Groundfish Update 2015 Assessment Oversight Panel Summary

The twenty stocks in the Northeast Multispecies Fishery Management Plan will have update assessments conducted in 2015. This will allow all stocks to be compared at once instead of the typical subset of currently available information. These updates will rely on the most recent benchmark decisions, as modified by any subsequent operational assessments or updates, with the intention of simply adding years of data. However, minor flexibility will be allowed to address emerging issues. The purpose of this Assessment Oversight Panel summary document is to provide a brief overview for each of the twenty stocks including information about the current model formulation, data that will be updated, current status, and where details from the previous assessment can be found. This is not a comprehensive review, but rather a “cheat sheet” to allow quick comparison among the stocks and easy reference.

Unless otherwise noted, the data to be used in the groundfish updates will use the following standard procedures. The US commercial landings are estimated by market category from the area allocation (“AA”) tables which combine dealer and vessel trip reports to determine where fish were caught. The US commercial discards are estimated by gear types using the Standardized Bycatch Reporting Methodology (SBRM) which combine observer data (including at sea monitors) and dealer landings. The US recreational landings and discards come from the Marine Recreational Information Program (MRIP). Both commercial and recreational discards have species specific discard mortality rates applied to the discarded fish. Catch at age is estimated using age-length keys applied to expanded length frequency distributions. Additional sources of catch for some species come from Canadian or other foreign fishing.

The Northeast Fisheries Science Center spring and fall bottom trawl surveys are the most common source of information for population trends. These surveys are calibrated to Albatross units in most cases to allow for the longest time series possible. In some instances the calibration coefficient varies by length but in others a simple scalar adjustment is applied to all length classes. Other surveys used include the Massachusetts Division of Marine Fisheries spring and fall bottom trawl surveys, the Maine-New Hampshire spring and fall bottom trawl surveys, the Canadian Department of Fisheries and Oceans February survey, and some additional state surveys. Catch per unit effort is not typically used as a source of population trends due to the many regulatory changes that have occurred over time in the Northeast.

There are thirteen stocks assessed with an age-based approach, eight use the statistical catch at age model ASAP while the other five use virtual population analysis. For the five VPA stocks, the 2015 spring survey information will be included in the model. The remaining seven stocks are assessed with a range of model types including surplus production, length-based (SCALE), index (AIM), and direct survey expansion. The reference points for the age- and length-based assessments are derived from stochastic projections of the Fmsy for many years (typically 100) while the other assessment types use stock specific rules for deriving the reference points. Based on the last assessment, nine stocks were overfished, nine stocks were not overfished, and two stocks could not determine overfished status. In contrast, five stocks were undergoing overfishing, fourteen stocks were not undergoing overfishing, and one stock could not have overfishing status determined. Six stocks were rebuilt, twelve stocks were in a rebuilding plan and two stocks could not determine rebuilding status.

The following Tables 1-5 summarize the primary attributes of the stocks, data used, model parameterization and current status. All are potentially subject to revision prior to the meeting of the Assessment Oversight Panel.

Table 1. List of stocks included in the groundfish update.

|  |  |  |
| --- | --- | --- |
| Label | Stock Abbrev | Stock Name |
| A | GOMcod | Gulf of Maine Cod |
| B | GBcod | Georges Bank Cod |
| C | GOMhad | Gulf of Maine Haddock |
| D | GBhad | Georges Bank Haddock |
| E | CCGOMyt | Cape Cod/Gulf of Maine Yellowtail Flounder |
| F | SNEMAyt | Southern New England/Mid-AtlanticYellowtail Flounder |
| G | GBwinf | Georges Bank Winter Flounder |
| H | SNEMAwinf | Southern New England/Mid-Atlantic Winter Flounder |
| I | redfish | Acadian Redfish |
| J | plaice | American Plaice |
| K | witch | Witch Flounder |
| L | w\_hake | White Hake |
| M | pollock | Pollock |
| N | wolffish | Wolffish |
| O | halibut | Atlantic Halibut |
| P | Nwindow | Gulf of Maine/Georges Bank Windowpane |
| Q | Swindow | Southern New England/Mid-Atlantic Windowpane |
| R | pout | Ocean Pout |
| S | GOMwinf | Gulf of Maine Winter Flounder |
| T | GByt | Georges Bank Yellowtail Flounder |

Table 2. Lead scientist for each stock (current/previous if different), information about last assessment, status, and reference.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Stock Abbrev | Lead Scientist (current/previous) | Last Assessment | Type | Year Published | Terminal Year of catch data | overfished? | overfishing? | Rebuilding Status | reference |
| GOMcod | Michael Palmer | Op. Update | Update | 2014 | 2013 | Yes | Yes | Rebuild by 2024 | CRD14-14 |
| GBcod | Loretta O'Brien | SARC 55 | Benchmark | 2012 | 2011 | Yes | Yes | Rebuild by 2026 | SARC55 |
| GOMhad | Michael Palmer | SARC 59 | Benchmark | 2014 | 2013 | No | No | Rebuilt | SARC59 |
| GBhad | Liz Brooks | GARM2012 | Update | 2012 | 2010 | No | No | Rebuilt | CRD12-06 |
| CCGOMyt | Larry Alade/Chris Legault | GARM2012 | Update | 2012 | 2010 | Yes | Yes | Rebuild by 2023 | CRD12-06 |
| SNEMAyt | Larry Alade | SARC 54 | Benchmark | 2012 | 2011 | No | No | Rebuilt | SARC54 |
| GBwinf | Lisa Hendrickson | Op. Update | Update | 2015 | 2013 | No | No | Rebuild by 2017 | CRD15-01 |
| SNEMAwinf | Tony Wood/Mark Terciero | SARC 52 | Benchmark | 2011 | 2010 | Yes | No | Rebuild by 2023 | SARC52 |
| redfish | Brian Linton/Tim Miller | GARM2012 | Update | 2012 | 2010 | No | No | Rebuilt | CRD12-06 |
| plaice | Loretta O'Brien | GARM2012 | Update | 2012 | 2010 | No | No | Rebuild by 2024 | CRD12-06 |
| witch | Susan Wigley | GARM2012 | Update | 2012 | 2010 | Yes | Yes | Rebuild by 2017 | CRD12-06 |
| w\_hake | Kathy Sosebee | SARC 56 | Benchmark | 2013 | 2011 | No | No | Rebuild by 2014 | SARC56 |
| pollock | Brian Linton | Op. Update | Update | 2015 | 2013 | No | No | Rebuilt | CRD15-01 |
| wolffish | Chuck Adams/Chad Keith | GARM2012 | Update | 2012 | 2010 | Yes | No | Unknown | CRD12-06 |
| halibut | Dan Hennen/Jessica Blaylock | GARM2012 | Update | 2012 | 2010 | Yes | No | Rebuild by 2055 | CRD12-06 |
| Nwindow | Toni Chute/Lisa Hendrickson | GARM2012 | Update | 2012 | 2010 | Yes | Yes | Rebuild by 2017 | CRD12-06 |
| Swindow | Toni Chute/Lisa Hendrickson | GARM2012 | Update | 2012 | 2010 | No | No | Rebuilt | CRD12-06 |
| pout | Susan Wigley | GARM2012 | Update | 2012 | 2010 | Yes | No | Rebuild by 2014 | CRD12-06 |
| GOMwinf | Paul Nitschke | Op. Update | Update | 2015 | 2013 | Unknown | No | Unknown | CRD15-01 |
| GByt | Chris Legault | TRAC 2015 | Update | 2015 | 2014 | Unknown | Unknown | Rebuild by 2032 | TRAC2015 |

Table 3. Data used in each assessment.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Catch | | | | |  | Surveys | | | | | | | |
| Stock Abbrev | US Commercial Landings | US Commercial Discards | US Recreational Landings | US Recreational Discards | Canadian Catch |  | NEFSC Spring | NEFSC Fall | NEFSC Winter | Mass Spring | Mass Fall | ME/NH Spring | ME/NH Fall | DFO Spring |
| GOMcod | Yes | Yes | Yes | Yes | No |  | Yes | Yes | No | Yes | No | No | No | No |
| GBcod | Yes | Yes | Yes | Yes | Yes |  | Yes | Yes | No | No | No | No | No | Yes |
| GOMhad | Yes | Yes | Yes | Yes | No |  | Yes | Yes | No | No | No | No | No | No |
| GBhad | Yes | Yes | No | No | Yes |  | Yes | Yes | No | No | No | No | No | Yes |
| CCGOMyt | Yes | Yes | No | No | No |  | Yes | Yes | No | Yes | Yes | Yes | Yes | No |
| SNEMAyt | Yes | Yes | No | No | No |  | Yes | Yes | Yes | No | No | No | No | No |
| GBwinf | Yes | Yes | No | No | Yes |  | Yes | Yes | No | No | No | No | No | Yes |
| SNEMAwinf | Yes | Yes | Yes | Yes | No |  | Yes | Yes | Yes | Yes | No | No | No | No |
| redfish | Yes | Yes | No | No | No |  | Yes | Yes | No | No | No | No | No | No |
| plaice | Yes | Yes | No | No | Yes |  | Yes | Yes | No | Yes | Yes | No | No | No |
| witch | Yes | Yes | No | No | No |  | Yes | Yes | No | No | No | No | No | No |
| w\_hake | Yes | Yes | No | No | Yes |  | Yes | Yes | No | No | No | No | No | No |
| pollock | Yes | Yes | Yes | Yes | No |  | Yes | Yes | No | No | No | No | No | No |
| wolffish | Yes | Yes | Yes | No | No |  | Yes | Yes | No | Yes | No | No | No | No |
| halibut | Yes | Yes | No | No | Yes |  | No | Yes | No | No | No | No | No | No |
| Nwindow | Yes | Yes | No | No | No |  | No | Yes | No | No | No | No | No | No |
| Swindow | Yes | Yes | No | No | No |  | No | Yes | No | No | No | No | No | No |
| pout | Yes | Yes | No | No | No |  | Yes | No | No | No | No | No | No | No |
| GOMwinf | Yes | Yes | Yes | Yes | No |  | Yes | Yes | No | Yes | Yes | Yes | Yes | No |
| GByt | Yes | Yes | No | No | Yes |  | Yes | Yes | No | No | No | No | No | Yes |

Table 4. Assessment type and reference points from previous assessment. Note: sp=stochastic projection.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Stock Abbrev | Assessment | Type | F definition | B definition | Fmsy type | Fmsy value | Bmsy type | Bmsy value | MSY type | MSY value |
| GOMcod | ASAP | age-based | Ffull | SSB | F40%SPR | 0.18 | sp | 47,184 (M=0.2) or 69,621 (Mramp) | sp | 7,753 (M=0.2) or 11,388 (Mramp) |
| GBcod | ASAP | age-based | Ffull | SSB | F40%SPR | 0.18 | sp | 186,535 | sp | 30,622 |
| GOMhad | ASAP | age-based | Ffull | SSB | F40%SPR | 0.46 | sp | 4,108 | sp | 955 |
| GBhad | VPA | age-based | avg F ages 5-7 | SSB | F40%SPR | 0.39 | sp | 124,900 | sp | 28,000 |
| CCGOMyt | VPA | age-based | avg F ages 4-6 | SSB | F40%SPR | 0.26 | sp | 7,080 | sp | 1,600 |
| SNEMAyt | ASAP | age-based | avg F ages 4-5 | SSB | F40%SPR | 0.316 | sp | 2,995 | sp | 773 |
| GBwinf | VPA | age-based | avg F ages 4-6 | SSB | Fmsy | 0.44 | sp | 8,100 | sp | 3,200 |
| SNEMAwinf | ASAP | age-based | avg F ages 4-5 | SSB | Fmsy | 0.29 | sp | 43,661 | sp | 11,728 |
| redfish | ASAP | age-based | Ffull | SSB | F50%SPR | 0.04 | sp | 238,000 | sp | 8,891 |
| plaice | VPA | age-based | avg F ages 6-9 | SSB | F40%SPR | 0.18 | sp | 18,398 | sp | 3,385 |
| witch | VPA | age-based | avg F ages 8-11 | SSB | F40%SPR | 0.27 | sp | 10,051 | sp | 2,075 |
| w\_hake | ASAP | age-based | Ffull | SSB | F40%SPR | 0.20 | sp | 32,400 | sp | 5,630 |
| pollock | ASAP | age-based | avg F ages 5-7 | SSB | F40%SPR | 0.27 | sp | 76,900 | sp | 14,800 |
| wolffish | SCALE | length-based | Ffull | SSB | F40%SPR | 0.33 | sp | 1,756 | sp | 261 |
| halibut | RYM | surplus production | biomass wted F | biomass | F0.1 | 0.0731 | deterministic calculation | 49,000 | deterministic calculation | 3,500 |
| Nwindow | AIM | index | relative F catch (kt)/survey biomass (kg per tow) | survey B (kg/tow) | replacement ratio | 0.44 | MSY proxy/Fmsy proxy (units = kg / tow) | 1.60 | median catch 1995-2001 | 700 |
| Swindow | AIM | index | relative F catch (kt)/survey biomass (kg per tow) | survey B (kg/tow) | replacement ratio | 2.09 | MSY proxy/Fmsy proxy (units = kg / tow) | 0.24 | median catch 1995-2001 | 500 |
| pout | index | index | relative F catch (kt)/survey biomass (kg per tow) | survey B (kg/tow) | median relative F 1977-1985 | 0.76 | median survey B 1977-1985 | 4.94 | Fmsy \* Bmsy | 3,754 |
| GOMwinf | empirical | survey expansion | exploitation rate (catch/30+cm biomass) | survey B (mt) | exploitation rate associated with F40% from length-based YPR | 0.23 | NA | NA | NA | NA |
| GByt | empirical | survey expansion | NA | survey B (mt) | NA | NA | NA | NA | NA | NA |

Table 5. Model attributes from most recent assessment for stocks with age-based and length-based models.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | ***Mohn's Rho*** | |  |  | |  | |
| ***Stock Abbrev*** | ***Assessment*** | ***F-retro*** | ***B-retro*** | ***Retro Adjust-ment used?*** | | ***Split Survey Series?*** | | ***Comments*** |
| GOMcod | ASAP | -0.33 (M=0.2) | 0.53 (M=0.2) | No | | No | |  |
| -0.05 (M-ramp) | 0.17 (M-ramp) | No | | No | |  |
| GBcod | ASAP | -0.46 | 0.68 | Yes | | No | |  |
| GOMhad | ASAP | 0.30 | -0.15 | No | | No | |  |
| GBhad | VPA | 0.15 | 0.20 | No | | No | |  |
| CCGOMyt | VPA | -0.19 | 0.68 | Yes | | No | |  |
| SNEMAyt | ASAP | -0.16 | 0.14 | No | | No | |  |
| GBwinf | VPA | -0.16 | 0.26 | No | | No | |  |
| SNEMAwinf | ASAP | -0.31 | 0.35 | No | | No | |  |
| redfish | ASAP | -0.04 | 0.04 | No | | No | |  |
| plaice | VPA | -0.35 | 0.62 | Yes | | No | |  |
| witch | VPA | -0.33 | 0.61 | No | | Yes | | Recruitment Age 3 |
| w\_hake | ASAP | -0.13 | 0.15 | No | | No | |  |
| pollock | ASAP | -0.25 | 0.29 | No | | No | |  |
| wolffish | SCALE | -0.55 | 1.06 | No | | No | |  |