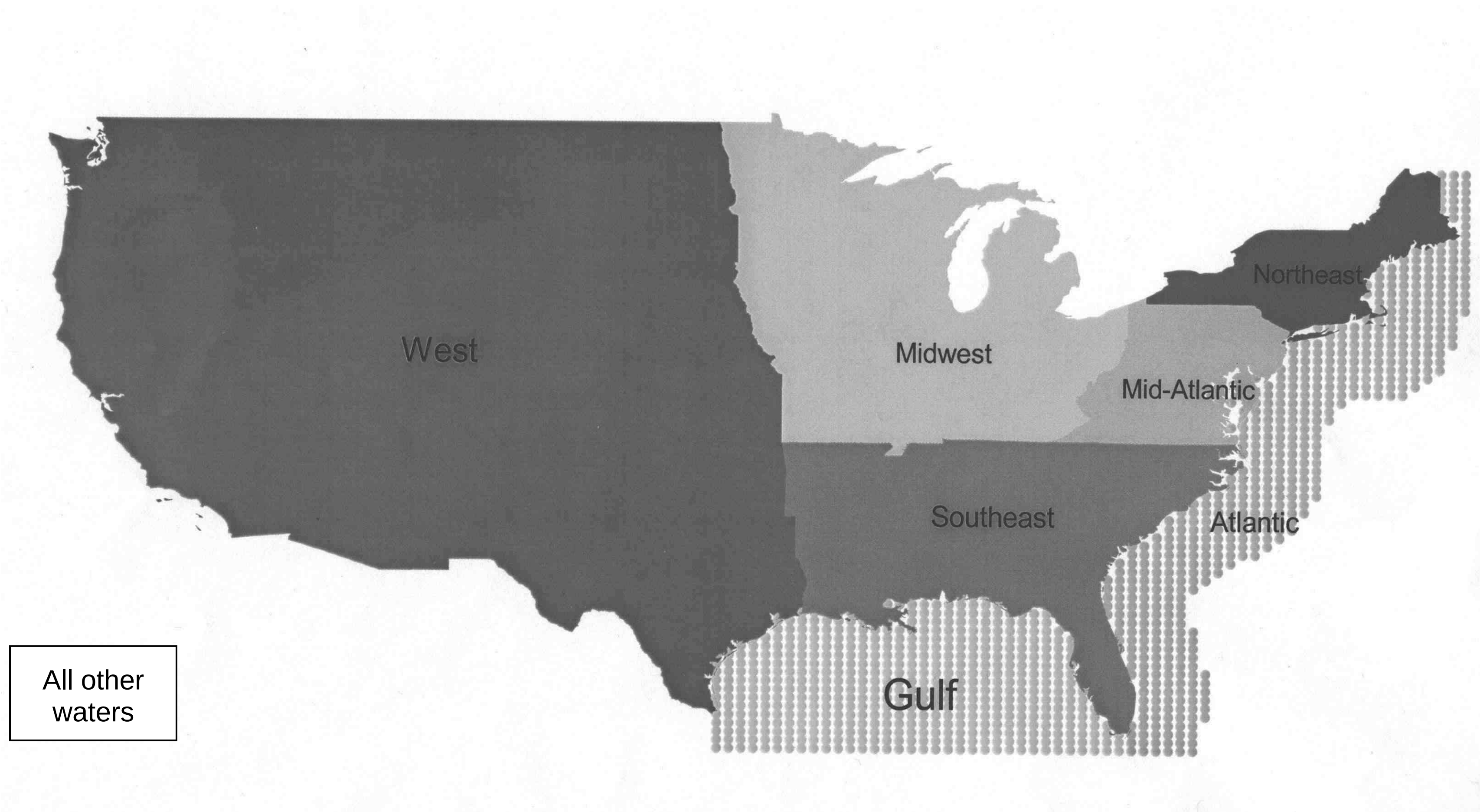
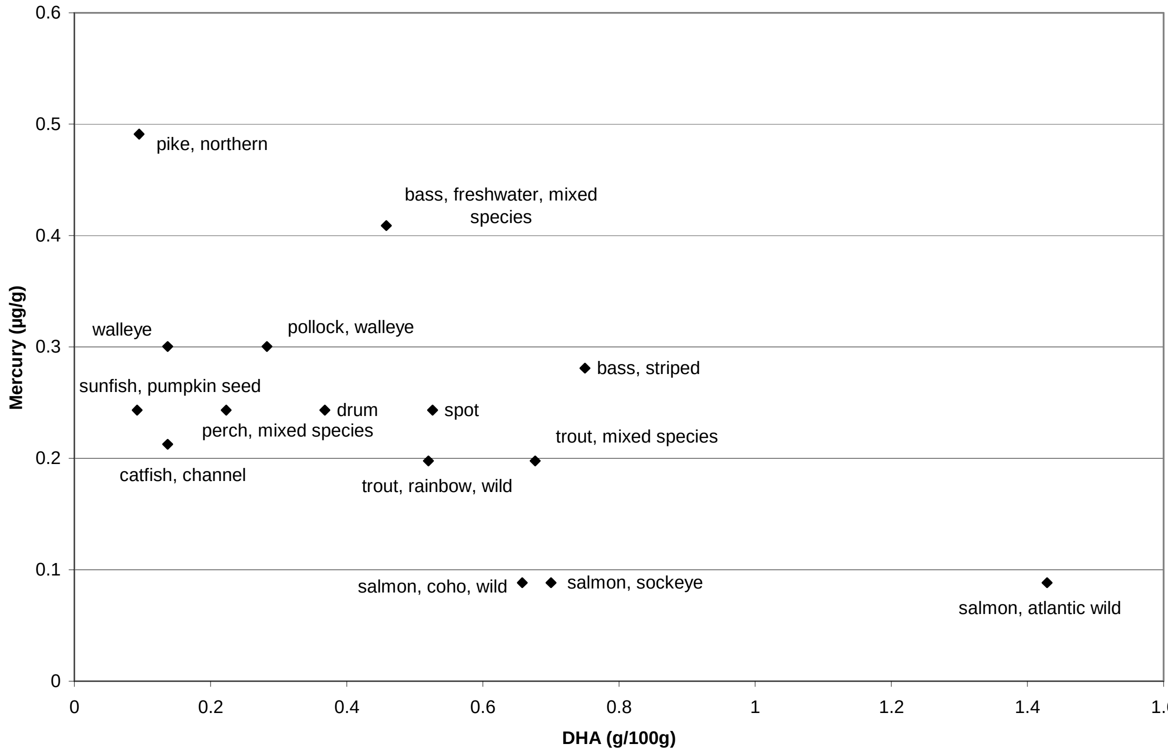


Figure 4

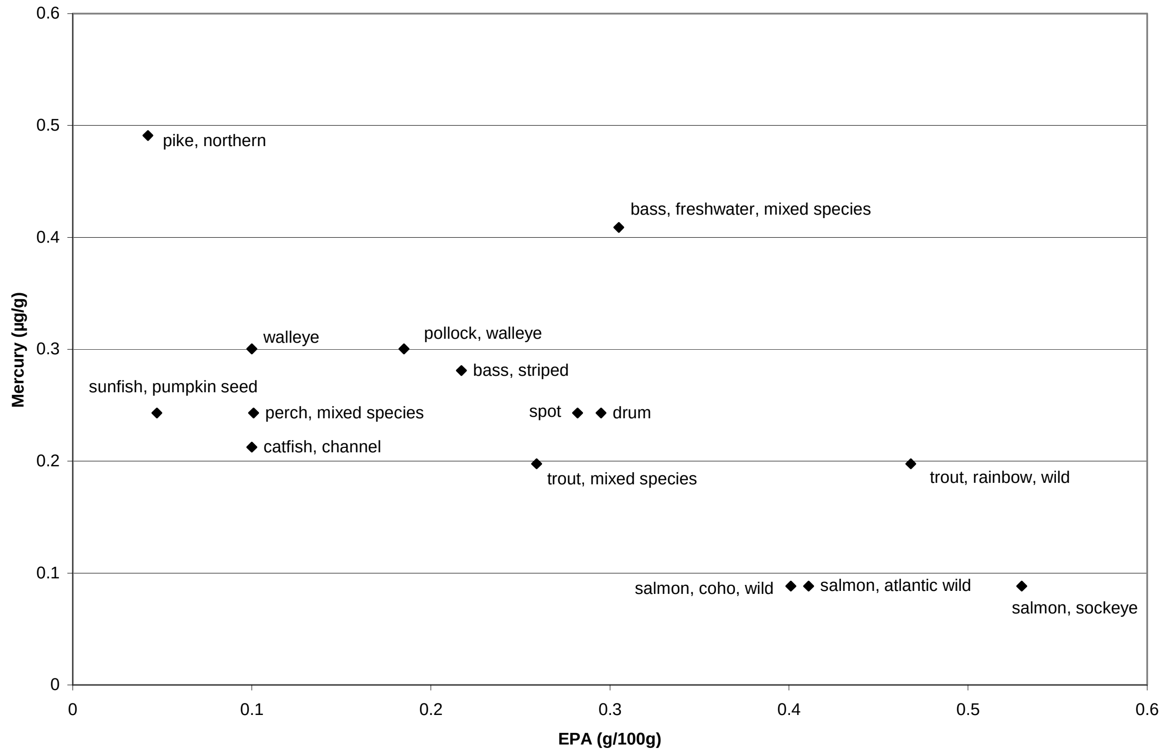
Regions Considered in Model



Source of Mercury data: NLFWA Database, accessed 9/03
Source of DHA data: http://www.nal.usda.gov/fnic/foodcomp/, accessed 6/04

Figure 5

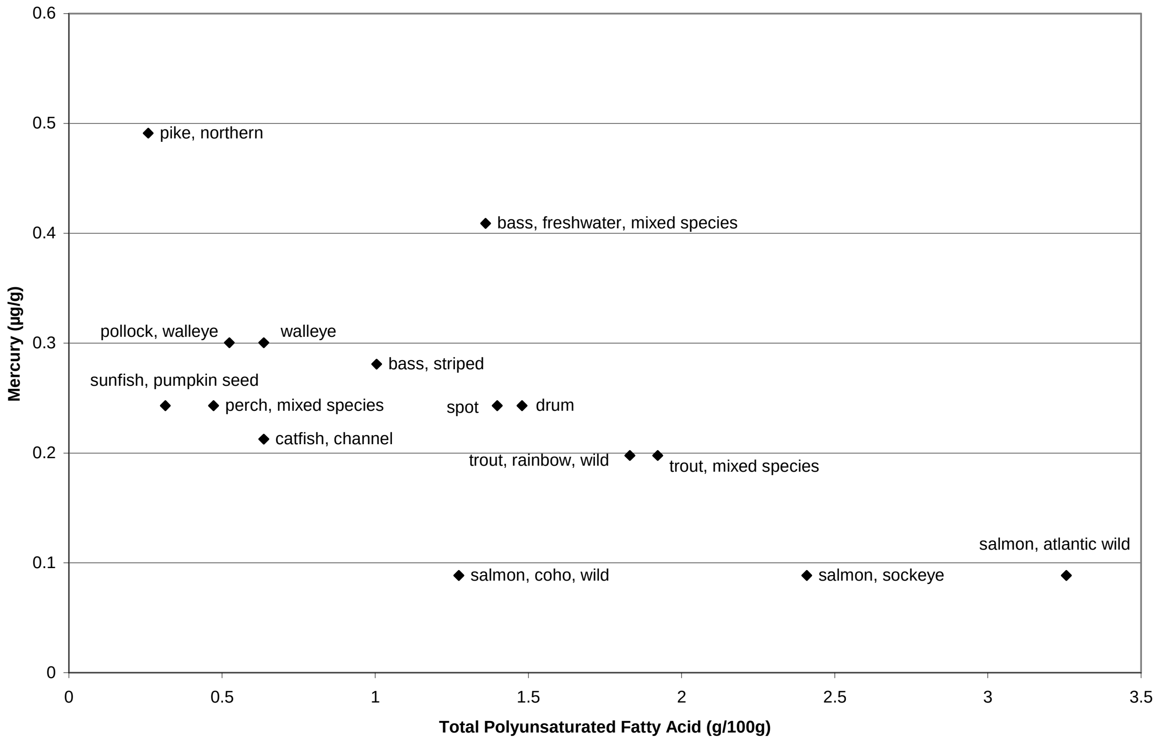
DHA and Methylmercury Levels in U.S. Freshwater Fish



Source of Mercury data: NLFWA Database, accessed 9/03
Source of EPA data: http://www.nal.usda.gov/fnic/foodcomp/, accessed 6/04

Figure 6

EPA and Methylmercury Levels in U.S. Freshwater Fish



Source of Mercury data: NLFWA Database, accessed 9/03
Source of Polyunsaturated Fatty Acid data: http://www.nal.usda.gov/fnic/foodcomp/, accessed 6/04

Figure 7

Total Polyunsaturated Fatty Acid and Methylmercury Levels in U.S. Freshwater Fish

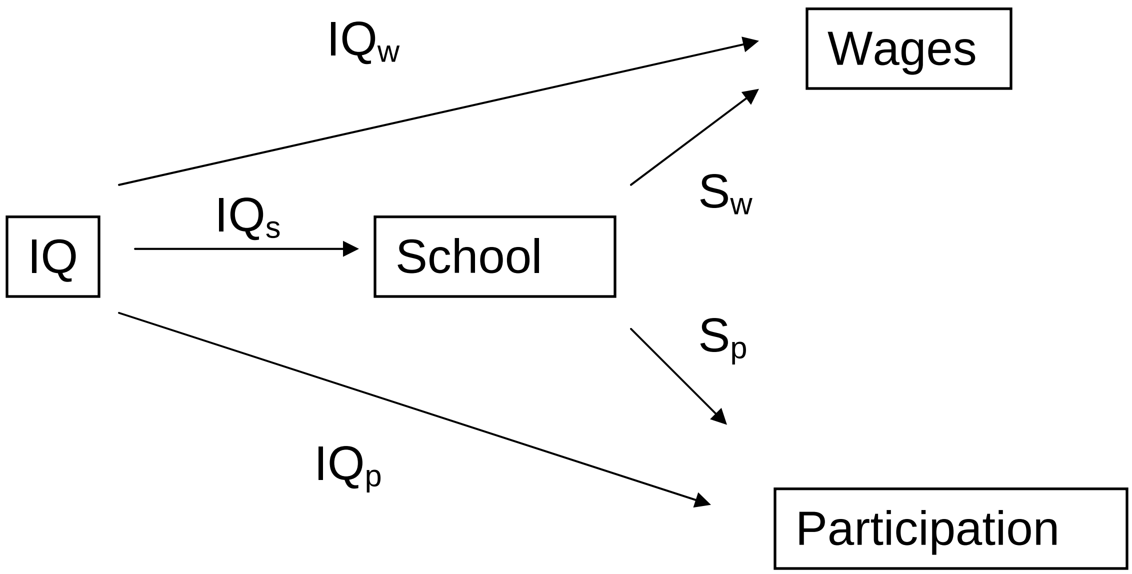
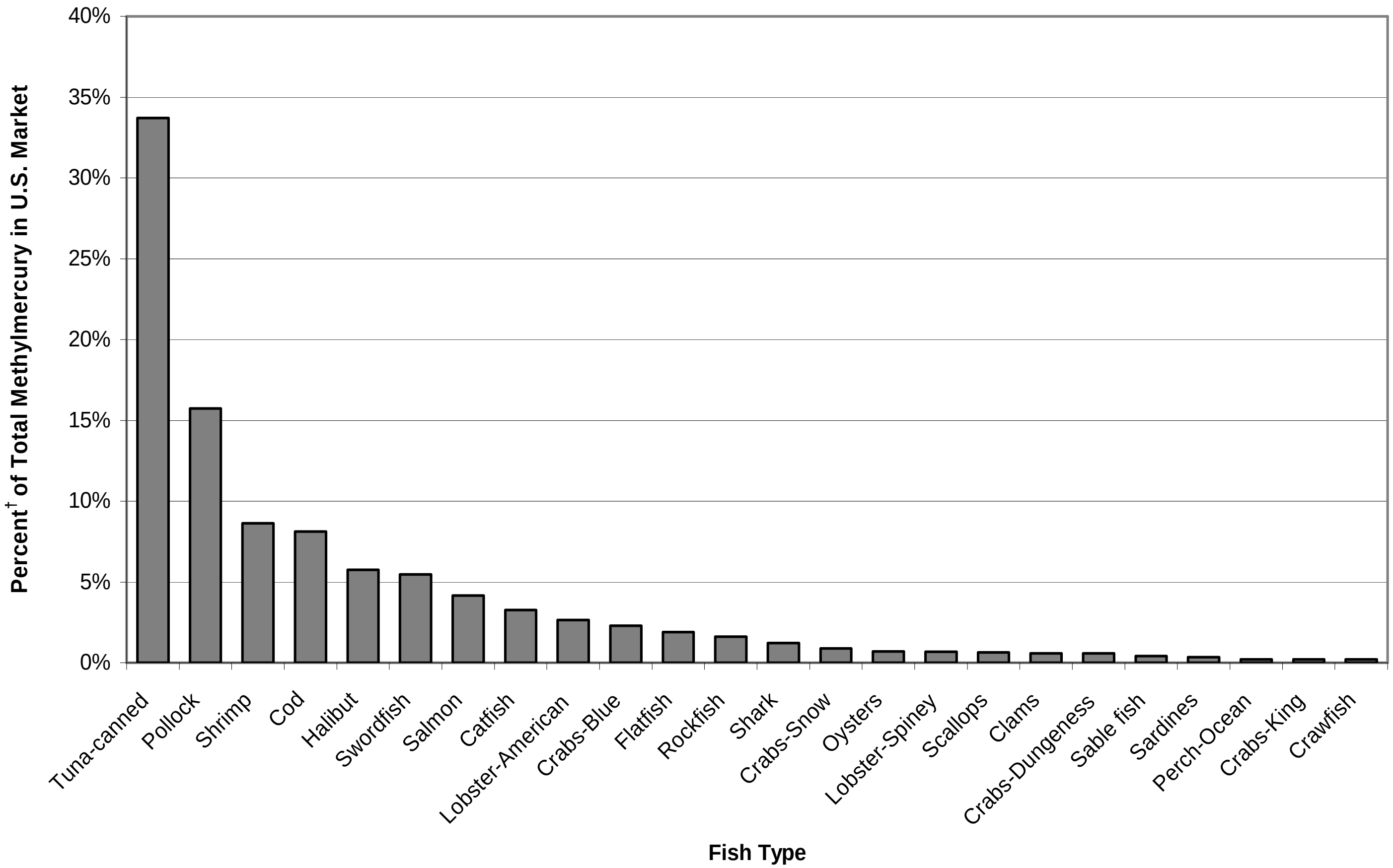


Figure 8

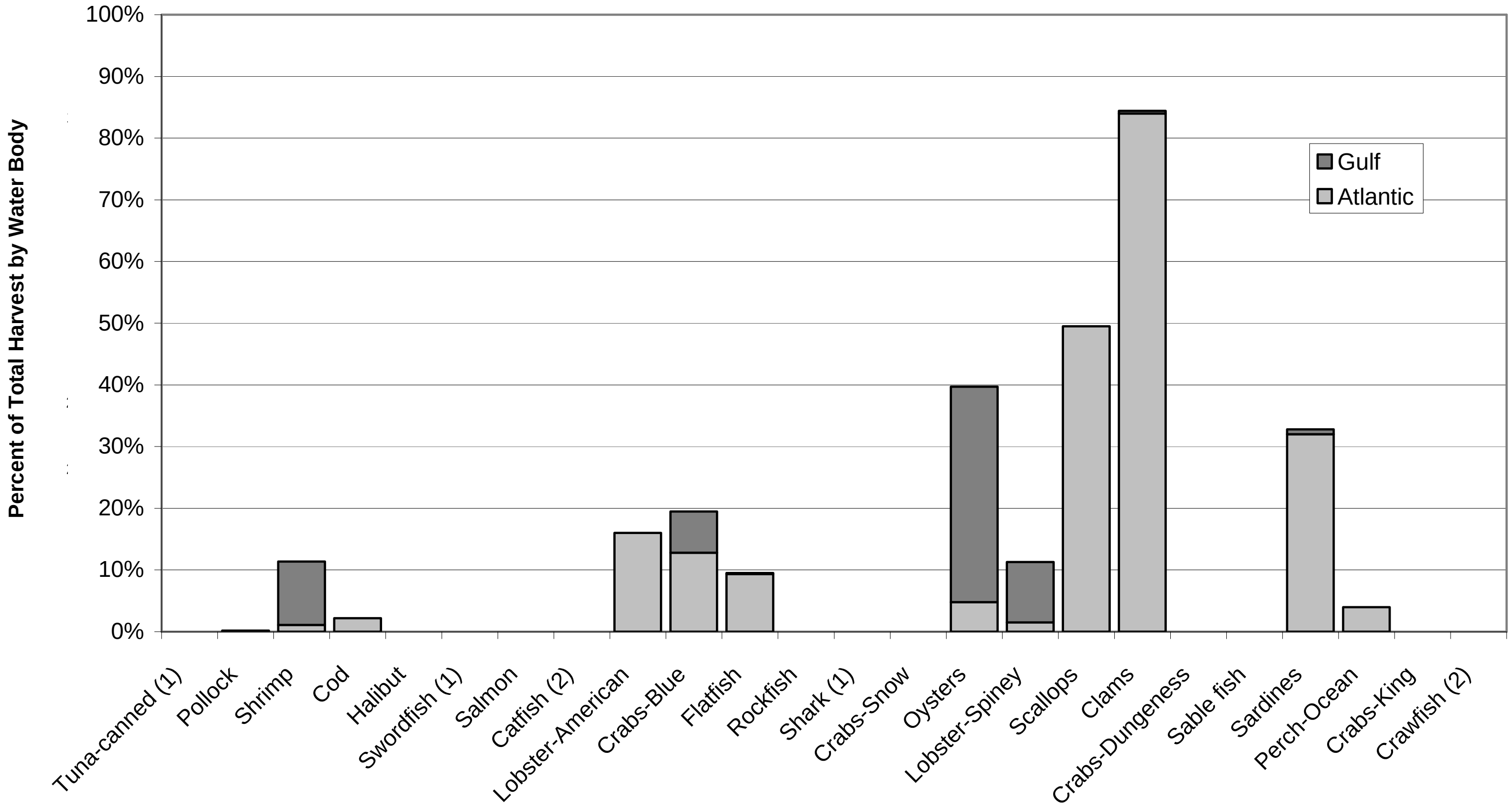
Model for Relationship Between IQ and Wages and Labor Force Participation



†Estimate based on the product of per capita fish consumption rates and mean methylmercury concentrations of each type of fish (Carrington and Bolger, 2002)

Figure 9

For "Top 24" Types of Fish in U.S. Commercial Seafood Market, the Percentage of Methymercury Contributed by Fish Type



(1) Migratory Species. Tuna, shark and swordfish are migratory species. The regions from which these fish were captured were assumed to not necessarily serve as a good predictor of change in methylmercury concentration.
(2) Aquaculture. Marketed catfish and crawfish are assumed to be raised in aquaculture.
Source: NMFS (2002)

Figure 10

Percent Contribution of the Atlantic Ocean and Gulf of Mexico Harvests to U.S. Commercial Market by Fish Type

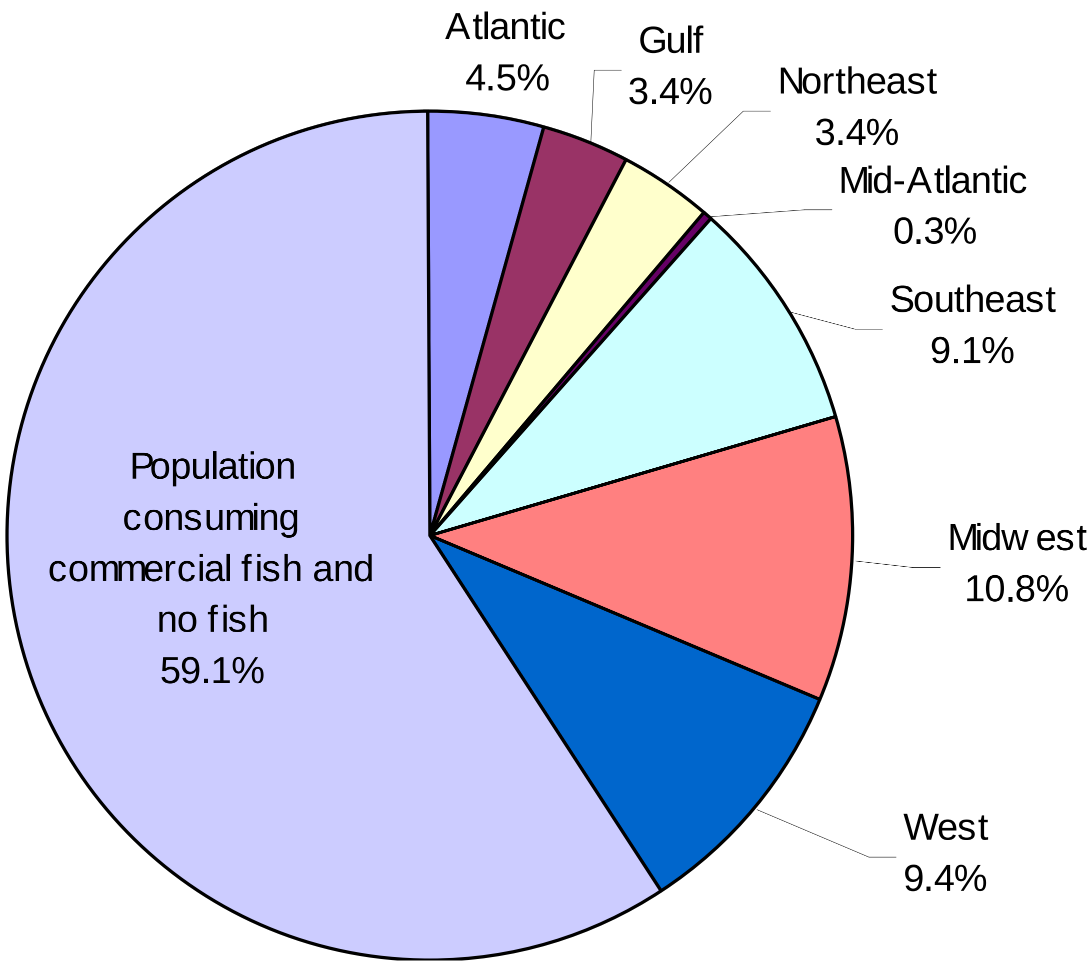


Figure 11

Fractional Contribution of Consumers of Non-Commercial Fish in Each Region and Commercial Fish to Total IQ Point Loss, Assuming No Neurotoxicity Threshold

Spectrum of Health Effect Certainty

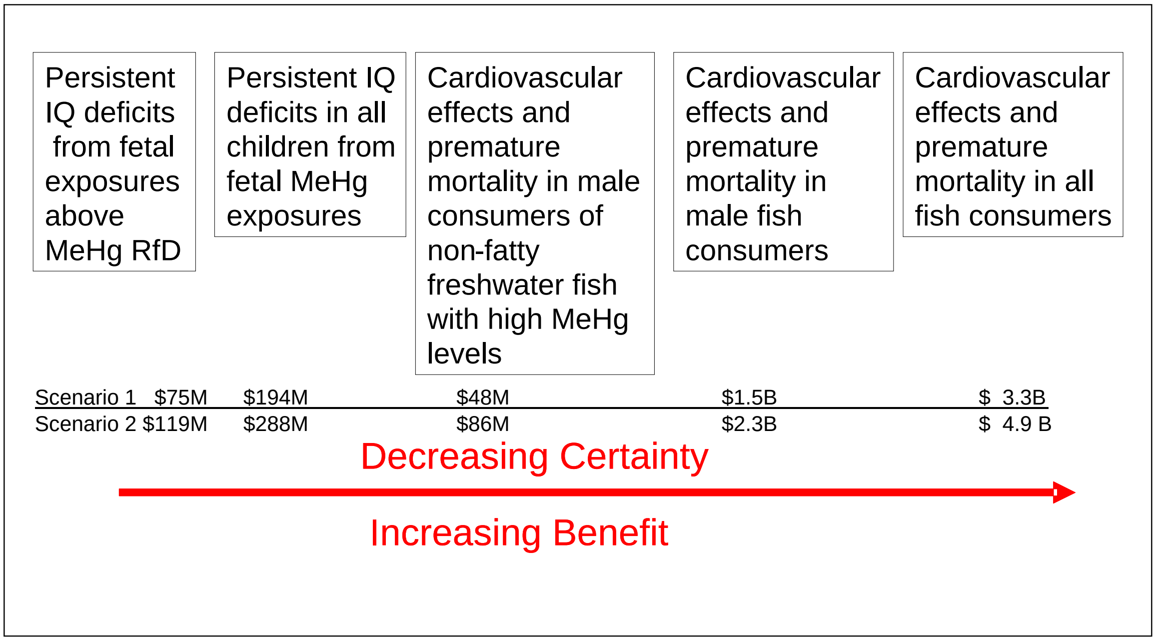


Figure 12

Spectrum of Certainty of Causal Association of Health Effect with Mercury Exposure with Estimated Benefit Overlay in Millions ($M) and Billions ($B) of Dollars (2000$)