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WebPanel 1. Indirect impacts of jellyfish on fisheries

Jellyfish can affect commercial species by preying directly on egg and larval stages (Purcell and Arai 2001; Sabates et al. 2010) and by reducing their consumption of foods via intraguild predation (Suchman et al. 2008; Brodeur et al. 2008). In many cases, jellyfish and small coastal pelagic fishes feed at a similar trophic level (Purcell and Sturdevant 2001; Ruzicka et al. 2012), which is a proposed mechanism for jellyfish proliferation as exploited fish are removed (Lynam et al. 2006). Interestingly, reduction of *Mnemiopsis leidyi* ctenophore populations by gelatinous predators reduces predation pressure on oyster larvae and zooplankton that support fish populations (Purcell et al. 1991; Purcell and Decker 2005). Monetary costs of jellyfish as predators and competitors of important fishery species are difficult to assess.

WebPanel 2. Costs: fisheries and aquaculture

The 2010 landings of the top 20 net-based fisheries (purse seine, gill net, and trawl) at 26.6 million metric tons represent 35% of the total tonnage of marine capture fisheries (75.9 million metric tons). We calculated this percentage using capture fisheries production from all FAO areas, except “Inland Waters” (FAO 2011). Species groups excluded were aquatic plants, freshwater diadromous fish, and “Marine Mollusks nei” (nei: not elsewhere identified).

WebPanel 3. Response to jellyfish ingress into power plants

Since the 1980s, some companies have developed gear to prevent jellyfish from entering the cooling system of power plants. A variety of screening systems are utilized to mitigate ingress problems at power and desalination facilities. However, sudden seasonal blooms are difficult to predict and jellyfish densities are often of a magnitude that simply overwhelms the capacity of mechanical screens (Purcell et al. 2007). When screens become clogged, the plant workers must clean them, which is a direct cost in terms of time and effort. Energy and freshwater production is reduced to prevent overheating and may result in reduced availability to consumers. The third step, if the problem of clogged screens persists, is to shut down energy or freshwater production completely. Some companies have found secondary uses for the jellyfish to offset the cost of jellyfish removal (Verner 1984).

WebTable 1. A number of commercially valuable gadoid and scombrid fishes associate with large scyphomedusae jellyfish during a part of their life history

Common name	Scientific name	Export value [†] (billion USD)	Reference(s)
Walleye pollock	<i>Theragra chalcogramma</i>	1.78	Brodeur (1998); Purcell et al. (2000)
Mackerels	<i>Scomber</i> spp	1.39	Masuda (2009)
Atlantic cod	<i>Gadus morhua</i>	1.24	Lynam and Brierley (2007)
Haddock	<i>Melanogrammus aeglefinus</i>	0.51	Koeller et al. (1986); Arai (1988) [review]; Lynam and Brierley (2007)
Norway pout	<i>Trisopterus esmarkii</i>	no data	Lynam and Brierley (2007)
Whiting	<i>Merlangius merlangus</i>	4.98	Arai (1988) [review]; Hay et al. (1990); Lynam and Brierley (2007)
		Total	9.90

Notes: See Purcell and Arai (2001) for review. Associations appear to enhance stock sizes in some cases (Lynam and Brierley 2007). [†]Export value based on estimated total for all species-derived products in 2009 (FAO 2011).

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WebTable 2. Data compiled from various sources indicates there are currently more than 50 public aquaria displaying jellyfish in the US, with similar exhibits worldwide

<i>Name</i>	<i>Country</i>	<i>State/Province</i>	<i>City</i>	<i>Lat (°N)</i>	<i>Long (°W)</i>
Queen Victoria Museum	Australia	Tasmania	Invermay	-41.43	147.14
Indo-Pacific Marine (Stokes Hill)	Australia	-	Darwin	-12.47	130.85
Melbourne Aquarium	Australia	-	Melbourne	-37.82	144.96
Atlantis Resort	Bahamas	-	Paradise Island	25.08	-77.32
Vancouver International Airport	Canada	British Columbia	Richmond	49.19	-123.18
Shaw Ocean Discovery Centre	Canada	British Columbia	Sidney	48.65	-123.40
Vancouver Aquarium	Canada	British Columbia	Vancouver	49.30	-123.13
Granby Zoo	Canada	Quebec	Granby	45.42	-72.72
Quebec Aquarium	Canada	Quebec	Quebec City	46.75	-71.29
Blue Zoo Aquarium	China	-	Beijing	39.93	116.45
Oresund Aquarium	Denmark	-	Helsingor	56.04	12.61
Berlin Zoo	Germany	-	Berlin	52.51	13.34
Sea Life Aquarium	Germany	-	Konigswinter	50.67	7.19
Ocean Park	China	Hong Kong	Hong Kong	22.25	114.18
Acquario di Genova	Italy	-	Genoa	44.41	8.93
Enoshima Aquarium	Japan	-	Enoshima	35.31	139.48
Kamogawa Sea World	Japan	-	Kamogawa	35.11	140.10
Osaka Aquarium	Japan	-	Osaka	34.65	135.43
Tokyo Sea Life Park	Japan	-	Tokyo	35.64	139.86
Kamo Aquarium	Japan	Yamagata	Tsuruoka	38.76	139.72
Palau Aquarium	Micronesia	Palau	Koror	7.34	134.47
Monaco Oceanographic Museum	Monaco	-		43.73	7.43
Manila Ocean Park	Philippines	-	Manila	14.58	120.97
Underwater World	Singapore	-		1.26	103.81
Two Oceans Aquarium	South Africa	-	Cape Town	-33.91	18.42
Sea World at uShaka Marine World	South Africa	-	Point Durban	-29.87	31.05
Busan Aquarium	South Korea	-	Busan	35.16	129.16
Maritime Museum & Aquarium	Sweden	-	Gothenburg	57.71	11.96
Basel Zoo	Switzerland	-	Basel	47.55	7.58
Atlantis the Palm Aquarium	UAE	-	Dubai	25.13	55.12
Dubai Aquarium	UAE	-	Dubai	25.20	55.28
Macduff Marine Aquarium	UK	Aberdeenshire	Macduff	57.67	-2.49
Aquarium Barcelona	Spain	Catalonia	Barcelona	41.38	2.18
National Museum of Marine Biology and Aquarium	Taiwan	Pingtung County	Kenting	22.05	120.70
Blue Reef Aquarium	UK	SE England	Hastings	50.86	0.60
The Deep	UK	Yorkshire and the Humber	Kingston Upon Hull	53.74	-0.33

<i>Name</i>	<i>Country</i>	<i>State/Province</i>	<i>City</i>	<i>Lat (°N)</i>	<i>Long (°W)</i>
Sea Life Centre	UK	Yorkshire and the Humber	Scarborough	54.30	-0.41
Blue Planet Aquarium	UK	NW England	Cheshire	53.26	-2.89
Blackpool Sea Life	UK	NW England	Lancashire	53.81	-3.06
Horniman Museum	UK	Greater London	London	51.44	-0.06
London Zoo	UK	Greater London	London	51.54	-0.16
Hunstanton Sea Life Sanctuary	UK	Greater London	Norfolk	52.94	0.49
McWane Science Center	US	Alabama	Birmingham	33.51	-86.81
Anchorage Museum	US	Alaska	Anchorage	61.22	-149.89
Sea Life Arizona	US	Arizona	Tempe	33.38	-111.96
Avila Beach Sea Life Center	US	California	Avila Beach	35.18	-120.74
Stephen Birch Aquarium	US	California	La Jolla	32.87	-117.25
Aquarium of the Pacific	US	California	Long Beach	33.76	-118.20
California Science Center	US	California	Los Angeles	34.02	-118.28
Monterey Bay Aquarium	US	California	Monterey	36.62	-121.90
Aquarium of the Bay	US	California	San Francisco	37.81	-122.41
Steinhart Aquarium	US	California	San Francisco	37.77	-122.47
Cabrillo Aquarium	US	California	San Pedro	33.71	-118.29
Seymour Marine Discovery Center	US	California	Santa Cruz	36.95	-122.06
Santa Monica Pier Aquarium	US	California	Santa Monica	34.01	-118.50
Downtown Aquarium	US	Colorado	Denver	39.75	-105.01
Mystic Aquarium	US	Connecticut	Mystic	41.37	-71.95
Maritime Aquarium	US	Connecticut	Norwalk	41.10	-73.42
Smithsonian's National Zoo	US	District of Columbia	Washington, DC	38.93	-77.05
Gulf Specimen Marine Lab	US	Florida	Panacea	30.02	-84.39
Mote Marine Aquarium	US	Florida	Sarasota	27.33	-82.58
Florida Aquarium	US	Florida	Tampa Bay	27.94	-82.45
Georgia Aquarium	US	Georgia	Atlanta	33.76	-84.40
Waikiki Aquarium/Honolulu Zoo	US	Hawaii	Honolulu	21.27	-157.82
Shedd Aquarium	US	Illinois	Chicago	41.87	-87.61
Fort Wayne Children's Zoo	US	Indiana	Fort Wayne	41.11	-85.15
Indianapolis Zoo	US	Indiana	Indianapolis	39.77	-86.18
Blank Park Zoo	US	Iowa	Des Moines	41.52	-93.62
Newport Aquarium	US	Kentucky	Newport	39.09	-84.50
Aquarium of the Americas	US	Louisiana	New Orleans	29.95	-90.06
National Aquarium	US	Maryland	Baltimore	39.29	-76.61
Calvert Marine Museum	US	Maryland	Solomons	38.33	-76.46
New England Aquarium	US	Massachusetts	Boston	42.36	-71.05
Ocean Explorium	US	Massachusetts	New Bedford	41.63	-70.93
Underwater Adventures, Mall of America	US	Minnesota	Bloomington	44.85	-93.24

<i>Name</i>	<i>Country</i>	<i>State/Province</i>	<i>City</i>	<i>Lat (°N)</i>	<i>Long (°W)</i>
Omaha's Henry Doorly Zoo	US	Nebraska	Omaha	41.23	-95.93
Caesar's Palace	US	Nevada	Las Vegas	36.12	-115.17
Shark Reef @ Mandalay Bay	US	Nevada	Las Vegas	36.09	-115.18
Adventure Aquarium	US	New Jersey	Camden	39.94	-75.13
New York Aquarium	US	New York	Brooklyn	40.57	-73.97
American Museum of Natural History	US	New York	New York	40.78	-73.97
Discovery Place	US	North Carolina	Charlotte	35.23	-80.84
North Carolina Aquarium, Living Planet	US	North Carolina	Fort Fisher	33.97	-77.92
Akron Zoo	US	Ohio	Akron	41.08	-81.54
Oregon Coast Aquarium	US	Oregon	Newport	44.62	-123.92
South Carolina Aquarium	US	South Carolina	Charleston	32.79	-79.93
Ripley's Aquarium	US	South Carolina	Myrtle Beach	33.72	-78.88
Tennessee Aquarium	US	Tennessee	Chattanooga	35.06	-85.31
Ripley's Aquarium of the Smokies	US	Tennessee	Gatlinburg	35.71	-83.51
Texas State Aquarium	US	Texas	Corpus Christi	27.81	-97.39
Dallas Aquarium @ Fair Park	US	Texas	Dallas	32.78	-96.76
Moody Gardens	US	Texas	Galveston	29.27	-94.85
Seattle Aquarium	US	Washington	Seattle	47.61	-122.34
Point Defiance Aquarium	US	Washington	Tacoma	47.31	-122.52

Notes: Latitude (Lat °N) and longitude (Long °W). Dashes denote unknown information.

WebTable 3. Coastal areas where jellyfish blooms frequently occur shown in Figure 2a

<i>Marine region</i>	<i>Continent or region</i>	<i>Country or region</i>	<i>Coastline</i>	<i>Taxa</i>	<i>Ref</i>
Arctic Ocean	Arctic	Arctic	Arctic waters	Ctenophore <i>Mertensia ovum</i>	1,2
Australia	Australia	Australia	Port Phillip Bay, Victoria	Lion's mane jellyfish (<i>Cyanea capillata</i>); Rhizostomeae (<i>Pseudorhiza haeckeli</i>); Moon jellyfish (<i>Aurelia aurita</i>); Mauve stinger (<i>Pelagia noctiluca</i>); <i>Catostylus mosaicus</i>	3
Gulf of Mexico	North America	US	Gulf of Mexico	Moon jellyfish (<i>Aurelia</i> spp); Sea nettle (<i>Chrysaora</i> spp)	4,5
Gulf of Mexico	North America	US	Louisiana	Hydromedusa (<i>Moerisia lyonsi</i>)	6
Gulf of Mexico	North America	US	Northern Gulf of Mexico	Australia spotted jellyfish (<i>Phyllorhiza punctata</i>)	7
Gulf of Mexico	North America	US	Chesapeake Bay to Texas	Cannonball jellyfish (<i>Stomolophus meleagris</i>)	8,9
Gulf of Mexico	North America	US	Northern Gulf, Mississippi Sound	Cannonball jellyfish (<i>Stomolophus meleagris</i>)	9,10
Gulf of Mexico	North America	US	Port Aransas, Texas	Cannonball jellyfish (<i>Stomolophus meleagris</i>)	9,11
Indian Ocean	Asia	India	Bay of Bengal, Indian coastal waters	<i>Chrysaora caliparea</i>	12
Indian Ocean	Asia	Oman	Coast of Oman	Rhizostomae <i>Crambionella orsini</i>	13
Indian Ocean	Asia	India	Goa	Scyphozoan: Rhizostome	14
Indian Ocean	Asia	Iran	Gulf of Oman & Persian Gulf	Rhizostomae <i>Crambionella orsini</i>	15
Indian Ocean	Asia	India	Kalpakkam	Rhizostomae <i>Crambionella stuhlmanni</i> , Cubozoan <i>Chiropsoides buitendijki</i> ; sea nettle (<i>Chrysaora (Dactylometra) quinquecirrha</i>)	16
Indian Ocean	Asia	India	-	Hydromedusa (<i>Lirope tetraphylla</i>)	17
Indian Ocean	Asia	India	-	Unidentified	18
Indian Ocean	Asia	India	-	Moon jellyfish (<i>Aurelia aurita</i>)	19

<i>Marine region</i>	<i>Continent or region</i>	<i>Country or region</i>	<i>Coastline</i>	<i>Taxa</i>	<i>Ref</i>
Indian Ocean	Asia	Indonesia	-	Rhizostomeae <i>Lobonemoides robustus</i> ; <i>Crambione mastigophor</i> ; <i>Acromitus hardenbergi</i> ; <i>Crambionella</i> ; <i>Rhopilema hispidum</i>	20
Indian Ocean	Asia	Indo-Pacific	-	Scyphozoan: Rhizostomeae	21
Indian Ocean	Asia	Malaysia	-	Rhizostomeae <i>Lobonemoides robustus</i> ; <i>Acromitus hardenbergi</i>	20
Indian Ocean	Asia	Myanmar	-	Rhizostomeae <i>Lobonemoides robustus</i> ; <i>Crambionella annandalei</i>	20
Indian Ocean	Asia	New Guinea	-	Rhizostomeae <i>Catostylus mosaicus</i>	22
Indian Ocean	Asia	Philippines	-	Rhizostomeae <i>Lobonemoides robustus</i>	20
Indian Ocean	Asia	Philippines	-	Rhizostomeae <i>Catostylus mosaicus</i>	22
Indian Ocean	Asia	Thailand	-	Rhizostomeae <i>Lobonemoides robustus</i> ;	20
Indian Ocean	Asia	Vietnam	-	Rhizostomeae <i>Lobonemoides robustus</i> ; <i>Rhopilema esculentum</i> ; <i>Rhopilema hispidum</i>	20
Indian Ocean	Asia	India	Madras	Moon jellyfish (<i>Aurelia aurita</i>)	23
Indian Ocean	Eurasia	Saudi Arabia, Iran, Iraq	Arabian Gulf	-	24
Indian Ocean	Eurasia	Oman	Gulf of Oman	Rhizostomae <i>Crambionella orsini</i>	13
Indian Ocean	Eurasia	-	Red Sea to Touamotu Archipelago	Rhizostomeae <i>Cephea cephea</i>	22
Mediterranean	Africa	Tunisia	Gulf of Tunis	Hydromedusa <i>Obelia</i> spp; Mauve stinger (<i>Pelagia noctiluca</i>); Moon jellyfish (<i>Aurelia</i> spp)	24
Mediterranean	Africa	Tunisia	North Tunisian coast	Mauve stinger (<i>Pelagia noctiluca</i>)	25
Mediterranean	Asia	Israel	Mediterranean Sea	Moon jellyfish (<i>Aurelia aurita</i>)	26
Mediterranean	Asia	Israel	Mediterranean Sea	-	27
Mediterranean, Black, Caspian Sea	Eurasia	Iran	Caspian Sea	Ctenophore <i>Mnemiopsis leidyi</i>	28
Mediterranean, Black, Caspian Sea	Eurasia	Middle East	Caspian Sea	Ctenophore <i>Mnemiopsis leidyi</i>	28,29

<i>Marine region</i>	<i>Continent or region</i>	<i>Country or region</i>	<i>Coastline</i>	<i>Taxa</i>	<i>Ref</i>
Mediterranean, Black, Caspian Sea	Eurasia	-	Caspian Sea, Black Sea, Azov Sea	Ctenophore <i>Mnemiopsis leidyi</i>	30
Mediterranean, Black, Caspian Sea	Eurasia	Istanbul	Marmara Sea, Mediterranean Sea	Ctenophore <i>Mnemiopsis leidyi</i> ; Hydromedusae <i>Liriope tetraphylla</i>	31
Mediterranean, Black, Caspian Sea	Eurasia	Eastern Mediterranean Sea	Mediterranean Sea	Rhizostomeae <i>Rhopilema nomadica</i>	32,33
Mediterranean, Black, Caspian Sea	Eurasia	-	Western and Central Mediterranean Sea	Mauve stinger <i>Pelagia noctiluca</i>	34
Mediterranean, Black, Caspian Sea	Europe	-	Azov Sea	Ctenophore <i>Mnemiopsis leidyi</i>	36
Mediterranean, Black, Caspian Sea	Europe	France	Bay of Marseilles, Berre Lagoon	Moon jellyfish (<i>Aurelia aurita</i>); Ctenophore <i>Mnemiopsis leidyi</i>	37
Mediterranean, Black, Caspian Sea	Europe	Southern Mediterranean Sea	Bay of Sousse, Gulf of Tunis	Siphonophore <i>Muggiaea atlantica</i>	25,38
Mediterranean, Black, Caspian Sea	Europe	NW Mediterranean Sea	Villefranche	Salps <i>Thalia democratica</i> ; <i>Salpa fusiformis</i>	39,41
Mediterranean, Black, Caspian Sea	Europe	-	Black Sea	Ctenophore <i>Mnemiopsis leidyi</i>	40
Mediterranean, Black, Caspian Sea	Europe	-	Black Sea	Moon jellyfish (<i>Aurelia aurita</i>)	35
Mediterranean, Black, Caspian Sea	Europe	-	Caspian Sea	Ctenophore <i>Mnemiopsis leidyi</i>	41
Mediterranean, Black, Caspian Sea	Europe	Mediterranean Sea	Coastal lagoons of France & Spain	-	42,43
Mediterranean, Black, Caspian Sea	Europe	Greece	Elefsis Bay	Moon jellyfish (<i>Aurelia</i> spp)	44
Mediterranean, Black, Caspian Sea	Europe	-	Mediterranean Sea	-	45
Mediterranean, Black, Caspian Sea	Europe	Spain	Mediterranean Sea, Catalan coast	Mauve stinger (<i>Pelagia noctiluca</i>)	46

<i>Marine region</i>	<i>Continent or region</i>	<i>Country or region</i>	<i>Coastline</i>	<i>Taxa</i>	<i>Ref</i>
Mediterranean, Black, Caspian Sea	Europe	-	North & Central Adriatic	Mauve stinger (<i>Pelagia noctiluca</i>)	47
Mediterranean, Black, Caspian Sea	Europe	Spain (Coast of Barcelona)	NW Mediterranean	Siphonophore <i>Muggiaea atlantica</i> ; Mauve stinger <i>Pelagia noctiluca</i>	49
Mediterranean, Black, Caspian Sea	Europe	Black Sea	offshore Black Sea	Moon jellyfish (<i>Aurelia aurita</i>) and Ctenophore <i>Mnemiopsis leidyi</i>	50
Mediterranean, Black, Caspian Sea	Europe	Eastern Europe	Sea of Azov	Ctenopore <i>Mnemiopsis leidyi</i>	51
Mediterranean, Black, Caspian Sea	Europe	Eastern Europe	Sea of Marmara	Ctenopore <i>Mnemiopsis leidyi</i>	51
Mediterranean, Black, Caspian Sea	Europe	France	South France	Hydromedusa <i>Liriope tetraphylla</i>	42,52
Mediterranean, Black, Caspian Sea	Europe	(Spain, France, Tunisia, Italy...)	Western Mediterranean	Mauve stinger (<i>Pelagia noctiluca</i>)	53
Mediterranean, Black, Caspian Sea	Europe	Mediterranean	-	Mauve stinger (<i>Pelagia noctiluca</i>)	34,54
Mediterranean, Black, Caspian Sea	Europe	-	-	Ctenophore <i>Mnemiopsis leidyi</i>	55,56
Mediterranean, Black, Caspian Sea	Europe	Eastern Europe	Black Sea	Ctenophore <i>Mnemiopsis leidyi</i>	51
Mediterranean, Black, Caspian Sea	Europe	-	Black Sea	Ctenophore <i>Mnemiopsis leidyi</i> ; Moon jellyfish (<i>Aurelia aurita</i>)	57-59
Mediterranean, Black, Caspian Sea	Europe	-	Black Sea	Ctenophore <i>Beroe ovata</i>	60,61
Mediterranean, Black, Caspian Sea	Europe	-	Black Sea	<i>Rhizostoma pulmo</i> , <i>Aurelia aurita</i> , <i>Mnemiopsis leidyi</i>	57,59, 62
Mediterranean, Black, Caspian Sea	Europe	Croatia	Boka Kotorska Bay, southern Adriatic Sea	Ctenophore <i>Bolinopsis</i> sp	63
Mediterranean, Black, Caspian Sea	Europe	Greece	Elefsis Bay	Moon jellyfish (<i>Aurelia aurita</i>)	44

<i>Marine region</i>	<i>Continent or region</i>	<i>Country or region</i>	<i>Coastline</i>	<i>Taxa</i>	<i>Ref</i>
Mediterranean, Black, Caspian Sea	Europe	France	Mediterranean Sea; Lacanau; Gironde	Portuguese man o' war (<i>Physalia physalis</i>)	64
Mediterranean, Black, Caspian Sea	Europe/Eurasia	Spain, Israel, Italy	Mediterranean Sea	Ctenophore <i>Mnemiopsis leidyi</i>	26
Mediterranean, Black, Caspian Sea	Middle East	Eastern Mediterranean Sea	-	Rhizostomeae (<i>Rhopilema nomadica</i>)	66
North Atlantic	America	Maryland	Chesapeake Bay	Ctenophore (<i>Mnemiopsis leidyi</i>), sea nettle (<i>Chrysaora quinquecirrha</i>)	67
North Atlantic	America	US	Eastern US, Atlantic Ocean	Ctenophores <i>Mnemiopsis leidyi</i> ; <i>Pleurobrachia pileus</i> ; <i>Bolinopsis infundibulum</i>	68
North Atlantic	America	US	Gulf of Maine	<i>Clytia gracilis</i> ; <i>Clytia</i> sp; <i>Obelia</i> sp	69
North Atlantic	America	US	Gulf of Maine	Siphonophore (<i>Nanomia cara</i>)	70
North Atlantic	America	US	Narragansett Bay, RI	Ctenophore <i>Mnemiopsis leidyi</i>	71
North Atlantic	America	US	Chesapeake Bay	Sea nettle (<i>Chrysaora quinquecirrha</i>)	72
North Atlantic	America	US	Maryland	Ctenophore <i>Moerisia lyonsi</i>	6
North Atlantic	Europe	-	Baltic Region	Moon jellyfish (<i>Aurelia aurita</i>)	73,74
North Atlantic	Europe	Spain, France	Bay of Biscay	-	54
North Atlantic	Europe	Baltic Sea (central)	Bornholm Basin	Moon jellyfish (<i>Aurelia aurita</i>), Lion's mane jellyfish (<i>Cyanea capillata</i>)	75
North Atlantic	Europe	UK	Carmarthen Bay, South Wales	Rhizostomeae	76
North Atlantic	Europe	Spain	Catalonia region	-	77
North Atlantic	Europe	Spain	Costa Brava	Mauve stinger (<i>Pelagia noctiluca</i>)	77
North Atlantic	Europe	Ireland	Galway Bay	Rhizostomeae	78
North Atlantic	Europe	Germany	German Bight	Siphonophore <i>Muggiaea atlantica</i>	79
North Atlantic	Europe	Germany	German Bight	Siphonophore <i>Muggiaea atlantica</i>	79
North Atlantic	Europe	Sweden	Gullmar Fjord	Moon jellyfish (<i>Aurelia</i> spp); Scyphomedusa	80,81
North Atlantic	Europe	Denmark	Helgoland Roads	Ctenophore <i>Mnemiopsis leidyi</i>	82
North Atlantic	Europe	Germany	Helgoland Roads	Ctenophore <i>Mnemiopsis leidyi</i> ; Moon jellyfish (<i>Aurelia aurita</i>)	83

<i>Marine region</i>	<i>Continent or region</i>	<i>Country or region</i>	<i>Coastline</i>	<i>Taxa</i>	<i>Ref</i>
North Atlantic	Europe	Ireland	Irish Sea	-	77
North Atlantic	Europe	UK	Irish Sea & Celtic Seas	Lion's mane jellyfish (<i>Cyanea capillata</i>); Compass jellyfish (<i>Chrysaora hysoscella</i>); <i>Rhizostoma octopus</i> ; Blue jellyfish (<i>Cyanea lamarckii</i>)	84,85
North Atlantic	Europe	Scotland	Isle of Lewis, Outer Hebrides	<i>Solmaris corona</i> ; <i>Phialidium</i> ; <i>Leuckartiara octonoa</i> ; <i>Catablema veseicarium</i> ; <i>Apolemia uvaria</i>	86
North Atlantic	Europe	Denmark	Kertinge Nor	Moon jellyfish (<i>Aurelia aurita</i>)	87
North Atlantic	Europe	Germany	Kiel Bight	Moon jellyfish (<i>Aurelia aurita</i>)	88-90
North Atlantic	Europe	Denmark	Limfjorden	Moon jellyfish (<i>Aurelia aurita</i>)	91
North Atlantic	Europe	Scotland	Loch Fyne	Lion's mane jellyfish (<i>Cyanea capillata</i>)	92
North Atlantic	Europe	Norway	Lurefjorden	Coronatae <i>Periphylla periphylla</i>	93,94
North Atlantic	Europe	Spain	Mediterranean Sea	Moon jellyfish (<i>Aurelia aurita</i>)	28
North Atlantic	Europe	UK	North Coast of Wales	Lion's mane jellyfish (<i>Cyanea capillata</i>)	76
North Atlantic	Europe		North Sea	Hydromedusa <i>Obelia</i> , Scyphomedusae	95
North Atlantic	Europe		North Sea	Moon jellyfish (<i>Aurelia aurita</i>)	73, 80, 89, 95
North Atlantic	Europe	North Sea	North Sea, European Coast	jellies	95
North Atlantic	Europe	Norway	North Sea, Fjords	Siphonophore <i>Apolema uvaria</i>	97
North Atlantic	Europe	Norway	Norwegian Fjords	Coronatae <i>Periphylla periphylla</i>	98
North Atlantic	Europe	UK	Rosslare, southeast coast of Ireland	Rhizostoma	76
North Atlantic	Europe	Denmark	Skive Fjord, Limfjorden	Moon jellyfish (<i>Aurelia aurita</i>)	99
North Atlantic	Europe	UK	Solway Firth	Rhizostoma	76
North Atlantic	Europe	UK	South Hampton water	Moon jellyfish (<i>Aurelia</i> spp)	89
North Atlantic	Europe	UK	Tremadoc Bay, North Wales	Rhizostomeae <i>Rhizostoma octopus</i>	76
NE Atlantic	Europe	UK	-	Mauve stinger (<i>Pelagia noctiluca</i>)	53
North Atlantic	Europe	UK	Wadden Sea	Moon jellyfish (<i>Aurelia</i> spp)	100

<i>Marine region</i>	<i>Continent or region</i>	<i>Country or region</i>	<i>Coastline</i>	<i>Taxa</i>	<i>Ref</i>
North Atlantic	Europe	Norway	West Coast Norwegian Fjords: Lurefjorden, Sognefjorden, Halsafjorden	Coronatae <i>Periphylla periphylla</i>	101
North Atlantic	Europe	Shetland	-	<i>Solmaris corona</i>	92
North Atlantic	Europe	Spain	-	-	77
North Atlantic	Europe	France	Brittany	Mauve stinger (<i>Pelagia noctiluca</i>)	102
North Atlantic	Europe	France	Coastal lagoons	Moon jellyfish (<i>Aurelia aurita</i>), <i>Rhizostoma pulmo</i> , Ctenophore (<i>Mnemiopsis leidyi</i>)	66
North Atlantic	Europe	Sweden	Gullmarfjord	Moon jellyfish (<i>Aurelia aurita</i>)	103
North Atlantic	Europe	Sweden	Isefjord	Moon jellyfish (<i>Aurelia aurita</i>)	103
North Atlantic	Europe	Denmark	Kertinge Nor	Moon jellyfish (<i>Aurelia aurita</i>)	103
North Atlantic	Europe	Denmark	Kiel Bight	Moon jellyfish (<i>Aurelia aurita</i>)	103,1 04
North Atlantic	Europe	Russia	Northern Black Sea	Ctenophore <i>Mnemiopsis leidyi</i> ; Moon jellyfish (<i>Aurelia aurita</i>)	106
North Atlantic	Europe	Norway	Norwegian Fjords	Coronate <i>Periphylla periphylla</i>	98
North Atlantic	Europe	North Sea	Southern North Sea	Lion's mane jellyfish (<i>Cyanea capillata</i>); Moon jellyfish (<i>Aurelia aurita</i>); Blue jellyfish (<i>Cyanea lamarckii</i>)	107
North Atlantic	Europe	UK	Thames Estuary	Sea gooseberry (<i>Pleurobrachia pileus</i>)	108
North Atlantic	Europe	Denmark	Wadden Sea	Moon jellyfish (<i>Aurelia aurita</i>)	110
North Atlantic	Europe	Norway	West coast	Siphonophore <i>Apolema uvaria</i>	97
North Atlantic	Europe	Norway	West coast	Siphonophore <i>Apolema uvaria</i>	109
NW Pacific	Europe	Russia	Eastern Coastal Russia, Sea of Okhotsk	Scyphozoa, hydrozoa	156
North Atlantic	North America	Maryland	Chesapeake Bay	sea nettle (<i>Chrysaora quinquecirrha</i>)	110,1 11
North Atlantic	North America	US	Chesapeake Bay	Sea nettle (<i>Chrysaora quinquecirrha</i>)	110,1 12

<i>Marine region</i>	<i>Continent or region</i>	<i>Country or region</i>	<i>Coastline</i>	<i>Taxa</i>	<i>Ref</i>
North Atlantic	North America	US	Chesapeake Bay to Texas	Cannonball jellyfish (<i>Stomolophus meleagris</i>)	8,9
North Atlantic	North America	US	Narragansett Bay, RI	Ctenophore <i>Mnemiopsis leidyi</i>	113
North Pacific	North America	US	Alaska	Northern sea nettle (<i>Chrysaora melanaster</i>); Lion's mane jellyfish (<i>Cyanea capillata</i>); Egg yolk jellyfish (<i>Phacellophora camtschatica</i>); Moon jellyfish (<i>Aurelia labiata</i>); Crystal jellyfish (<i>Aequorea aequorea</i>)	115
North Pacific	North America	US	Eastern Bering Sea	Northern sea nettle (<i>Chrysaora melanaster</i>)	116
North Pacific	North America	US	Oregon	By-the-wind sailor (<i>Verella velella</i>)	124
North Pacific	North America	US	Bering Sea	Northern sea nettle (<i>Chrysaora melanaster</i>); Lion's mane jellyfish (<i>Cyanea capillata</i>); Crystal jellyfish <i>Aequorea aequorea</i>	35, 115
North Pacific	North America	US	Western Bering Sea	Northern sea nettle (<i>Chrysaora melanaster</i>); <i>Aequorea forskalea</i>	123
North Pacific	North America	Canada	Canadian fjord	Hydromedusa <i>Phialidium gregarium</i>	118
North Atlantic	North America	Canada	Saanich Inlet, BC	Moon jellyfish (<i>Aurelia aurita</i>); Ctenophore <i>Pleurobrachia bachei</i> ; Hydromedusae <i>Phialidium (Clytia) gregarium</i> and <i>Phialidium</i> <i>(Clytia) loma</i>	114, 125
North Pacific	North America	Canada	Vancouver Island	<i>Hybocodon prolifer</i> ; <i>Sarsia eximia</i> ; <i>Phialelia</i> sp	119
North Pacific	North America	Canada	Roscoe Bay, BC	Moon jellyfish (<i>Aurelia</i> spp)	122
North Pacific	North America	Mexico	Gulf of California	<i>Stomolophus meleagris</i>	120,1 21
NW Pacific	Asia	Japan	Aichi	Moon jellyfish (<i>Aurelia aurita</i>)	126

<i>Marine region</i>	<i>Continent or region</i>	<i>Country or region</i>	<i>Coastline</i>	<i>Taxa</i>	<i>Ref</i>
NW Pacific	Asia	China	China Sea (NE China Sea, Yellow Sea, Bohai Sea [Hebei, Shandong, South Zhejian province, Yangtze Estuary, East China Sea, Liaoning])	Moon jellyfish (<i>Aurelia aurita</i>); <i>Cyanea nozakii</i> , Giant jellyfish (<i>Nemopilema nomurai</i>)	127
NW Pacific	Asia	China	East China & Yellow Seas	-	128
NW Pacific	Asia	China	East China Sea	<i>Cyanea</i> spp; <i>Nemopilema</i> sp	117
NW Pacific	Asia	Japan	Ehime	Mauve stinger (<i>Pelagia noctiluca</i>)	129
NW Pacific	Asia	Japan	Ehime	Moon jellyfish (<i>Aurelia aurita</i>)	130
NW Pacific	Asia	Japan	Fukui	Northern sea nettle (<i>Chrysaora melanaster</i>)	126
NW Pacific	Asia	Japan	Fukui	<i>Aequorea coerulea</i>	132
NW Pacific	Asia	Japan	Fukui	Moon jellyfish (<i>Aurelia aurita</i>)	131
NW Pacific	Asia	Japan	Fukui	Moon jellyfish (<i>Aurelia aurita</i>); Northern sea nettle (<i>Chrysaora melanaster</i>)	131
NW Pacific	Asia	Japan	Harima Nada, Seto Inland Sea	<i>Cyanea nozakii</i>	131
NW Pacific	Asia	Japan	Hiroshima Bay	Hydromedusa <i>Liriope tetraphylla</i>	134
NW Pacific	Asia	Japan	Hiroshima Prefecture	Ctenophore <i>Bolinopsis mikado</i>	135
NW Pacific	Asia	Japan	Hokuriku District	Giant jellyfish (<i>Nemopilema nomurai</i>)	136
NW Pacific	Asia	Japan	Kyoto	Moon jellyfish (<i>Aurelia aurita</i>)	126
NW Pacific	Asia	Japan	Kyoto, Fukui	Moon jellyfish (<i>Aurelia aurita</i>)	126
NW Pacific	Asia	Japan	Kyoto, Fukui	Blue button (<i>Porpita porpita</i>)	131
NW Pacific	Asia	Japan	Niigata	Moon jellyfish (<i>Aurelia aurita</i>)	137
NW Pacific	Asia	Japan	Okinawa	<i>Chiropsalmus quadrigatus</i>	138
NW Pacific	Asia	Japan	Osaka Bay	Moon jellyfish (<i>Aurelia aurita</i>)	126
NW Pacific	Asia	Japan	Osaka Bay, Harima Nada, Seto Inland Sea	Moon jellyfish (<i>Aurelia aurita</i>)	139

<i>Marine region</i>	<i>Continent or region</i>	<i>Country or region</i>	<i>Coastline</i>	<i>Taxa</i>	<i>Ref</i>
NW Pacific	Asia	Japan	Sea of Japan Coast	Northern sea nettle (<i>Chrysaora melanaster</i>)	132
NW Pacific	Asia	Japan	Sea of Japan	<i>Nemopilema nomurai</i>	140
NW Pacific	Asia	Japan	Sea of Japan Coast	Moon jellyfish (<i>Aurelia aurita</i>)	132
NW Pacific	Asia	Japan	Sea of Japan Coast	Giant jellyfish (<i>Nemopilema nomurai</i>)	131
NW Pacific	Asia	Japan	Sea of Japan Coast, Hokuriku and Tohoku Districts	Giant jellyfish (<i>Nemopilema nomurai</i>)	131, 136
NW Pacific	Asia	Japan	Sea of Japan Coast, Tsugaru Strait, Pacific Coast of Northern Japan	Giant jellyfish (<i>Nemopilema nomurai</i>)	140, 141
NW Pacific	Asia	Japan	Seto Inland Sea	Moon jellyfish (<i>Aurelia aurita</i>); Ctenophore <i>Bolinopsis mikado</i>	142
NW Pacific	Asia	Taiwan	Tapong Bay	Moon jellyfish (<i>Aurelia aurita</i>)	143
NW Pacific	Asia	Japan	Tokyo Bay	Moon jellyfish (<i>Aurelia aurita</i>)	126,146,155
NW Pacific	Asia	China	Uljin	Moon jellyfish (<i>Aurelia aurita</i>)	147
NW Pacific	Asia	Japan	Wakasa Bay	Moon jellyfish (<i>Aurelia aurita</i>)	148
NW Pacific	Asia	China	Yangtze Estuary	Lion's mane jellyfish (<i>Cyanea capillata</i>)	149
NW Pacific	Asia	China	Yangtze Estuary	Scyphozoan <i>Sanderia malayensis</i>	149
NW Pacific	Asia	Japan	Yatsushiro Bay, Kumamoto	Moon jellyfish (<i>Aurelia aurita</i>)	131
NW Pacific	Asia	China	Yellow Sea, Bohai Sea	Moon jellyfish (<i>Aurelia aurita</i>)	150
NW Pacific	Asia	China	Yellow and East China Sea	Crystal jellyfish (<i>Aequorea</i> sp); Lion's mane jellyfish (<i>Cyanea</i> sp)	151
NW Pacific	Asia	South Korea	Yeonggwang	-	152
NW Pacific	Asia	East China & Yellow Seas	-	Lion's mane jellyfish (<i>Cyanea</i> spp); Cannonball jellyfish (<i>Stomolophus</i> spp)	43,153
NW Pacific	Asia	Japan	Japanese coast	Giant jellyfish (<i>Nemopilema nomurai</i>)	21,154

<i>Marine region</i>	<i>Continent or region</i>	<i>Country or region</i>	<i>Coastline</i>	<i>Taxa</i>	<i>Ref</i>
NW Pacific	Asia	Japan	Seto Inland Sea	Northern sea nettle (<i>Chrysaora melanaster</i>)	142
NW Pacific	Asia	China	Strait of Malacca, Gulf of Thailand, Java Sea, South China Sea	Rhizostomeae <i>Rhopilema esculentum</i> ; <i>Lobonema smithi</i> ; <i>Rhopilema hispidum</i> , <i>Crambione mastigophora</i> ; <i>Crambionella orsini</i>	21 139,1
NW Pacific	Asia	Japan		Moon jellyfish (<i>Aurelia aurita</i>)	40
South Pacific	Asia	Malaysia	Penang National Park	Sea nettle <i>Chrysaora</i> sp	166
South Pacific	Asia	Philippines	-	Moon jellyfish (<i>Aurelia aurita</i>)	167
South Atlantic	Africa	Northern	Benguela Current off Namibia	Sea nettle (<i>Chrysaora fulgida</i>); <i>Aequorea forskalea</i>	157
South Atlantic	Africa	South Africa	Benguela Current	medusae/ ctenophores	158
South Atlantic	Africa	South Africa	Benguela Current, West Coast of South Africa	Sea nettle (<i>Chrysaora fulgida</i>); Crystal jellyfish (<i>Aequorea aequorea</i>)	37, 159, 160
South Atlantic	Africa	Namibia	Northern Benguela Ecosystem	Sea nettle (<i>Chrysaora fulgida</i>); <i>Aequorea forskalea</i>	160
South Atlantic	Africa	Namibia	Northern Benguela Current	Sea nettle (<i>Chrysaora</i> spp); Crystal jellyfish (<i>Aequorea</i> sp)	157
South Atlantic	Central America	Belize	Belize barrier reef	Coronatae <i>Linuche unguiculata</i>	161
South Atlantic	South America	Argentina	Argentine coast	Rhizostomeae <i>Lychnorhiza lucerna</i>	162
South Atlantic	South America		Atlantic Coast	Hydromedusa <i>Lirope tetraphylla</i>	163
South Atlantic	South America	Brazil	Babitonga Bay, Santa Catarina	<i>Chrysaora lactea</i> ; <i>Lychnorhiza lucerna</i>	164
South Atlantic	South America	Brazil	Brazil coast	-	162
South Atlantic	South America	Brazil	North Rio de Janeiro	Box jellyfish (<i>Chiropsalmus quadrumanus</i>)	165
South Pacific	Australia	Australia	New South Wales, Estuaries, Coastal lagoons	Rhizostomeae <i>Catostylus mosaicus</i>	168
South Pacific	Australia	Australia	-	Rhizostomeae <i>Catostylus mosaicus</i>	21
South Pacific	Australia	Australia	Port Phillip Bay, Victoria	Rhizostomeae <i>Catostylus mosaicus</i>	169

<i>Marine region</i>	<i>Continent or region</i>	<i>Country or region</i>	<i>Coastline</i>	<i>Taxa</i>	<i>Ref</i>
South Pacific	Australia	Australia	Queensland, Port Douglas	Box jellyfish (<i>Chiropsella bronzie</i>)	170,1 71
South Pacific	Australia	Australia	-	-	77
South Pacific	Australia	Northern Australia	-	Unidentified	172
Southern Ocean	Antarctic	Antarctic	Croker passage	Siphonophores <i>Dimophyes arctica</i> ; <i>Pyrostephos vanhoeffen</i> ; <i>Diphyes dispar</i>	173
Southern Ocean	Antarctic	Southern Ocean	-	jellies	174, 175
Southern Ocean	Antarctica	South Georgia Sector	Antarctic Polar Frontal Zone	Ctenophora; Cnidaria	176
Southern Ocean	Antarctica	-	Weddell Sea ice edge	Salps, Medusae, Ctenophores	176
Southern Ocean	Antarctica	-	-	jellies	177

Notes: "Ref" is the reference number associated with the full citation given in WebTable 3 References.

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WebTable 4. Power plants affected by jellyfish ingress shown in Figure 2a

Country or region	City or region	Power plant	Lat. (°N)	Long. (°W)	Year(s)	Month	Taxon	Plant type	Ref
Arabian Peninsula	Qatar	-	25.21	51.62	2003	4	<i>Crambionella orsini</i>	-	1
South Africa	Koeberg, Cape Town	-	-33.90	18.48	2005	5	-	-	2
Israel	Hadera	Israel Electric Corporation Power Plant	32.45	34.88	2011	7	-	-	3
Gulf of Oman	-	-	25.38	56.44	-	-	-	-	4
India	Madras	Madras Atomic Power Station	12.62	80.19	1988	-	<i>Aurelia aurita</i>	-	5
Japan	Osaka Bay, Harima Nada, Seto Inland Sea	-	34.65	135.35	1960-1967	-	<i>Aurelia aurita</i>	-	6
Japan	Tokyo Bay	-	35.52	139.94	1962-1966	4-9	<i>Aurelia aurita</i>	-	7
Japan	Osaka Bay, Harima Nada, Seto Inland Sea	-	34.65	135.35	1964-1968	4-9	<i>Aurelia aurita</i>	-	8
Japan	Aichi Pref	-	34.97	136.79	1971-1973	6-7	<i>Aurelia aurita</i>	-	9
Japan	Fukui Pref	-	35.80	135.91	1971-1975	6-7	<i>Aurelia aurita</i>	-	10
Japan	Tokyo Bay	-	35.52	139.94	1972	5-10	<i>Aurelia aurita</i>	-	11
Japan	Fukui Pref	-	35.80	135.91	1997-2000	6-9	<i>Aurelia aurita</i>	-	12
Japan	Niigata Pref	-	37.96	139.03	1998-2000		<i>Aurelia aurita</i>	-	13
Japan	Ehime Pref	-	33.87	132.70	1998-2002	4-10	<i>Aurelia aurita</i>	-	14
Japan	Seto Inland Sea	Harima Nada	34.70	134.83	1983-1984		<i>Cyanea nozakii</i>	-	15
Japan	Fukui Pref	-	35.75	136.07	1997-2000	6-9	<i>Chrysaora melanaster</i>	-	16
Japan	Western Japan	Chugoku Electric Power Co.	35.46	133.05	2011	6	-	-	17
Japan	Shizuoka	Chubu Electric Power Co.	34.95	138.43	2006	7	-	-	18
Malaysia	Manjung, Perak	TNB Janamanjung	4.17	100.61	Pre-2012		-	coal	19
Philippines	near Manila	-	14.58	120.96	1999	12	<i>Aurelia aurita</i>	-	20
Philippines	Luzon	Northern Saul	16.13	120.10	2000	12	-	-	21
Saudi Arabia	Arabian Gulf	Coastal Saudi Arabia	29.37	47.81	2006	5	-	-	22
Scotland	Eastern Scotland	Torness Nuclear	55.97	-2.41	2011	6	-	-	23

<i>Country or region</i>	<i>City or region</i>	<i>Power plant</i>	<i>Lat. (°N)</i>	<i>Long. (°W)</i>	<i>Year(s)</i>	<i>Month</i>	<i>Taxon</i>	<i>Plant type</i>	<i>Ref</i>
		Power Station							
South Korea	Gyeongsangbuk-do Province	Uljin Nuclear Plant	36.30	129.40	2003	6	<i>Aurelia aurita</i>	-	24
South Korea	Uljin, North Gyeongsang		36.99	129.42	1997	-	-	-	25
		Korea Hydro and Nuclear Power Corporation							
South Korea	Yeonggwang		35.42	126.42	2009	-	-	-	26
South Korea	Ulchin	-	36.99	129.41	1996	9	-	nuclear	27
		Kalmarsund at the Baltic Sea							
Sweden	Oskarshamn		57.42	16.67	2005	8	-	-	28
		EON Oskarshamn-3 unit							
Sweden	Oskarshamn		57.27	16.45	2013	9	<i>Aurelia</i> sp	nuclear	29
		Calvert Cliffs Nuclear Power Plant							
US	Chesapeake Bay		38.33	-76.41	1960	7	-	-	30
		Chalk Point Generating Station							
US	Chesapeake Bay		38.47	-76.66	2006	-	-	-	31
		Diablo Canyon Nuclear Power Plant							
US	San Luis Obispo (Avila Beach)		35.21	-120.86	2008	10	-	nuclear	32
		St Lucie Florida Power and Light							
US	St Lucie, Florida		27.50	-80.30	2011	8	-	nuclear	33
		Diablo Canyon Nuclear Power Plant							
US	Avila Beach		35.21	-120.86	2012	4	Salpidae	nuclear	34
Australia	Melbourne	Newport Power Plant	-37.84	144.90	2009	3-4	-	-	35

Notes: “Ref” is defined as the reference number associated with the full citation given in WebTable 4 References. All else see WebTable 2.

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WebTable 5. Locations, dates, and references for beach closures shown in Figure 2b

<i>Country</i>	<i>Region</i>	<i>Beach</i>	<i>Lat. (°N)</i>	<i>Long. (°W)</i>	<i>Year</i>	<i>Month</i>	<i>Taxon</i>	<i>Ref</i>
Australia	Broome Shire	Cable Beach	-17.97	122.24	2011	2	Irukandji (Cubozoan)	1
Australia	Broome	Cable Beach	-17.97	122.24	2010	4	Irukandji (Cubozoan)	2
Australia	Broome	Town Beach	-17.97	122.24	2010	1	Irukandji (Cubozoan)	3
Australia	North Queensland	Ellis & Holloways Beach	-16.73	145.66	2010	12	Irukandji (Cubozoan)	4
Australia	Townsville	Alma Bay	-19.15	146.87	2010	11	Irukandji (Cubozoan)	5
Australia	Agnes Water	-	-24.21	151.91	2009	12	Irukandji (Cubozoan)	6
Australia	Broome	Broome Beach	-17.96	122.25	2009	12	Irukandji (Cubozoan)	7
Australia	Mackay	-	-21.12	149.22	2009	1	Box jelly (Cubozoan)	8
Australia	Mackay	Eimeo Beach	-21.05	149.19	2009	4	Box jelly (Cubozoan)	9
Australia	Yeppoon	Yeppoon Beach	-23.13	150.75	2009	1	Box jelly (Cubozoan)	10
Australia	N Queensland	-	-12.73	143.68	2008	1	Irukandji (Cubozoan)	11
Australia	Mackay	CQ Beach	-21.16	149.20	2005	12	Irukandji (Cubozoan)	12
UK	White Sands Beach	St Davids	51.89	-5.30	2009	8	Portuguese Man o' War (<i>Physalia physalis</i>)	13
Ireland	Irish Sea	Dublin	53.34	-6.19	2005	-	-	14
Spain	Asturias	-	43.58	-5.96	2010	-	Portuguese Man o' War (<i>Physalia physalis</i>)	15
Spain	Costa Brava	Costa Brava Region	41.72	2.94	2010	8	Mauve stinger (<i>Pelagia noctiluca</i>)	16
Spain	Denia	Rotes de Denia	38.84	0.12	2010	7	-	17
Spain	Donostia	San Sebastian	43.32	-1.99	2010	8	-	18
Spain	Donostia	Zaratz	43.33	-1.98	2010	7	-	19
Spain	Granda	Velez-malga	36.75	-4.08	2010	3	-	20
Spain	Malaga	Belz Beach	36.72	-4.41	2010	3	-	21
Spain	Valencia	El Che	39.47	-0.32	2010	11	-	22
UK	Dorset	-	50.63	-2.32	2009	8	Portuguese Man o' War (<i>Physalia physalis</i>)	23
Spain	Barcelona	Gava	41.26	2.01	2008	8	-	24
Spain	Barcelona	Garvi	41.38	2.20	2008	8	-	25
Spain	Barcelona	Calella	41.61	2.66	2008	8	-	26
Spain	Barcelona	Pineda Centre	41.62	2.69	2008	8	-	27
Spain	Barcelona	Poblenou	41.40	2.21	2008	8	-	28

<i>Country</i>	<i>Region</i>	<i>Beach</i>	<i>Lat. (°N)</i>	<i>Long. (°W)</i>	<i>Year</i>	<i>Month</i>	<i>Taxon</i>	<i>Ref</i>
UK	Sussex	-	50.77	0.09	2008	8	Portuguese Man o' War (<i>Physalia physalis</i>)	29
France	Corsica	Corsica Region	41.95	9.42	2007	8	-	30
France	Cote d'Azur	Cote d'Azur Region	43.73	7.43	2007	8	-	31
Spain	Asturias	Frejulfe	43.56	-6.68	2007	10	-	32
Spain	Benidorm	-	38.53	-7.30	2007	8	-	33
Spain	Costa del Sol	Costa del Sol Region	36.72	-4.41	2007	8	-	34
Spain	Denia	Cagarritar	38.85	0.10	2007	7	-	35
Spain	Gibraltar	La Linea	36.15	-5.34	2007	5	-	36
Spain	Barcelona	Castelldefels	41.26	1.98	2006	-	-	37
Spain	Costa Brava	-	41.72	2.94	2006	8	-	38
Spain	Costa Brava	-	41.72	2.94	2006	8	-	39
Spain	Costa Brava	-	41.72	2.94	2006	8	-	40
Spain	Granada	Calahonda	36.70	-3.41	2006	8	-	41
Spain	Granada	Carchuna	36.70	-3.45	2006	8	-	42
UK	Brixham	Charlestown Beach	50.39	-3.50	2003	6	By-the-wind sailors (<i>Verella verella</i>)	43
US	Hawaii (Hanauma Bay)	Yokohama Beach	21.27	-157.70	2010	2	Box jelly (Cubozoan)	44
US	Hawaii, Honolulu	Hanauma Bay	21.28	-157.84	2010	2	-	45
US	New Hampshire	Rye Beach	42.98	-70.76	2010	7	Lion's mane jellyfish (<i>Cyanea</i> spp)	46
US	Hawaii, Honolulu	Hanauma Bay	21.28	-157.84	2009	3	Box jelly(Cubozoan)	47
US	Hawaii, Kauai	Salt Pond Beach Park	21.90	-159.61	2009	2	Box jelly (Cubozoan)	48
US	Hawaii, Honolulu	Waikiki Beach	21.28	-157.83	2008	11	-	49
US	Hawaii, Honolulu	Hanauma Bay	21.28	-157.84	2008	7	-	50
US	Hawaii, Oahu	West Oahu	21.45	-158.20	2007	7	Box jelly (Cubozoan)	51
US	Massachusetts	Nantucket	41.30	-70.11	2006	7	Portuguese Man o' War (<i>Physalia physalis</i>)	52
Chile	Osorno	Bahia Mansa	-40.58	-73.74	2010	1	Unknown (tiny jellyfish)	53
Chile	Valparaiso	Zapallar	-32.56	-71.47	2010	2	-	54
Chile	Osorno	-	40.60	-73.74	2010	-	-	55

Notes: "Ref" is the reference number associated with the full citation given in WebTable 5 References. All else see WebTable 2.

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WebTable 6. Locations, dates, and references for newsworthy sting events shown in Figure 2b

<i>Country</i>	<i>Region</i>	<i>Beach</i>	<i>Lat. (°N)</i>	<i>Long. (°W)</i>	<i>Year(s)</i>	<i>Month</i>	<i>Taxa</i>	<i># affected</i>	<i>Ref</i>
Australia	Gold Coast	Queensland	-28.05	153.45	2010	1	Portuguese Man o' War (<i>Physalia physalis</i>)	700	1
Australia	Queensland	Agnes Water Beach	-24.21	151.91	2011	3	Irukandji (Cubozoan)	1	2
Australia	Tropical Australia; NW Australia, Tropical waters	-	-19.44	147.49	2002-2007	-	Box jellyfish (<i>Carukia barnesi</i>); Portuguese Man o' War (<i>Physalia physalis</i>)	frequent	3
Australia	Queensland	Cairns	-16.90	144.77	1996	-	Box jellyfish (<i>Chironex fleckeri</i>)	62	4
Australia	Western Australia	Broome	-17.95	122.24	2001-2003	-	Irukandji (Cubozoan)	88	5
Australia	Queensland	Unknown (regional report)	-28.05	153.45	1986-1999	-	Irukandji (Cubozona); Box jellyfish (<i>Chironex fleckeri</i>)	50-200 yr ⁻¹	6
Australia	Northern Territory	Unknown (regional report)	-12.20	132.24		-	Irukandji (Cubozona); Box jellyfish (<i>Chironex fleckeri</i>)	50-200 yr ⁻¹	7
Australia	Northern Territory	Unknown (regional report)	-12.20	132.24	1990-2007	-	Irukandji (Cubozoan)	87	8
Australia	Northern Territory	Unknown (regional report)	-12.20	132.24	1991-2002	-	Unknown	311	9
Australia	Northern Territory	Unknown (regional report)	-12.20	132.24	1991-2003	-	Irukandji (Cubozoan)	70	10
Australia	Northern Territory	Unknown (regional report)	-12.20	132.24	1991-2004	-	Box jellyfish (<i>Chironex fleckeri</i>)	225	11
Bermuda	Caribbean Sea	Elbow Beach	32.28	-64.77	2009	-	Portuguese Man o' War (<i>Physalia physalis</i>)	50	12
Bonaire	Caribbean Sea	-	12.20	-68.32	-	-	Box jellyfish (<i>Tamoya ohboya</i>)	3	13
British Virgin Islands	Caribbean Sea	Virgin Gorda's Baths, Salt Island, Norman Island	18.32	-64.61	2006	1	Box jellyfish (Cubomedusae)		14
Costa Rica	Caribbean Sea	-	10.19	-83.22	2009	6	-	1	15
US	Florida, Datona	Volusia County Beach	29.24	-81.01	2011	4	-	multiple	16

<i>Country</i>	<i>Region</i>	<i>Beach</i>	<i>Lat. (°N)</i>	<i>Long. (°W)</i>	<i>Year(s)</i>	<i>Month</i>	<i>Taxa</i>	<i># affected</i>	<i>Ref</i>
US	Florida, Volusia County	Volusia County Beaches	29.24	-81.01	2011	7	Moon jellyfish (<i>Aurelia</i> spp.)	2000	17
France	French Riviera	-	43.69	7.26	1984-1987	-	Mauve stinger (<i>Pelagia noctiluca</i>)	2500	18
France	Monaco	-	43.73	7.43	2004	-	Mauve stinger (<i>Pelagia noctiluca</i>)	45000	19
US	Georgia coast	Tybee Island	32.00	-80.84	2011	7	Unknown	894	20
Italy	Mediterranean	Between Nice and Cannes	43.69	7.27	2008	7	Mauve stinger (<i>Pelagia noctiluca</i>)	500	21
Jamaica	Caribbean Sea	St Ann	17.84	-77.37	2010	9	Unknown	3	22
Japan	Fukui Pref	-	36.14	136.08	1979	7	Northern sea nettle (<i>Chrysaora melanaster</i>)	5	23
Japan	Fukui Pref	-	35.66	135.89	1995	7	Siphonophore (<i>Agalma okeni</i>)	10	24
Japan	Fukui Pref	-	35.66	135.89	2000	7	Hydromedusae <i>Euphysora bigelowi</i>	10	25
Japan	Hokkaido	-	43.19	141.25	1988	7	<i>Gonionemus oshoro</i> (<i>vertens</i>); Northern sea nettle (<i>Chrysaora melanaster</i>)	175	26
Japan	Hyogo Pref	-	34.65	135.18	1978	4-8	Box jellyfish (<i>Carybdea rastoni</i>); <i>Gonionemus vertens</i>)	10	27
Japan	Kanagawa Pref	Hokkaido	43.19	141.25	1961	6	Portuguese Man o' War (<i>Physalia physalis</i>)	15000	28
Japan	Kyoto Pref	-	35.58	135.67	1976	7	Northern sea nettle (<i>Chrysaora melanaster</i>)	300	29
Japan	Nagasaki Pref	-	32.72	129.85	1979	7	<i>Olindias formosa</i>	3	30
Japan	Okinawa Pref	-	26.24	127.84	1981	7-9	Box jellyfish (<i>Chiropsalmus quadrigatus</i>)	1	31
Japan	Sea of Japan Coast	-	35.66	135.89	1999	7	Northern sea nettle (<i>Chrysaora melanaster</i>)	100	32

<i>Country</i>	<i>Region</i>	<i>Beach</i>	<i>Lat. (°N)</i>	<i>Long. (°W)</i>	<i>Year(s)</i>	<i>Month</i>	<i>Taxa</i>	<i># affected</i>	<i>Ref</i>
Japan	Sea of Japan Coast	-	35.66	135.89	2002-2007	-	Giant jellyfish (<i>Nemopilema nomurai</i>)	100	33
Malta	Mediterranean	-	35.95	14.41	2006	8	Unknown	1000	34
Spain	east/south coasts	east/south coasts	37.50	-1.44	2006	-	Mauve stinger (<i>Pelagia noctiluca</i>)	14000	35
Spain	Eastern Spain	Denia, Costa Blanca	38.85	0.10	2010	8	Mauve stinger (<i>Pelagia noctiluca</i>)	50	36
Spain	Eastern Spain	Denia	38.85	0.10	2008	8	Box jellyfish (<i>Carybdea marsupialis</i>)	3330	62
Thailand	Gulf of Thailand	Koh Mak	11.81	102.47	2007	12	Box jellyfish (Cubozoan)	1	37
Thailand	Gulf of Thailand	Pattaya Beach	12.93	100.87	2004	-	Box jellyfish (Chirodropid)	1	38
Thailand	Gulf of Thailand	Koh Mak	11.81	102.47	2007	12	Box jellyfish (Chirodropid)	6	39
Thailand	Gulf of Thailand	Hau Hinm Bangkok	12.54	99.97	2008	4	Box jellyfish (Chirodropid)	1	40
Thailand	Gulf of Thailand	Ko Tao	10.10	99.83	2007	12	Irukandji (Cubozoan)	1	41
Thailand	Gulf of Thailand	Bungalow Bay, Phuket	7.86	98.40	2008	12	Box jellyfish (Chirodropid)	1	42
US	Atlantic, South Carolina	Folly Beach, Charleston County	32.65	-79.94	2010	7	Portuguese Man o' War (<i>Physalia physalis</i>); maybe others	100	43
US	Florida	Fort Lauderdale Beaches, Palm Beach	26.12	-80.10	2011	2	Portuguese Man o' War (<i>Physalia physalis</i>)	820	44
US	Florida	East Volusia	29.10	-80.93	2010	-	Box jellyfish (<i>Chiropsalmus quadrumanus</i>)	50	45
US	Florida	Orlando	28.43	-80.56	2011	3	Unknown	100	46
US	Florida	Orlando	28.43	-80.56	2011	3	Unknown	multiple	47
US	Gulf Coast, Florida	Pensacola Beach	30.33	-87.15	2008	6	Unknown	multiple	48
US	Gulf Coast, Florida	Bonita Beach, Naples	26.28	-81.84	2010	9	Sea nettles (<i>Chrysaora</i> spp)	multiple	49

<i>Country</i>	<i>Region</i>	<i>Beach</i>	<i>Lat. (°N)</i>	<i>Long. (°W)</i>	<i>Year(s)</i>	<i>Month</i>	<i>Taxa</i>	<i># affected</i>	<i>Ref</i>
US	Hawaii	Waikiki, Ala Moana beaches	21.29	-157.85	2010	12	Box jellyfish (Cubozoan)	multiple	50
US	Rhode Island	Westerly	41.32	-71.80	2006	7	Portuguese Man o' War (<i>Physalia physalis</i>)	multiple	51
US	Georgia	Tybee Island	32.01	-80.84	2010	-	Lion's mane jellyfish (<i>Cyanea</i> spp)	1391	52
US	Massachusetts	Cape Cod	41.65	-70.18	1987	7	Unknown	dozens	53
Spain	Mediterranean		39.68	0.20	2005	-	Unknown	15000	54
US	Florida	Cocoa Beach to Cape Canaveral	28.32	-80.61	2011	5	Mauve stinger (<i>Pelagia noctiluca</i>)	800	55
UAE	Dubai	Dubai beaches	25.19	55.23	2011	11	Unknown	multiple	56
India	Mumbai	Juhu beach	19.09	72.83	2008	7	Unknown	50	57
Chile	Osorno	Maicolpue, Pucatrihue, Bahia Mansa	-40.58	-73.74	2010	1	Unknown	multiple	58
US	Texas	Galveston	29.29	-94.79	2011	7	Unknown	65	59
US	Hawaii	Waikiki, Ala Moana Beach Park	21.28	-157.84	2008	8	Box jellyfish (Cubomedusae)	82	60
New Zealand	Auckland	Takapuna beach	-36.79	174.78	2008	2	Hydromedusae	26	61

Notes: “# affected” is defined as the number of people affected by the sting event. “Ref” is the reference number associated with the full citation given in WebTable 6 References. All else see WebTable 2.

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WebTable 7. Jellyfish-related fatalities shown in Figure 2b

<i>Country</i>	<i>Region</i>	<i>Beach</i>	<i>Lat. (°N)</i>	<i>Long. (°W)</i>	<i>Year(s)</i>	<i>Month</i>	<i>Taxa</i>	<i># of fatalities</i>	<i>Ref</i>
Australia	Whitsundays	Hamilton Island Umagico Beach (Bamaga), Horn Island	-20.36	148.96	2002	1	Irukandji	1	1
Australia	North Queensland	Island	-10.87	142.35	2006	1	Box jellyfish (Cubozoan)	1	2
Australia	Port Douglas Northern Territory	-	-16.48	145.47	2002	4	Box jellyfish (Cubozoan)	1	3
Australia	-	Cardwell Saltwater Creek, Townsville	-11.99	134.81	1991-2004	-	<i>Chironex fleckeri</i>	1	4
Australia	-	Cardwell Saltwater Creek, Townsville	-18.27	146.03	1955	-	Box jellyfish (Cubozoan)	1	5
Australia	Townsville	Townsville Kissing Point Baths, Townsville	-19.25	146.82	1953	-	Box jellyfish (Cubozoan)	1	6
Australia	Townsville	Townsville North Mission Beach	-19.25	146.81	1951	-	Box jellyfish (Cubozoan)	1	7
Australia	Tully	Beach	-17.88	146.10	1949	-	Box jellyfish (Cubozoan)	1	8
Australia	Queensland	Proserpine	-20.50	148.71	1939	-	Box jellyfish (Cubozoan)	1	9
Australia	-	Woogarra	-24.92	152.49	1934	-	Box jellyfish (Cubozoan)	1	10
Australia	-	Proserpine	-20.50	148.71	1923	-	Box jellyfish (Cubozoan)	1	11
Australia	Victoria	Melbourne	-38.38	144.81	-	-	Unknown	1	12
Australia	Western Australia	Perth	-32.01	115.75	-	-	Unknown	1	13
Australia	Queensland	Townsville	-18.91	147.72	2002	4	Irukandji (Cubozoan)	1	14
Bougainville Island	-	-	-6.44	155.21	-	-	Unknown	1	15
China	Shenyang	Golden Sand Beach	40.60	122.14	2006	-	Probably a box jellyfish Giant jellyfish (<i>Nemopilema nomauri</i>)	2	16
China	Qingdao	-	36.06	120.38	1991-1996	-	Unknown	8	17
Indonesia	North Borneo	Sarawak	5.55	115.77	-	-	Unknown	1	18
Indonesia	North Borneo	Sabah	6.06	116.08	-	-	Box jellyfish (Chirodropids)	1	19
Indonesia	Northwest Borneo	Brunei	4.66	114.51	-	-	Box jellyfish (Chirodropids) Portuguese man o' war (<i>Physalia physalis</i>)	1	20
Italy	Mediterranean	Sardinia	40.17	8.39	2010	8	Portuguese man o' war (<i>Physalia physalis</i>)	1	21

<i>Country</i>	<i>Region</i>	<i>Beach</i>	<i>Lat. (°N)</i>	<i>Long. (°W)</i>	<i>Year(s)</i>	<i>Month</i>	<i>Taxa</i>	<i># of fatalities</i>	<i>Ref</i>
Italy	Sardinia	-	40.17	8.39	2010	8	Portuguese man o' war (<i>Physalia physalis</i>)	1	22
Japan	Nagasaki Pref	-	32.72	129.85	1980	8	<i>Olindias formosa</i>	1	23
Japan	Fukui Pref	-	36.14	136.08	1979	7	Northern sea nettle (<i>Chrysaora melanaster</i>)	1	24
Japan	Okinawa	Chirodropoid	26.22	127.66	-	-	Box jellyfish (Chirodropids)	2	25
Malaysia	Labuan	-	5.28	115.26	-	-	Box jellyfish (Cubozoan)	2	26
Malaysia	Indo-Pacific	Pantai Cenang, Langkawi	6.28	99.73	2010	2	Unknown	1	27
Malaysia	Pantai, Malaysia	-	6.29	99.72	2010	1	Box jellyfish (Cubozoan)	1	28
Papua New Guinea	d'Entrecasteaux Islands	-	-9.65	150.70	-	-	Unknown	1	29
Philippines	-	-	12.91	121.73	-	-	Unknown	1	30
Philippines	-	-	12.91	121.73	-	-	Box jellyfish (Chirodropids)	20-50 deaths yr ⁻¹	31
Thailand	Koh Lanta	-	7.62	99.03	2008	4	Box jellyfish (Cubozoan)	10	32
Thailand	Gulf of Thailand	Koh Phangan	9.70	100.00	2002	8	Box jellyfish (Cubozoan)	1	33
Thailand	Gulf of Thailand	Koh Phangan	9.70	100.00	2002	8	Unknown	1	34
Thailand	Gulf of Thailand	Chaweng Beach, Koh Samui	9.53	100.06	1999	10	Box jellyfish (Chirodropids)	1	35
Thailand	Gulf of Thailand	Pantai Cenang, Pulau Langkawi	6.29	99.73	1996	5	Box jellyfish (<i>Chiropsoides buitendijki</i>)	2	36
US	Gulf of Mexico	Galveston Island	29.23	-94.89	1990	-	Box jellyfish (Chirodropids)	1	37
US	Florida	-	27.52	-80.25	1987	-	Portuguese man o' war (<i>Physalia physalis</i>)	1	38
US	Florida	-	27.52	-80.25	1964	2	Portuguese man o' war (<i>Physalia physalis</i>)	1	39
US	North Carolina	-	34.49	-77.43	-	-	Portuguese man o' war (<i>Physalia physalis</i>)	1	40
US	New York	Hudson River	40.57	-74.04	2008	7	Lion's mane jellyfish (<i>Cyanea</i> spp)	1	41

Notes: “# of fatalities” is the number of people who died. “Ref” is defined as the reference number associated with the full citation given in WebTable 7 References. All else see WebTable 2.

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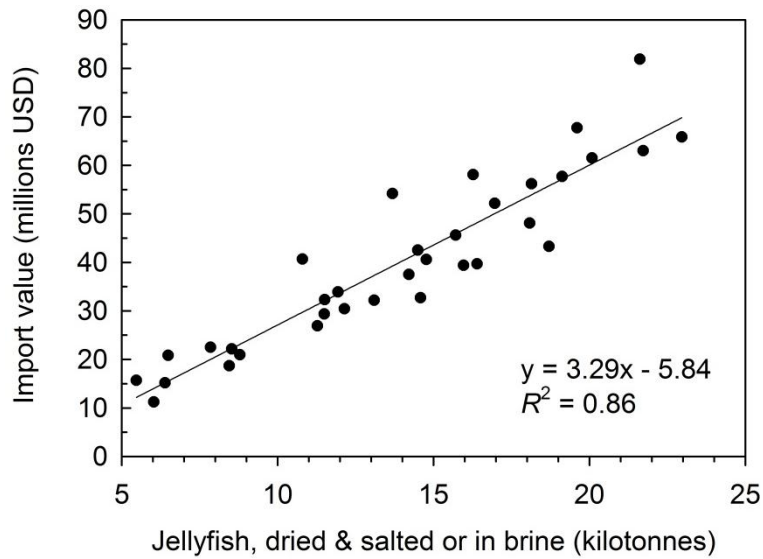
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WebFigure 1. Services provided by jellyfish will increase, at best, at a rate proportional to jellyfish abundance. For example, fisheries statistics indicate the total annual, nominal import value (millions USD) of dried, salted, or in brine jellyfish products in Southeast Asia increased linearly with tonnage (Analysis of Variance, $F_{1,33} = 196.99$, $P < 0.0001$) during 1976–2009 (FAO 2011). Southeast Asia is defined as: Japan, Taiwan, South Korea, Thailand, Singapore, and Indonesia. (China and North Korea were excluded due to a history of inaccurate data reporting).