Extinction Risk and Overfishing: Reconciling Conservation and Fisheries Perspectives on the Status of Marine Fishes

Supplementary Information
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| Stockid     | Common name                          | Scientific name | Management country | Generation length | Reference type |
|-------------|--------------------------------------|-----------------|--------------------|-------------------|----------------|
| ACADREDGOMCGB | Acadian redfish Gulf of Maine / Georges Bank | Sebastes fasciatus | USA                | 16.9 BMSY         |                |
| ALBASPACPAC  | Albacore tuna South Pacific Ocean    | Thunnus alalunga | Multinational      | 6.4 BMSY          |                |
| ALPLAICBSAICB | Alaska plaice Bering Sea and Aleutian Islands | Pleuronectes capelinus | USA             | 13.8 BMSY         |                |
| ARFLOUNDBSAI | Arrowtooth flounder Bering Sea and Aleutian Islands | Pleuronectes borellii | USA             | 10.1 BMSY         |                |
| ATBTUNAWATL  | Bluefin tuna Western Atlantic        | Thunnus thynnus  | Multinational      | 14.0 BMSY          |                |
| BLUEROCKCAL  | Blue rockfish California             | Sebastes melanops | USA               | 20.2 BMSY          |                |
| BSRBASSMATLC | Black sea bass Mid-Atlantic Coast    | Centropristis striata | USA             | 5.3 BMSY           |                |
| CABEZSCAL    | Cabezon Southern California         | Scorpaenichthys marmoratus | USA           | 5.5 BMSY           |                |
| CHAKESA      | Shallow-water cape hake South Africa | Merluccius capensis | South Africa   | 4.0 BMSY           |                |
| CODFAPL      | Pacific chub mackerel Pacific Coast  | Scomber japonicus | USA               | 6.7 BMSY           |                |
| CODICE       | Atlantic cod Coastal Oregon         | Gadus morhua    | Multinational      | 5.6 BMSY           |                |
| COWCODSCAL   | Atlantic cod Baltic Areas 22 and 24 | Gadus morhua    | Multinational      | 5.5 BMSY           |                |
| DEEPCHAKESA  | Deep-water cape hake South Africa   | Merluccius capensis | South Africa | 3.5 BMSY           |                |
| ESOLEPCOAST  | Flathead sole Gulf of Alaska        | Parophrys vetulus | USA              | 10.0 BMSY          |                |
| HADFAPL      | Dakhed Faroe Plateau                | Gadus morhua    | Multinational      | 5.5 BMSY           |                |
| HADG          | Haddock Faroese                     | Gadus morhua    | Multinational      | 5.5 BMSY           |                |
| HADG         | Haddock Faroese                     | Gadus morhua    | Multinational      | 5.5 BMSY           |                |
| HADG          | Haddock York                         | Gadus morhua    | Multinational      | 5.5 BMSY           |                |
| HADH          | Haddock New England                  | Pleuronectes borellii | Australia | 13.8 BMSY          |                |
| HADNNS-IIIa  | Haddock ICES IV and North Sea       | Merluccius capensis | USA             | 6.9 BMSY           |                |
| HADVIA       | Haddock West of Scotland             | Merluccius capensis | USA              | 6.9 BMSY           |                |
| HERR30       | Herring ICES 30                      | Clupea harengus | Multinational      | 7.2 BMSY           |                |
| HERRIsum     | Herring Iceland (Summer spawners)   | Clupea harengus | Multinational      | 13.1 BMSY          |                |
| HERRNS       | Herring North Sea                    | Clupea harengus | Multinational      | 10.9 BMSY          |                |
| HERRNWATLC   | Atlantic herring Northwestern Atlantic Coast | Clupea harengus | USA             | 7.7 BMSY           |                |
| HERRVIa      | Herring ICES VI                      | Clupea harengus | Multinational      | 6.9 BMSY           |                |
| HERRVIIb     | Herring ICES VI and VII              | Clupea harengus | Multinational      | 6.9 BMSY           |                |
| KELGBPUNTINGORECOAST | Kelp greenling Oregon Coast | Pleuronectes areolatus | USA             | 6.3 BMSY          |                |
| KKGALPA      | Kinglip South Africa                 | Merluccius capensis | South Africa | 11.3 BMSY          |                |
| Species Name | Location | Yearly Stock | BMSY |
|--------------|----------|--------------|------|
| Raja rhina   | USA      | 16.6         | 16.6 |
| Sebastolobus altivelis | USA   | 21.4         | 21.4 |
| Scomber scombrus | USA | 6.2          | 6.2  |
| Nemadactylus macropterus | Australia | 14.7        | 14.7 |
| Lutjanus analis | USA | 12.8         | 12.8 |
| Trisopterus esmarkii | Norway | 2.2          | 2.2  |
| Sebastes polyspinis | USA | 18.4         | 18.4 |
| Genypterus blacodes | New Zealand | 9.7      | 9.7  |
| Hoplostethus atlanticus | New Zealand | 60.7    | 60.7 |
| Dissostichus eleginoides | South Africa | 23.0    | 23.0 |
| Chrysophrys auratus | New Zealand | 14.3 | 14.3 |
| Patagonian toothfish | South Africa Subantarctic Prince Edward Islands | 23.0 | 23.0 |
| Gadus macrocephalus | USA | 8.2          | 8.2  |
| Pacific cod | Gulf of Alaska | 7.7 | 7.7 |
| Sebastes alutus | USA | 32.9         | 32.9 |
| Eopsetta jordani | USA | 10.0         | 10.0 |
| Glyptocephalus zachirus | Australia | 23.0     | 23.0 |
| Lutjanus campechanus | USA | 49.3         | 49.3 |
| Red porgy | Southern Atlantic coast | 6.0 | 6.0 |
| Lutjanus campechanus | USA | 15.5         | 15.5 |
| Anoplopoma fimbria | USA | 11.6         | 11.6 |
| Pacific Ocean perch | Eastern Bering Sea and Aleutian Islands | 32.9 | 32.9 |
| Sebastes aleutianus | USA | 49.3         | 49.3 |
| Rougheye rockfish | Gulf of Alaska | 49.3 | 49.3 |
| Pagrus pagrus | USA | 6.0          | 6.0  |
| Lutjanus campechanus | USA | 15.5         | 15.5 |
| Red snapper | Eastern Gulf of Mexico | 15.5 | 15.5 |
| Lutjanus campechanus | USA | 15.5         | 15.5 |
| Northern rockfish | Bering Sea and Aleutian Islands | 18.4 | 18.4 |
| Lutjanus campechanus | USA | 15.5         | 15.5 |
| Red snapper | Western Gulf of Mexico | 18.4 | 18.4 |
| Anoplopoma fimbria | USA | 11.6         | 11.6 |
| Pacific Ocean perch | Pacific Coast | 31.0 | 31.0 |
| Eopsetta jordani | USA | 10.0         | 10.0 |
| Petrale sole | Northern Pacific Coast | 10.0 | 10.0 |
| Dissostichus eleginoides | South Africa Subantarctic Prince Edward Islands | 23.0 | 23.0 |
| Katsuwonus pelamis | Multinational | 3.2      | 3.2  |
| Pseudocyttus maculatus | Multinational | 9.6      | 9.6  |
| Sablefish | Eastern Bering Sea / Aleutian Islands / Gulf of Alaska | 32.8 | 32.8 |
| Sablefish | Pacific Coast of Canada | 32.8 | 32.8 |
| Southern bluefin tuna | Southern Oceans | 18.0 | 18.0 |
| Micromesistius australis | Multinational | 47.9 | 47.9 |
| Smooth oreo | Chatham Rise | 44.1 | 44.1 |
| Smooth oreo | West end of Chatham Rise | 44.1 | 44.1 |
| Southern hake | Chatham Rise | 12.7 | 12.7 |
| Spanish mackerel | Southern Atlantic Coast | 1.7 | 1.7 |
| Common European sole | Celtic Sea | 8.8 | 8.8 |
| Common European sole | Irish Sea | 8.8 | 8.8 |
| Summer flounder | Mid-Atlantic Coast | 3.2 | 3.2 |
| Blue Warehou | Eastern half of Southeast Australia | 6.0 | 6.0 |
| Blue Warehou | Western half of Southeast Australia | 6.0 | 6.0 |
| Cynoscion regalis | USA | 5.3          | 5.3  |
| Urophycis tenuis | USA | 5.3          | 5.3  |
| Whiting | ICES IIIa, VIId and North Sea | 6.1 | 6.1 |
| Whiting | ICES VIIe-k | 8.4 | 8.4 |
| Winter Flounder | NAFO-5Z | 4.9 | 4.9 |
| Winter Flounder | Southern New England-Mid Atlantic | 5.7 | 5.7 |
| Striped marlin | Southwestern Pacific Ocean | 5.3 | 5.3 |
| Kajikia audax | USA | 12.8         | 12.8 |
| Sillago flindersi | Australia | 6.0         | 6.0  |
| Neoplatycephalus richardsoni | Australia | 9.3   | 9.3  |
| Pseudocaranx dentex | New Zealand | 16.0 | 16.0 |
| Seriolella brama | Australia | 6.0         | 6.0  |
| Code     | Species and Location                           | Scientific Name   | Country  | BMSY |
|----------|------------------------------------------------|-------------------|----------|------|
| WPOLLEBS | Walleye pollock Eastern Bering Sea             | Theragra chalcogramma | USA      | 6.4  |
| WPOLLGA  | Walleye pollock Gulf of Alaska                 | Theragra chalcogramma | USA      | 9.2  |
| YELOCCDGOM| Yellowtail flounder Cape Cod / Gulf of Maine   | Limanda ferruginea | USA      | 4.5  |
| YELOGB   | Yellowtail flounder Georges Bank               | Limanda ferruginea | USA      | 4.5  |
| YELOG    | Yellowtail flounder Southern New England-Mid Atlantic | Limanda ferruginea | USA      | 4.5  |
| YEYEROCKPCOAST | Yelloweye rockfish Pacific Coast | Sebastes ruberrimus | USA      | 42.1 |
| YFINATL  | Yellowfin tuna Atlantic                         | Thunnus albacares | Multinational | 3.7  |
| YFINCW PAC | Yellowfin tuna Central Western Pacific          | Thunnus albacares | Multinational | 3.7  |
| YSOLLEBSAI | Yellowtail flounder Bering Sea and Aleutian Islands | Limanda ferruginea | USA      | 4.5  |
| YTVROCKPCOAST | Yellowtail rockfish Northern Pacific Coast     | Sebastes ruberrimus | USA      | 21.3 |
| ANCHOBAYB | Anchovy ICES VIII                               | Engraulis encrasicolus | Multinational | 2.0  |
| CODWick | Celtic Sea cod                                  | Gadus morhua       | Multinational | 7.7  |
| HRDROCK | Haddock Rockall Bank                            | Melanogrammus aeglefinus | Multinational | 6.9  |
| HERRSIRS | Celtic Sea and South of Ireland Herring         | Ammodytes marinus  | Multinational | 6.7  |
| PLAICNS | European Plaice North Sea                      | Pleuronectes platessa | Multinational | 14.4 |
| POLLIEG | Iceland and East Greenland pollock in Division Va (Icelandic saithe) | Ammodytes marinus  | Multinational | 9.6  |
| SEELNSSA1 | North Sea Sandeel in the Dogger Bank area (SA 1) | Ammodytes marinus  | Multinational | 3.6  |
| SEELNSSA2 | North Sea Sandeel in the South Eastern North Sea (SA 2) | Ophius vulgaris   | Multinational | 3.6  |
| SEELNSSA3 | North Sea Sandeel in the Central Eastern North Sea (SA 3) | Pollachius virens | Multinational | 3.6  |
| SOLENS | common European sole North Sea                  | Solea vulgaris     | Multinational | 8.4  |
| SOLEVIId | common European sole ICES VIIId                 | Solea vulgaris     | Multinational | 8.7  |
| WHITVIa | Whiting ICES VIa                               | Merlangus merlangus | Multinational | 6.1  |
Table S2. Threat status and alignment for the 166 assessed marine fish populations. Population ordering by stock identification code. Included are the estimated percent decline (numbers in parentheses indicate an increase in population biomass), estimated Red List threat status, biomass relative to reference point at end of decline, alignment between threat status and the upper and lower fisheries reference points, and final year of the population decline. IUCN threatened categories are Critically Endangered (CR), Endangered (EN), Vulnerable (VU) and not threatened. Refer to Table S1 for further population descriptions.

| Stocked | Percent change | Estimated IUCN threat category | Biomass relative to upper reference point | Alignment relative to upper reference point | Alignment relative to lower reference point | Final Year |
|---------|----------------|-------------------------------|------------------------------------------|--------------------------------------------|------------------------------------------|------------|
| ACADREDGOGB | (59.9) | not threatened | 0.7 | miss | -ve hit | 2007 |
| ALBASAPAC | 42.6 | not threatened | 2.7 | -ve hit | -ve hit | 2006 |
| ALPLAICBSAI | (38.5) | not threatened | 2.2 | -ve hit | -ve hit | 2008 |
| AMPOVE | 69.1 | not threatened | 0.6 | +ve hit | +ve hit | 2007 |
| ARFLOUNDBSAI | (274.4) | not threatened | 2.5 | -ve hit | -ve hit | 2008 |
| ARFLOUNDGA | 104.6 | not threatened | 3.0 | -ve hit | -ve hit | 2010 |
| ARFLOUNDPICOAST | (56.6) | not threatened | 3.6 | -ve hit | -ve hit | 2007 |
| ARFLOUNDCHSA | 24 | not threatened | 1.8 | +ve hit | -ve hit | 2007 |
| ARGASSAR | 16.4 | not threatened | 2.6 | -ve hit | -ve hit | 2007 |
| ARGKESARG | 66.6 | VU | 0.2 | +ve hit | -ve hit | 2007 |
| ARGHARESARG | 25.8 | not threatened | 0.4 | miss | miss | 2008 |
| ATETUNABATL | 81.3 | EN | 0.6 | +ve hit | +ve hit | 2007 |
| ATKABS | 8.2 | not threatened | 1.7 | -ve hit | -ve hit | 2009 |
| ATLCROAKMATLC | (5.7) | not threatened | 1.3 | -ve hit | -ve hit | 2006 |
| AUSSALMONNZ | 60.3 | VU | 1.7 | -ve hit | -ve hit | 2006 |
| BGROCKPCOAST | 47.6 | not threatened | 1.3 | -ve hit | -ve hit | 2005 |
| BIGEYE | 7.4 | VU | 2.5 | false | false | 2004 |
| BIGEWEPO | 35.9 | not threatened | 1.2 | -ve hit | -ve hit | 2006 |
| BLACKROCKWEIR | 69 | VU | 1.0 | +ve hit | +ve hit | 2007 |
| BLACKROCKNPCOAST | 47.1 | not threatened | 1.7 | -ve hit | -ve hit | 2006 |
| BLACKROCKPCOAST | 26.5 | not threatened | 2.1 | -ve hit | -ve hit | 2007 |
| BLUEBROOKCAL | 65.2 | VU | 0.7 | +ve hit | +ve hit | 2007 |
| BSBASSMATLC | (65.26) | not threatened | 0.9 | miss | miss | 2007 |
| CABESCAL | (32) | not threatened | 1.1 | -ve hit | -ve hit | 2005 |
| CABESCAL | (35.5) | not threatened | 0.6 | miss | miss | 2005 |
| CHESA | 30 | not threatened | 2.2 | -ve hit | +ve hit | 2006 |
| CMACKPCOAST | 275.9 | EN | 0.5 | +ve hit | +ve hit | 2008 |
| CODAAB224 | 2.3 | not threatened | 1.2 | -ve hit | +ve hit | 2008 |
| COCODANT | 46.3 | not threatened | 0.5 | miss | miss | 2010 |
| CODFAPL | 56.9 | VU | 0.8 | +ve hit | +ve hit | 2007 |
| CODGB | 76 | EN | 0.1 | +ve hit | +ve hit | 2007 |
| CODEC | (4.7) | not threatened | 1.7 | -ve hit | +ve hit | 2011 |
| CODES | 90.5 | CR | 0.1 | +ve hit | -ve hit | 2011 |
| CODEAT | 60 | EN | 0.2 | hit | hit | 2010 |
| COINEAR | (287.4) | not threatened | 2.1 | -ve hit | hit | 2010 |
| CODNAS | 58.3 | VU | 0.4 | +ve hit | hit | 2011 |
| CODW | 67.3 | VU | 0.3 | +ve hit | hit | 2011 |
| COWCOWNE | 94.4 | CR | 0.1 | +ve hit | hit | 2011 |
| CROCKPCOAST | 77.2 | EN | 0.6 | +ve hit | hit | 2005 |
| DEEPPHABASA | 23 | not threatened | 0.8 | miss | miss | 2008 |
| DEEPLHABASDE | 48.2 | not threatened | 1.4 | +ve hit | +ve hit | 2007 |
| DEIOPCOST | 20.9 | not threatened | 1.5 | -ve hit | -ve hit | 2005 |
| DSCROCKGA | (200.1) | not threatened | 1.5 | +ve hit | hit | 2007 |
| ESOPECOAST | (170.1) | not threatened | 6.4 | +ve hit | -ve hit | 2008 |
| FLLEGBSIA | (1090.7) | not threatened | 1.9 | +ve hit | hit | 2008 |
| FLSELEGA | (61.5) | not threatened | 2.6 | +ve hit | +ve hit | 2010 |
| GAGU | (16.3) | not threatened | 1.0 | miss | -ve hit | 2005 |
| GASATLC | 65.9 | not threatened | 0.9 | miss | hit | 2011 |
| GEMFISHN | 70.9 | EN | 1.5 | +ve hit | hit | 2006 |
| GEMFISHNE | 69 | VU | 0.3 | +ve hit | hit | 2007 |
| GALBSS | 86.9 | EN | 1.5 | -ve hit | hit | 2009 |
| GOLPERPCOAST | (68.4) | not threatened | 2.5 | -ve hit | hit | 2005 |
| GRAMBERSATLC | (0.6) | not threatened | 1.3 | -ve hit | -ve hit | 2006 |
| GRAMBERSATLC | (0.6) | not threatened | 1.3 | -ve hit | -ve hit | 2006 |
| HALSY | (308.7) | not threatened | 1.1 | -ve hit | -ve hit | 2007 |
| HADDFAPL | 46.6 | not threatened | 0.7 | miss | hit | 2011 |
| HADGB | (1084.7) | not threatened | 1.5 | -ve hit | hit | 2011 |
| HADICE | (66.6) | not threatened | 0.6 | miss | hit | 2011 |
| HADNEAR | (317.7) | not threatened | 3.4 | -ve hit | hit | 2010 |
| HADINS | 10 | not threatened | 1.5 | -ve hit | hit | 2011 |
| HADLY | 21.1 | not threatened | 0.8 | miss | hit | 2011 |
| HERR | (49.3) | not threatened | 1.2 | +ve hit | hit | 2011 |
| HERR | 12.6 | not threatened | 1.4 | -ve hit | hit | 2011 |
| HERR | 12.6 | not threatened | 1.4 | -ve hit | hit | 2011 |
| HERR | (55.1) | not threatened | 1.1 | -ve hit | hit | 2011 |
| HERRWATLC | (782.9) | not threatened | 1.6 | -ve hit | hit | 2005 |
| HERRVIA | 45.9 | not threatened | 0.9 | miss | hit | 2010 |
| HERRVIA | 87.7 | EN | 0.2 | +ve hit | hit | 2010 |
| Scientific Name          | Common Name          | Status | Heterosis | Production | Year  |
|-------------------------|----------------------|--------|-----------|------------|-------|
| KELPGREENLINGORCOAST    | 22.8                 | not threatened | -ve hit   | -ve hit    | 2005  |
| KINGKLIPSA               | 27.7                 | not threatened | -ve hit   | -ve hit    | 2008  |
| LNOSHSHPACOAST           | 42.4                 | not threatened | -ve hit   | -ve hit    | 2007  |
| LSTHORNHPACOAST          | 28.5                 | not threatened | -ve hit   | -ve hit    | 2005  |
| MACROGOMCHAFT            | (82.4)               | not threatened | -ve hit   | -ve hit    | 2004  |
| MORWONGIE                | 86.1                 | EN      | 0.3       | +ve hit    | 2007  |
| MUTSNAPSATLGC            | (15.5)               | not threatened | -ve hit   | -ve hit    | 2006  |
| NPOUTNS                  | (5.6)                | not threatened | 1.6       | hit        | 2011  |
| NROCKBSAI                | (10.8)               | not threatened | 1.4       | miss       | 2010  |
| NROCKGKA                 | 59.9                 | VU      | 1.6       | false     | false  |
| NRSOLEEBSAI              | (1154)               | not threatened | 3.1       | miss       | 2007  |
| NZLINGESE               | 67.8                 | VU      | 0.7       | +ve hit    | false  |
| NZLINGH3-4               | 38.1                 | not threatened | 3.0       | miss       | 2007  |
| NZLINGH5-6               | 25.6                 | not threatened | 4.0       | miss       | 2006  |
| NRSNAPNS-VI-IIIa         | 90.5                 | not threatened | 1.0       | miss       | 2010  |
| PCODISAI                 | 49.3                 | not threatened | 1.1       | miss       | 2008  |
| PCODGA                   | 29.1                 | VU      | 1.6       | false     | false  |
| PERCHEBSAI               | (434.1)              | not threatened | 1.3       | miss       | 2009  |
| PHAKEPAC                 | 67.4                 | VU      | 1.7       | false     | false  |
| PLORECHW                 | 32.5                 | not threatened | 0.8       | miss       | 2010  |
| POLIFAPL                 | (14.7)               | not threatened | 1.9       | hit        | 2011  |
| POLINEAH                 | (113.9)              | not threatened | 1.8       | hit        | 2011  |
| POLINEH-VH-VI            | (6.2)                | not threatened | 1.2       | hit        | 2010  |
| PORPERCHGA               | (332.7)              | not threatened | 1.4       | miss       | 2010  |
| PORPERCHPCAFT            | 70.2                 | EN      | 0.6       | +ve hit    | false  |
| PTOOTHFCM                | 29.4                 | not threatened | 1.7       | miss       | 2005  |
| PTOOTFCSHI               | (15.9)               | not threatened | 0.8       | miss       | 2005  |
| REXSLOEG                 | (36.3)               | not threatened | 2.5       | miss       | 2004  |
| REYEROCKBSAI             | (8.4)                | not threatened | 1.1       | miss       | 2005  |
| REYEROCKGKA              | 18.0                 | not threatened | 1.6       | miss       | 2004  |
| REYEROCKDAFT             | 23.8                 | not threatened | 0.5       | miss       | 2004  |
| REYEROCKGGB              | 91.4                 | CR      | 0.2       | +ve hit    | +ve hit |
| REYEROCKGGM              | 97.5                 | CR      | 0.0       | +ve hit    | +ve hit |
| REYEROCKGHW              | 57.2                 | VU      | 0.3       | +ve hit    | +ve hit |
| SABLEFEBARGA             | 31.4                 | not threatened | 1.0       | miss       | 2008  |
| SABLEFEBARGA             | 44.3                 | not threatened | 0.6       | miss       | 2009  |
| SBT                      | 92.4                 | CR      | 0.2       | +ve hit    | +ve hit |
| SWHITEACIR               | (4.4)                | not threatened | 1.6       | miss       | 2006  |
| SFLOUNMATLC              | (58.2)               | not threatened | 0.7       | miss       | 2007  |
| SFLOUNNH4                 | 16.3                 | not threatened | 1.1       | miss       | 2006  |
| SFLOUNNH5                 | (9.7)                | not threatened | 4.0       | miss       | 2006  |
| SMOOHTHOREG               | 41.4                 | not threatened | 2.3       | miss       | 2005  |
| SMOOHTHOREOWCER          | 68.2                 | VU      | 1.2       | false     | false  |
| SNOGROUPSATLCC           | 90.3                 | CR      | 0.1       | +ve hit    | +ve hit |
| SOLECS                    | (28.4)               | not threatened | 1.8       | hit        | hit a  |
| SOLEIS                    | 81.9                 | EN      | 0.4       | +ve hit    | hit p  |
| SOLEISII                 | 38.4                 | not threatened | 0.9       | miss       | 2011  |
| SOUTHAKERA               | 55.9                 | VU      | 1.1       | false     | false  |
| SOUTHCICHAFT             | 34.7                 | not threatened | 3.0       | hit        | 2007  |
| STFOUHIHPACOAST          | 37.7                 | not threatened | 1.6       | miss       | 2005  |
| STFLOUNNHPCOAST          | (118.9)              | not threatened | 1.3       | miss       | 2005  |
| STFLOVNPACOAST           | (258.3)              | not threatened | 1.6       | miss       | 2005  |
| STMARLINSWPO             | 25.6                 | not threatened | 0.6       | miss       | 2003  |
| SWHITEH                  | 41.1                 | not threatened | 0.7       | miss       | 2006  |
| TIGERFLATSE              | (132.5)              | not threatened | 2.1       | miss       | 2006  |
| TILEMATLC                | 66.2                 | VU      | 1.0       | +ve hit    | false  |
| TILLYTHRPAT              | 26.8                 | VU      | 1.5       | miss       | 2009  |
| WAREHOUEB                | 93.5                 | CR      | 0.5       | +ve hit    | +ve hit |
| WAREHOUEWE               | 74.2                 | EN      | 0.5       | +ve hit    | +ve hit |
| WEAKFISHATLCC            | 75.9                 | EN      | 0.2       | +ve hit    | +ve hit |
| WHAKEBECGM               | 70.5                 | VU      | 0.3       | +ve hit    | +ve hit |
| WHTHS-VITH-III          | 35.9                 | not threatened | 0.6       | miss       | 2010  |
| WHTTHVIIh                | 35.1                 | not threatened | 1.5       | hit        | hit a  |
| WINFLOUNNZ              | 6.2                   | not threatened | 0.3       | miss       | 2006  |
| WINFLOUNSNMATL          | 33.8                 | not threatened | 0.1       | miss       | 2007  |
| Location                  | Status       | Indicators | Observation | Comments | Year |
|---------------------------|--------------|------------|-------------|----------|------|
| Witfoun 5Y                | EN           | 0.3        | +ve hit     | +ve hit  | 2007 |
| WPOLLAI                   | EN           | 0.9        | +ve hit     | +ve hit  | 2008 |
| WPOLLEBS                  | not threatened | 0.9   | miss        | -ve hit  | 2008 |
| WPOLLGA                   | VU           | 0.8        | +ve hit     | hit     | 2007 |
| YELLCCODGOM               | not threatened | 0.2   | miss        | miss     | 2007 |
| YELLGB                    | (86.1)       | not threatened | 0.1   | miss     | 2007 |
| YELLSNEMATL               | (159.3)      | not threatened | 0.1   | miss     | 2007 |
| YEYEROCKPCOAST            | 84.9         | EN         | 0.4         | +ve hit  | 2006 |
| YFINATL                   | not threatened | 1.1   | -ve hit     | -ve hit  | 2006 |
| YFINCWPAC                 | not threatened | 1.3   | -ve hit     | -ve hit  | 2005 |
| YSOLEBSAI                 | (460)        | not threatened | 2.0   | -ve hit  | 2005 |
| YTROCKNPCOAST             | 38.6         | not threatened | 1.4   | -ve hit  | 2005 |
| ANCHOBAY                  | (1.9)        | not threatened | 1.8   | -ve hit  | 2011 |
| COWHill                  | VU           | 0.9        | +ve hit     | hit     | 2011 |
| HADROCK                   | 17.1         | not threatened | 1.7   | -ve hit  | hit s | 2011 |
| HERBHill                  | (79.1)       | not threatened | 2.3   | -ve hit  | hit s | 2010 |
| PLAICNS                   | (1.5)        | not threatened | 1.7   | -ve hit  | hit s | 2010 |
| POLLUEG                   | 34           | not threatened | 1.5   | -ve hit  | hit s | 2011 |
| SEELNSSA1                 | (130.5)      | not threatened | 1.6   | -ve hit  | hit s | 2011 |
| SEELNSSA2                 | (111.2)      | not threatened | 1.4   | -ve hit  | hit s | 2011 |
| SEELNSSA3                 | (108.2)      | not threatened | 0.9   | miss     | hit s | 2011 |
| SOLENS                    | (3.2)        | not threatened | 1.0   | -ve hit  | hit s | 2010 |
| SOLEVHill                 | (25.2)       | not threatened | 1.5   | -ve hit  | hit s | 2011 |
| WHITVIs                   | 84.9         | EN         | 0.2        | +ve hit  | hit p | 2011 |
Table S3. The proportion (%) of populations meeting each of four possible alignment outcomes (positive hit, negative hit, miss or false alarm) under four different scenarios using IUCN Criterion A4. The A4 criterion a population as being threatened if a 30% decline is observed over the longer of 10 years or three generations. A) Current estimated Red List status or B) Estimated Red List status following the population’s greatest decline, each compared to upper (more conservative; \( B_{\text{msy}} \) or \( B_{\text{pa}} \)) or lower (riskier; \( 0.5B_{\text{msy}} \) or \( B_{\text{lim}} \)) reference points.

| Ref. point | Hit(+ve) | Hit(-ve) | Miss | False Alarm | # of populations |
|------------|----------|----------|------|-------------|-----------------|
| A) Current Status | Upper | 28.3 | 39.2 | 12.0 | 20.5 | 166 |
| | Lower | 17.5 | 47.6 | 3.6 | 31.3 | 166 |
| B) Greatest Decline | Upper | 51.8 | 16.9 | 1.8 | 29.5 | 166 |
| | Lower | 33.7 | 18.1 | 0.6 | 47.6 | 166 |
Table S4. **Alignment of populations over a 15 year decline period.** The proportion (%) of populations meeting each of four possible outcomes (positive hit, negative hit, miss or false alarm) over a decline period of 15 years for all populations when A) their current estimated Red List status or B) their estimated Red List status following their greatest decline is compared to either their upper (more conservative; $B_{\text{msy}}$ or $B_{\text{pa}}$) or lower (riskier; $0.5B_{\text{msy}}$ or $B_{\text{lim}}$) reference points.

| Ref. point   | Hit(+ve) | Hit (-ve) | Miss | False Alarm | # of populations |
|--------------|----------|-----------|------|-------------|-----------------|
| A) Current Status |          |           |      |             |                 |
| Upper        | 10.8     | 54.8      | 29.5 | 4.8         | 166             |
| Lower        | 9.4      | 71.7      | 12.7 | 7.2         | 166             |
| B) Greatest Decline |       |           |      |             |                 |
| Upper        | 46.4     | 29.5      | 9.0  | 15.1        | 166             |
| Lower        | 30.1     | 35.5      | 3.0  | 31.3        | 166             |
Figure S1. Time series of adult biomass for the 166 assessed marine fish populations. Population codes and associated descriptions are listed in Tables S1 and S2. Colored dotted lines correspond to fisheries reference points: $B_{\text{msy}}$ or $B_{\text{pa}}$ (green), $0.5B_{\text{msy}}$ (yellow), $0.2B_{\text{msy}}$ or $B_{\text{lim}}$ (red). Colored circles and thick dashed lines show the three-generation period considered for the Red List evaluation; colors correspond to the estimated Red List category: CR (red), EN (orange), VU (yellow), or not threatened (black), under Criterion A1. Thick dashed lines are illustrative only and do not indicate regression lines.
Population as proportion of upper reference point

Year
Population as proportion of upper reference point

Year
Figure S1.