

**Table A.1. Impacts to recreational and commercial fishing from past oil spills**

Spill incident	Year	Location	Quantity of oil	Type of oil	Type of environment	Recreational impacts				Commercial impacts				Sources
						Impact area	Impact period	Severity of impact	Type of impacts	Impact area	Impact period	Severity of impact	Type of impacts	
American Trader	1990	CA	416,598 gallons	Alaska North Slope crude	Ocean beaches	14 miles of coastline	7.5 weeks	85% decline for first 5 weeks; 30% decline for next 2.5 weeks	Beach use, including some fishing					Chapman and Hanneman (2001)
Athos	2004	DE	263,000 gallons	Heavy crude oil	River	60 RMs	7 months	11% decline in trips	Fishing, including boat and shore					Athos/Delaware River Lost Use Technical Working Group (2007); NOAA et al. (2009)
Berman	1994	PR	1.5 million gallons	#6 fuel oil	Ocean beaches	169 miles of coastline	2 months	30% decline in trips	Beach use, including some fishing					NOAA et al. (2002c); Tetra Tech (2006)
Bouchard 120 (shoreline)	2003	MA	22,000 to 98,000 gallons	#6 fuel oil	Bay/ocean beaches	65 miles of coastline	2 months	9% during first 2 months; 0.7% over next 3 months	Shoreline use, including some fishing					Bouchard B-120 Oil Spill Lost Use Technical Working Group (2009)
Bouchard 120 (shellfishing)	2003	MA	22,000 to 98,000 gallons	#6 fuel oil	Near-shore bay/ocean	65 miles of coastline	2 years	59% decline in first year; 11% decline in second year	Shellfishing	65 miles of coastline	6 months or more	Closure of some shellfishing areas	Shellfishing closure	Bouchard B-120 Oil Spill Lost Use Technical Working Group (2009)
Bouchard 120 (boating)	2003	MA	22,000 to 98,000 gallons	#6 fuel oil	Bay/ocean	65 miles of coastline	1 month	3% to 6% decline	Boating, including fishing					Bouchard B-120 Oil Spill Lost Use Technical Working Group (2009)
Chalk Point	2000	MD	140,000 gallons	#6 and #2 fuel oil	River, estuary	17 RMs	6 months	10% decline in trips	Shoreline use, including some fishing	20 RMs	2.5 weeks	Closure/advisory	Shellfish closure, fishing advisory	MDE (2000); U.S. EPA et al. (2000); Byrd et al. (2001); NOAA et al. (2002a)
Citgo Refinery/ Calcasieu River	2006	LA	2 million gallons	Waste oil	River and lake	67 square miles (Lake Calcasieu)	> 10 days	10-day closure, impacts could be longer	Fishing, boating					Associated Press (2006); Peck (2006)
Cosco Busan	2007	CA	54,000 gallons	Intermediate fuel oil	Ocean shoreline, near-shore ocean, estuary	San Francisco Bay, plus 45 miles of coastline	3 months	57% decline	Fishing, including boat and shore	San Francisco Bay, plus 45 miles of coastline	3 weeks	Closure	All fishing; \$6 million in damages paid to 120 commercial fisherman	Leggett and Curry (2010); Bay City News (2011); CDFG et al. (2012)
Deepwater Horizon (fishing)	2010	Gulf of Mexico	134 million gallons	Louisiana sweet crude oil	Ocean shoreline	575 miles	11 months		Shore fishing					English and McConnell (2015)
Deepwater Horizon (boating)	2010	Gulf of Mexico	134 million gallons	Louisiana sweet crude oil	Ocean	575 miles	4 months		Boating, including fishing	Ocean, variable extent	3 to 11 months	Closure	Fishing closure	NOAA (2010a, 2010b, 2010c, 2010d, 2011); DWH NRDA Trustees (2015); English and McConnell (2015)

**Table A.1. Impacts to recreational and commercial fishing from past oil spills**

Spill incident	Year	Location	Quantity of oil	Type of oil	Type of environment	Recreational impacts				Commercial impacts				Sources
						Impact area	Impact period	Severity of impact	Type of impacts	Impact area	Impact period	Severity of impact	Type of impacts	
Deepwater Horizon (shoreline)	2010	Gulf of Mexico	134 million gallons	Louisiana sweet crude oil	Ocean beaches	575 miles	19 months		Shoreline use, including fishing					English and McConnell (2015)
Ever Reach	2002	SC	12,500 gallons	#6 fuel oil	Near-shore ocean	Charleston Harbor	5 weeks	32% decline in trips	Shrimping					English (2004); SCDNR et al. (2012)
Julie N	1996	ME	170,000 gallons	#2 fuel oil	Bay/ocean	5 miles of coastline	1 month	100% decline (assumed)	Boat-based fishing					Clark et al. (1998)
Kalamazoo River (shoreline)	2010	MI	> 840,000 gallons	Crude tar-sands oil	River	39 RMs	27 months	60% decline (initially 100% due to closure, declined over time)	Shoreline use, including fishing					Mitchell (2015); USFWS et al. (2015)
Kalamazoo River (boating)	2010	MI	> 840,000 gallons	Crude tar-sands oil	River	39 RMs	27 months	69% decline (initially 100% due to closure, declined over time)	Boating, including fishing					Mitchell (2015); USFWS et al. (2015)
North Cape	1996	RI	828,000 gallons	#2 fuel oil	Bay/ocean	250 square miles of ocean	Several months	Closure	Charter fishing, recreational fishing	250 square miles of ocean	3 months	Closure	Fishing	Burroughs and Dyer (1996); NOAA et al. (2002b); RI DEM et al. (Undated)
Pearl Harbor	1996	HI	41,000 gallons	#6 fuel oil	Bay/ocean	Fishing closure for an unspecified period of time.				Fishing closure for an unspecified period of time.				Pearl Harbor Natural Resource Trustees (1999)
Refugio	2015	CA	142,000 gallons	medium to heavy crude oil	Near-shore ocean					138 square miles, 22 miles of coastline	6 weeks	Closure	All fishing; the primary focus of the fishery is sea urchin and crabs	Kacic (2015); NOAA (2015); Refugio Response Joint Information Center (2015)
Selendang Ayu	2004	AK	321,000 gallons	Viscous fuel oil (IFO 380 intermediate fuel oil)	Near-shore ocean	166 square miles of ocean/bay	10 months	Closure	All fishing	60 square miles of ocean/bay	10 months	Closure	All fishing	Alaska Department of Fish and Game (2005); Impact Assessment (2011); NOAA et al. (2015)