NAFO SCS Doc. 22/23

## SCIENTIFIC COUNCIL MEETING -2022

## A Compilation of Research Vessel Surveys on a Stock-by-stock Basis

by
NAFO Secretariat

Discussions at the Scientific Council Meeting in June 1990 resulted in the compilation of information on research vessel surveys on a stock-by-stock basis (SCS Doc. 90/22, Serial No. N1820). This inventory was judged to be very helpful for the establishment of future inventories. It was agreed that the Designated Experts for the stocks be responsible for future compilations and that Designated Experts should update the information annually for review by STACFIS (NAFO Sci. Coun. Rep., 1991, p. 114). The following tabulations were received at the Secretariat from the Designated Experts during the year 2022.
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| Stock name: Greenland halibut in Subarea $0+1$ (offshore) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  |  |  | Research data related to stock size estimates |  |  |  |  |  |  |
| Name of survey | Location (Div.) | Season month(s) | Years of survey from-to or since. | Type of survey and gears | Target species | No. of sets | 24 hr fishing | Area of coverage in relation to stock distribution (\%) | Depth range | Abundance | Biomass | ALK | LF | Individual weights | Country | SCS/SCR <br> Doc. No. |
| Greenland Deep Sea | 1CD | Aug-Nov | $\begin{aligned} & 1997- \\ & 2017, \\ & 2019 \end{aligned}$ | Strartified Random bottom Trawl, Alfredo trawl | Greenland halibut | 70 | Y | ? | $\begin{aligned} & 400- \\ & 1500 \\ & \mathrm{~m} \end{aligned}$ | Y | Y | N | Y | N | Greenland | $\begin{aligned} & \hline \text { SCR } \\ & 20 / 12 \end{aligned}$ |
| Greenland Shrimp Trawl | 1A-F | Jul-Sep | $\begin{aligned} & 1988- \\ & 2020 \end{aligned}$ | Strartified <br> Random bottom Trawl, Cosmos trawl | Shrimp Groundfish | 198 | N | ? | $\begin{aligned} & 50- \\ & 600 \mathrm{~m} \end{aligned}$ | Y | Y | N | Y | Y | Greenland | $\begin{aligned} & \hline \text { SCR } \\ & 21 / 14 \end{aligned}$ |
| Canada Deep Sea | 0A | Oct-Nov | $\begin{aligned} & \hline 1999, \\ & 2000, \\ & 2001, \\ & 2004, \\ & 2006, \\ & 2008, \\ & 2010, \\ & 2012, \\ & 2014- \\ & 2017, \\ & 2019 \\ & \hline \end{aligned}$ | Strartified <br> Random <br> bottom <br> Trawl, <br> Alfredo trawl | Greenland halibut | 72 | Y | ? | $\begin{aligned} & 400- \\ & 1500 \\ & \mathrm{~m} \end{aligned}$ | Y | Y | N | Y | Y | Canada | $\begin{aligned} & \text { SCR } \\ & 20 / 07 \end{aligned}$ |
| Canada Deep Sea | 0B | Oct-Nov | $\begin{aligned} & 2000, \\ & 2001, \\ & 2011, \\ & 2013, \\ & 2014- \\ & 2016 \end{aligned}$ | Strartified Random bottom Trawl, Alfredo trawl | Greenland halibut | 81 | Y | ? | $\begin{aligned} & 400- \\ & 1500 \\ & \mathrm{~m} \end{aligned}$ | Y | Y | N | Y | Y | Canada | $\begin{aligned} & \hline \text { SCR } \\ & 17 / 28 \end{aligned}$ |


| Stock name: Greenland halibut in Division 1A inshore |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Name of survey | Location (Div.) | Season months( s) | Years of survey from, to or since | Type of survey and gears | Target species | No.of sets | 24 hr fishing | Area of coverage in relation to stock distribution (\%) | Depth range | Research data related to stock size estimates |  |  |  | Individual weight s | Country | SCS/ <br> SCR <br> Doc. <br> No |
|  |  |  |  |  |  |  |  |  |  | Abun dance | Biomass | ALK | LF |  |  |  |
| Disko bay  <br> Inshore  | Disko Bay | Jun-Jul | $\begin{aligned} & \hline \hline 1993-01 \\ & 2001-21 \end{aligned}$ | Longline Gillnet | Greenland halibut | $\begin{aligned} & \hline 0 \\ & 44 \end{aligned}$ | Y | - | $\begin{aligned} & \hline \hline 200- \\ & 700 \mathrm{~m} \end{aligned}$ | Y | Y | Y | Y | Y | Greenland | 22/008 |
| Uummannaq Inshore | Uummanna $\mathrm{q}$ | Aug-Sep | $\begin{aligned} & 1993-15 \\ & 2011-21 \end{aligned}$ | Longline Gillnet | Greenland halibut | $\begin{aligned} & \hline 0 \\ & 52 \end{aligned}$ | Y | - | $\begin{aligned} & 200- \\ & 900 \mathrm{~m} \end{aligned}$ | Y | Y | Y | Y | Y | Greenland | 20/010 |
| Upernavik Inshore | Upernavik | Aug-Sep | $\begin{aligned} & \hline 1998-14 \\ & 2012-21 \\ & \hline \end{aligned}$ | Longline Gillnet | Greenland halibut | $49$ | Y | - | $\begin{aligned} & 200- \\ & 900 \mathrm{~m} \end{aligned}$ | Y | Y | Y | Y | Y | Greenland | 22/009 |
| Greenland Shrimp and Fish survey | $\begin{aligned} & \text { Disko bay } \\ & +(1 \mathrm{~A}-1 \mathrm{~F}) \end{aligned}$ | Jul-Sep | 1991-20 | Stratifiedrandom trawl | Shrimp \& fish | 0 | N |  | 50600 m | Y | Y | Y | Y | Y | Greenland | $\begin{aligned} & 20 / 006 \\ & 20 / 016 \end{aligned}$ |


| Stock name: Redfish in Subarea 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Name of survey | Location (Div.) | Season months( <br> s) | Years of survey from, to or since | Type of survey and gears | Target species | No.of sets | 24 hr <br> fishing | Area of coverage in relation to stock distribution (\%) | $\begin{aligned} & \text { Depth } \\ & \text { range } \end{aligned}$ | Research data related to stock size estimates |  |  |  | Indiv- <br> idual <br> weight <br> s | Country | $\begin{aligned} & \text { SCS/ } \\ & \text { SCR } \\ & \text { Doc. } \\ & \text { No } \\ & \hline \end{aligned}$ |
|  |  |  |  |  |  |  |  |  |  | Abun dance | Biomass | ALK | LF |  |  |  |
| West Greenland Groundfish | 1B-1F | Oct-Nov | $\begin{aligned} & \hline \hline 1982- \\ & 2019 \end{aligned}$ | Stratified random bottom trawl | Cod, redfish, other finfish | 0 | N | ? | $\begin{aligned} & 0- \\ & 400 \mathrm{~m} \end{aligned}$ | Y | Y | N | Y | Y | EUGermany | $\begin{aligned} & \hline \hline \text { SCR } \\ & 20 / 052 \end{aligned}$ |
| Greenland - <br> Deepsea | 1C-1D | Aug- <br> Nov | since <br> 1997 | Stratified random bottom trawl | Greenland halibut, | 0 | Y | ? | $\begin{aligned} & 400- \\ & 1500 \mathrm{~m} \end{aligned}$ | Y | Y | N | Y | Y | Greenlan $\mathrm{d}$ | $\begin{aligned} & \hline \text { SCR } \\ & 20 / 012 \end{aligned}$ |
| Greenland Shrimp and Fish survey | 1A-1F | Jul-Aug | $\begin{aligned} & \text { since } \\ & 1992 \end{aligned}$ | Stratified random bottom trawl | Shrimp \& fish | 0 | N | ? | $\begin{aligned} & 50- \\ & 600 \mathrm{~m} \end{aligned}$ | Y | Y | N | Y | Y | Greenlan d | $\begin{aligned} & \hline \text { SCR } \\ & 20 / 006 \end{aligned}$ |
| Greenland Shrimp and Fish survey - inshore | 1D | May | $\begin{aligned} & \text { Since } \\ & 2015 \end{aligned}$ | Stratified fixed bottom trawl | Shrimp \& fish | 20 | N | ? | $\begin{aligned} & \hline 50- \\ & 600 \mathrm{~m} \end{aligned}$ | Y | Y | N | Y | Y | Greenlan d | $\begin{aligned} & \hline \text { SCR } \\ & 22 / 011 \end{aligned}$ |

Stock name: Wolffish in SA1 and American plaice in SA 1

| Name of survey | Location (Div.) | Season months(s) | Years of survey from, to or since | Type of survey and gears | Target Species | No.of sets | 24 hr <br> fishing | Area of coverage in relation to stock distribution (\%) | $\begin{aligned} & \text { Depth } \\ & \text { range } \\ & \hline \end{aligned}$ | Research data related to stock size estimates |  |  |  | Indiv- <br> idual weights | Country | $\begin{aligned} & \text { SCS/ } \\ & \text { SCR } \\ & \text { Doc. } \\ & \text { No } \\ & \hline \hline \end{aligned}$ |
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|  |  |  |  |  |  |  |  |  |  | Abundance | Biomass | ALK | LF |  |  |  |
| West Greenland groundfish | 1B-1F | Oct-Nov | $\begin{aligned} & \hline \hline \text { since } \\ & 1982 \end{aligned}$ | Stratified random bottom trawl | Cod, redfish finfish | 0 | N | ? | $\begin{aligned} & \hline 0- \\ & 400 \mathrm{~m} \end{aligned}$ | Y | Y | N | Y | Y | EU- <br> Germany | $\begin{aligned} & \hline \hline \text { SCR } \\ & 20 / 052 \end{aligned}$ |
| Greenland Shrimp and Fish survey | 1A-1F | Jul-Aug | $\begin{aligned} & \text { since } \\ & 1992 \end{aligned}$ | Stratified random bottom trawl | Shrimp, finfish | 0 | N | ? | $\begin{aligned} & \hline 50- \\ & 600 \mathrm{~m} \end{aligned}$ | Y | Y | N | Y | N | Green- <br> land | $\begin{aligned} & \hline \text { SCR } \\ & 20 / 006 \end{aligned}$ |


| Stock name: Cod in Division 3M |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Name of survey EUbottom trawl sruvey | Location (Div.) 3M | Season months(s) Jun-Jul | Years of surbvey from, to or since since 1988 | Type of survbey and gears Stratified random | Target species All | No.of sets 181 | 24 hr fishing N | Area of coverage in relaçtion to stock disribution (\%) 100\% | $\begin{aligned} & \text { Depth } \\ & \text { range } \\ & <750 \mathrm{~m} \\ & (88-03) \\ & <1400 \mathrm{~m} \\ & (04-21 \end{aligned}$ | Research data related to stock size estimates |  |  |  | Individual weights | Country | $\begin{aligned} & \text { SCS/SCR } \\ & \text { Doc. No } \end{aligned}$ |
|  |  |  |  |  |  |  |  |  |  | Abundance | Biomass | ALK | LF |  |  |  |
|  |  |  |  |  |  |  |  |  |  | Y | Y | Y | Y | Y | EU | $\begin{aligned} & \text { SCR } \\ & 22 / 04 \end{aligned}$ |
| Canadian <br> Flemish <br> Cap <br> survey | 3M | Jan-Feb | $\begin{aligned} & 1978- \\ & 1995 \end{aligned}$ | Stratified random | All | 132 | Y | 100\% | $<730 \mathrm{~m}$ | Y | Y | Y | Y | Y | Canada <br> Newfoundland | $\begin{aligned} & \text { SCR } \\ & 92 / 76 \end{aligned}$ |
| Russian trawl survey | 3M | May-June | $\begin{gathered} \hline 1983- \\ 1993 \\ 1995- \\ 1196 \\ 2001- \\ 2002 \end{gathered}$ | Stratified <br> Random (and acoustic survey 1987-93) | All | 94 | Y | 100\% | $\begin{aligned} & <1280 \\ & \mathrm{~m} \end{aligned}$ | Y | Y | N | N | N | Russia | SCS 03/9 |
| Canadian groundfish survey | 3M | Sept-Oct | 1996 | Stratified random | All | 68 | Y | 100\% | <730 m | Y | Y | N | N | N | Canada Newfoundland | $\begin{aligned} & \hline \text { SCR } \\ & 97 / 42 \end{aligned}$ |


| Stock name: Golden redfish (Sebastes norvegicus) in Division 3M |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  | Area of coverage in |  |  | rch data size e | elated to imates | stock |  |  |  |
| Name of survey | Location (Div.) | $\begin{gathered} \text { Season } \\ \text { months(s) } \end{gathered}$ | survey since | survey and gears | Target Species | No. of Sets | 24 hr <br> fishing | distribution (\%) | Depth <br> range | abundance | biomass |  | LF | idual weights | Country | $\begin{gathered} \text { Doc. } \\ \text { No. } \\ \hline \end{gathered}$ |
| EU - bottom Trawl | 3 M | Summer Jun/Jul | 1988 | Stratified-random bottom trawl | Groundfish and shrimp | 181 | N | 100 | $\begin{gathered} 127- \\ 1460 \mathrm{~m} \end{gathered}$ | Y | Y | Y | Y | Y | EU- <br> Spain EUPortugal | 22/004 |


| Stock name: Beaked redfish (Sebastes mentella and Sebastes fasciatus) in Division 3M |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  | Area of coverage in |  |  | rch data size e | elated to imates | stock |  |  |  |
| Name of survey | $\begin{gathered} \text { Location } \\ \text { (Div.) } \\ \hline \hline \end{gathered}$ | $\begin{gathered} \text { Season } \\ \text { months(s) } \end{gathered}$ | $\begin{gathered} \text { survey } \\ \text { since } \\ \hline \end{gathered}$ | survey and gears | Target Species | No. of Sets | $\begin{gathered} 24 \mathrm{hr} \\ \text { fishing } \\ \hline \hline \end{gathered}$ | $\begin{aligned} & \text { distribu- } \\ & \text { tion (\%) } \\ & \hline \hline \end{aligned}$ | $\begin{aligned} & \text { Depth } \\ & \text { range } \\ & \hline \hline \end{aligned}$ | abundance | biomass |  | LF | idual weights | Country | $\begin{gathered} \text { Doc. } \\ \text { No. } \\ \hline \hline \end{gathered}$ |
| $\begin{aligned} & \text { EU - bottom } \\ & \text { Trawl } \end{aligned}$ | 3M | Summer Jun/Jul | 1988 | $\begin{aligned} & \text { Stratified-random } \\ & \text { bottom trawl } \end{aligned}$ | Groundfish and shrimp | 181 | N | 100 | $\begin{aligned} & \text { 127- } \\ & 1460 \mathrm{~m} \end{aligned}$ | Y | Y | Y | Y | Y | EU- <br> Spain <br> EU- <br> Portugal | 22/004 |

Stock name: American plaice in Division 3M

| Name of survey | Location (Div.) | $\begin{gathered} \text { Season } \\ \text { months }(\mathrm{s}) \end{gathered}$ | Years of survey since | Type of survey and gears | Target Species | No. of Sets | $\begin{gathered} 24 \mathrm{hr} \\ \text { fishing } \end{gathered}$ | Area of coverage in relation to stock distribution (\%) | Depth range | Research data related to stock size estimates |  |  |  | Individual weights | Country | $\begin{aligned} & \text { SCS/ } \\ & \text { SCR } \\ & \text { Doc. } \\ & \text { No. } \\ & \hline \hline \end{aligned}$ |
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|  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \begin{array}{l} \text { abun- } \\ \text { dance } \end{array} \\ & \hline \hline \end{aligned}$ | bio- <br> mass | ALK | LF |  |  |  |
| $\begin{gathered} \mathrm{EU} \text { - bottom } \\ \text { Trawl } \end{gathered}$ | 3M | Summer Jun/Jul | 1988 | Stratified-random bottom trawl | Groundfish and shrimp | 181 | N | 100 | $\begin{gathered} 127- \\ 1460 \mathrm{~m} \end{gathered}$ | Y | Y | Y | Y | Y |  | 22/004 |


| Stock name: Cod in Divisions 3NO |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Name of survey | $\begin{gathered} \text { Location } \\ \text { (Div.) } \\ \hline \hline \end{gathered}$ | $\begin{gathered} \text { Season } \\ \text { months(s) } \end{gathered}$ | Years of survey from, to or since | Type of survey and gears | Target species | $\begin{gathered} \text { No.of } \\ \text { sets } \end{gathered}$ | $\begin{gathered} 24 \mathrm{hr} \\ \text { fishing } \end{gathered}$ | Area of coverage in relation to stock distribution (\%) | Depth range | Research data related to stock sizeestimates |  |  |  | Individual weights | Country | $\begin{gathered} \text { SCS/ } \\ \text { SCR } \\ \text { Doc. } \\ \text { No } \\ \hline \hline \end{gathered}$ |
|  |  |  |  |  |  |  |  |  |  | Abun- <br> dance | Bio- <br> mass | ALK | LF |  |  |  |
| Canadian Spring Bottom Trawl Survey | 3NO | Apr-Jun | $\begin{gathered} \hline \hline 1972- \\ 2019 \\ \text { (except } \\ 1983, \\ 2006 \text { ) } \\ \hline \end{gathered}$ | Stratifiedrandom Bottom trawl | Multispecies | 134 | Y | 100 | $\begin{gathered} \hline \hline 38-666 \\ \mathrm{~m} \end{gathered}$ | Y | Y | Y | Y | Y | Canada | $\begin{gathered} \hline \hline \text { SCR } \\ 22 / 07 \end{gathered}$ |
| Juvenile flatfish | 3 NO | Sep | 1989-94 | Stratifiedrandom Bottom trawl | Groundfish |  | Y | 100 | $\begin{gathered} 30-150 \\ \mathrm{~m} \end{gathered}$ | Y | Y | Y | Y | Y | Canada | $\begin{gathered} \hline \text { SCR } \\ 96 / 80 \end{gathered}$ |
| Canadian Autumn Bottom Trawl Survey | 3 NO | Oct-Dec | $\begin{aligned} & \hline 1990-2020 \\ & \text { (except } \\ & 2014 \text { ) } \end{aligned}$ | Stratifiedrandom Bottom trawl | Multispecies | 121 | Y | 100 | $\begin{gathered} \hline 39-641 \\ m \end{gathered}$ | Y | Y | Y | Y | Y | Canada | $\begin{gathered} \hline \text { SCR } \\ 22 / 07 \end{gathered}$ |
| EU-Spain | $\begin{gathered} \text { 3NO- } \\ \text { Regulator } \\ \text { y Area } \end{gathered}$ | Jun | $\begin{gathered} \hline 1995- \\ 2021 \\ \text { (except } \\ 2020 \text { ) } \\ \hline \end{gathered}$ | Stratifiedrandom Bottom trawl | Multispecies | 122 | N | 20 | $\begin{gathered} \hline 44-1450 \\ \mathrm{~m} \end{gathered}$ | Y | Y | Y | Y | Y | Spain | $\begin{gathered} \hline \text { SCR } \\ 22 / 05 \end{gathered}$ |


| Stock name: Redfish in Divisions 3LN |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Name of survey | Location (Div.) | $\begin{gathered} \begin{array}{c} \text { Season } \\ \text { months }(\mathrm{s}) \end{array} \\ \hline \hline \end{gathered}$ | Years of survey from, to or since | Type of survey and gears | Target species | $\begin{gathered} \begin{array}{c} \text { No. of } \\ \text { sets } \end{array} \\ \hline \hline \end{gathered}$ | 24 hr fishing | Area of coverage in relation to stock distri -bution (\%) | $\begin{aligned} & \text { Depth } \\ & \text { range } \end{aligned}$ | Rese <br> abundance | rch da size biomass | elated to imates ALK | tock LF | Individual weights | Country | SCS/ <br> SCR <br> Doc. <br> No. |
| USSR groundfish | 3L, 3N | Apr-Jul (mostly) | 1972-82 | Fixed station Bottom trawl | Multi-species Groundfish | 50-60 per Div. | Y | Unknown | $\begin{gathered} \hline \hline 1972-76: \\ \text { to } \\ 367 \mathrm{~m} \end{gathered}$ | Y Y | Y Y | Y Y | Y Y | Sometimes | USSR | 86/66 |
| USSR groundfish | 3L, 3N | Apr-Jun (mostly) | $\begin{gathered} \text { 1983-91, } \\ \text { 1993, } \\ 1994 \end{gathered}$ | Stratifiedrandom Bottom trawl | Multi-species | $\begin{gathered} \text { approx. } \\ 48-3 \mathrm{~L} \end{gathered}$ | Y | Unknown | to 732 m | Y | Y | Y | Y | Sometimes | USSR | 86/66 |
|  |  |  |  |  | Groundfish | approx. <br> 42-3N | Y | Unknown | to 732 m | Y | Y | Y | Y |  |  |  |
| USSR acoustic | 3LN | Apr-Jun | $\begin{gathered} \text { 1987-91, } \\ 1993 \end{gathered}$ | Acoustic | Multi-species | unknown midwater sampl. | Y | Unknown | to 732 m | Y | Y |  |  | Sometimes | USSR | 88/24 |
| Canadian groundfish (covering deepwater strata) | 3L | various | 1978-86 | Stratifiedrandom Bottom Trawl | Multi-species Groundfish | min . of 40 in depths $>183$ m | Y | Unknown | to 732 m | Y | Y | Y | Y | Sometimes | Canada | NAFO <br> Studies <br> No. 2 |
| Canada redfish | 3L | Jan | 1990 | ```Stratified- random Bottom trawl``` | Redfish | 55 | Y | Unknown | $\begin{gathered} 183-732 \\ \mathrm{~m} \end{gathered}$ | Y | Y | Y | Y | N | Canada | NAFO <br> Studies <br> No. 2 |
| Canada groundfish | 3LN | Apr-Jun | 1990-93 | $\begin{gathered} \text { Stratified- } \\ \text { random } \\ \text { Bottom trawl } \\ \hline \end{gathered}$ | Multi-species Groundfish | 90 in redfish depths | Y | Unknown | to 732 m | Y | Y | Y | Y | Y | Canada | NAFO Studies No. 2 |
| Canada redfish | $\begin{gathered} \hline \text { 3L, 3N } \\ \text { (since } \\ \text { 1990) } \\ \hline \end{gathered}$ | Aug | $\begin{gathered} \text { 1990-91, } \\ 1993 \end{gathered}$ | $\begin{gathered} \text { Stratified- } \\ \text { random } \\ \text { Bottom trawl } \\ \hline \end{gathered}$ | Redfish | $\begin{aligned} & 59-3 \mathrm{~L} \\ & 47-3 \mathrm{~N} \end{aligned}$ | Y | Unknown | $\begin{gathered} 183-732 \\ \mathrm{~m} \end{gathered}$ | Y | Y | Y | Y | Y | Canada | NAFO Studies No. 2 |
| Canadian <br> Groundfish <br> (Autumn) | 3LN | Autumn (Oct-Dec) | 1991-20 | Stratifiedrandom Bottom trawl | Multi-species Groundfish | $\begin{gathered} 142 \text { in } 3 \mathrm{~L} \\ 39-3 \mathrm{~N} \end{gathered}$ | Y | Unknown | $\begin{gathered} 61-703 \text { in } \\ 3 \mathrm{~L} \\ 39-72 \text { in } \\ 3 \mathrm{~N} \\ \hline \end{gathered}$ | Y | Y | N | Y | Y | Canada | $\begin{gathered} 22 / 007 \\ \text { and } \\ \text { pers. com. } \end{gathered}$ |
| Canadian <br> Groundfish (Spring) | 3LN | Spring (May-Jun) | 1991-19 | Stratifiedrandom Bottom trawl | Multi-species Groundfish | $\begin{aligned} & 56 \text { in 3L } \\ & 72 \text { in } 3 \mathrm{~N} \end{aligned}$ | Y | Unknown | $\begin{gathered} \hline 65-685 \text { in } \\ 3 \mathrm{~L} \\ 39-674 \text { in } \\ 3 \mathrm{~N} \\ \hline \end{gathered}$ | Y | Y | N | Y | Y | Canada | $\begin{gathered} 22 / 007 \\ \text { and } \\ \text { pers. com. } \end{gathered}$ |
| Spanish Groundfish (Spring) | 3 N | Spring <br> (Jun) | 1995-21 | $\begin{gathered} \text { Stratified- } \\ \text { random } \\ \text { Bottom trawl } \\ \hline \end{gathered}$ | Multi-species Groundfish | 122 | N | Unknown | 44-1450 | Y | Y | N | Y | Y | Spain | $\begin{gathered} 22 / 005 \\ \text { and } \\ \text { pers. com. } \end{gathered}$ |
| Spanish Groundfish (Summer) | 3L | Summer <br> (July- <br> August) | 2006-19 | Stratifiedrandom Bottom trawl | Multi-species Groundfish | 97 | N | Unknown | 122-1458 | Y | Y | N | Y | Y | Spain | $\begin{gathered} 20 / 014 \\ \text { and } \\ \text { pers. com. } \end{gathered}$ |


| Stock name: American plaice in Divisions 3LNO |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  |  |  | Years of survey |  |  |  |  | Area of coverage in |  | Resear | $\begin{array}{r} \text { data rel } \\ \text { estim } \\ \hline \hline \end{array}$ |  |  |  |  |  |
| Name of survey | Location (Div.) | $\begin{gathered} \text { Season } \\ \text { months(s) } \end{gathered}$ | $\begin{gathered} \text { to } \\ \text { or } \\ \text { since } \\ \hline \end{gathered}$ | Type of survey and gears | Target species | $\begin{gathered} \text { No.o } \\ \text { f } \\ \text { sets } \\ \hline \end{gathered}$ | 24 hr fishin g | stock distribution (\%) | Depth range | Abundance | $\begin{gathered} \text { Bio- } \\ \text { mass } \end{gathered}$ | ALK | LF | Individual weights | Country | SCR <br> Doc. <br> No |
| Canadian spring | 3LNO | May-Jun |  | Stratified random Campelen | Multispecie s | 171 | Y | 95 | $\begin{gathered} 44-732 \\ \mathrm{~m} \end{gathered}$ | Y | Y | Y | Y | Y | Canada | $\begin{gathered} \hline \hline 22 / 0 \\ 7 \end{gathered}$ |
| Canadian autumn | 3LNO | Sep-Dec | 1990- 2019 (no 2004, 2014, 2020 or 2021 ) | Stratified random Campelen | Multispecie s | 286 | Y | 100 | $\begin{gathered} 42- \\ 1379 \mathrm{~m} \end{gathered}$ | Y | Y | Y | Y | Y | Canada | $\begin{gathered} 22 / 0 \\ 7 \end{gathered}$ |
| EU-Spain | $\begin{gathered} \text { 3NO Reg. } \\ \text { Area } \end{gathered}$ | Jun | $\begin{gathered} 1995- \\ 2021 \\ \text { (no } \\ 2020) \\ \hline \end{gathered}$ | Stratified random Campelen | Groundfish | 122 | N | 11 | $\begin{gathered} 44- \\ 1450 \mathrm{~m} \end{gathered}$ | Y | Y | N | Y | N | Spain | $\begin{gathered} 22 / 0 \\ 5 \end{gathered}$ |
| EU-Spain | 3L Reg. Area | Jul-Aug | $\begin{gathered} 2003- \\ 2019 \\ \text { (no } \\ 2005, \\ 2020 \text { ) } \end{gathered}$ | Stratified random Campelen | Groundfish | 99 | N | unknown | $\begin{aligned} & 106- \\ & 1433 \end{aligned}$ | Y | Y | N | Y | N | Spain | 20/13 |
| Canadian DFOIndustry Cooperative | 3 NO expanded to to 3 L in 2000 | $\begin{gathered} \hline \text { Jul-Aug } \\ \text { (quarterly } \\ \text { in 1997- } \\ 98 \text { ) } \end{gathered}$ | $\begin{aligned} & \hline 1996- \\ & 2004 \end{aligned}$ | Grid survey with commercial Engel trawl (unlined) | Yellowtail (bycatches of cod, A. plaice) | $\begin{gathered} \hline 61- \\ \text { Jul } \\ 80- \\ \text { Aug } \end{gathered}$ | Y | 22 | 45-90 | N | N | N | N | N | Canada | 05/9 |

Stock name: Yellowtail flounder in Divisions 3LNO

| Name of survey | Location (Div.) | Season months(s) | Years of survey from, to or since | Type of survey and gears | Target species | No.of sets | 24 hr <br> fishing | Area of coverage in relation to stock distribution (\%) | Depth Range (m) | Research data related to stock size estimates |  |  |  | Individual weights | Country | SCS/ <br> SCR Doc. <br> No |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  | Abundance | Bio- <br> mass | $\begin{aligned} & \mathrm{AL} \\ & \mathrm{~K} \\ & \hline \end{aligned}$ | LF |  |  |  |
| Canadian Groundfish autumn | 3LNO | Aug- Oct. | $\begin{aligned} & \text { Since } \\ & 1990 \end{aligned}$ | Stratified <br> Random <br> Campelen <br> Trawl | Groundfish \& shellfish | 0 | N/A | 0 | N/A | N/A | N/A | N/A | N/A | N/A | Canada | 22/007 |
| Spanish Groundfish | 3NO | June | $\begin{aligned} & \text { Since } \\ & 1995 \end{aligned}$ | Stratified <br> Random <br> Campelen <br> Trawl | Groundfish \& shellfish | 181 | N |  | 44-1450 | Y | Y | N | Y | N | Spain | 22/004 |


| Stock name: Witch flounder in Divisions 3NO |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Name of survey | Location (Div.) | Season months(s) | Years of survey from, to or since | Type of survey and gears | Target species | No.of sets | 24 hr <br> fishing | Area of coverage in relation to stock distribution (\%) | Depth Range (m) | Research data related to stock size estimates |  |  |  | Individual weights | Country | SCS/ <br> SCR Doc. <br> No |
|  |  |  |  |  |  |  |  |  |  | Abundance | Biomass | $\begin{aligned} & \hline \mathrm{AL} \\ & \mathrm{~K} \\ & \hline \end{aligned}$ | LF |  |  |  |
| Canadian Groundfish autumn | 3NO | Aug- Sept. | $\begin{aligned} & \text { Since } \\ & 1990 \end{aligned}$ | Stratified <br> Random <br> Campelen <br> Trawl | Groundfish \& shellfish | 0 | N/A | 0 | N/A | N/A | N/A | N/A | N/A | N/A | Canada | 22/007 |
| Spanish Groundfish | 3NO | June | $\begin{aligned} & \text { Since } \\ & 1995 \end{aligned}$ | Stratified <br> Random <br> Campelen <br> Trawl | Groundfish \& shellfish | 181 | N |  | 44-1450 | Y | Y | N | Y | N | Spain | 22/004 |


| Stock name: Capelin in Divisions 3NO |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Name of survey | Location (Div.) | Season months(s) | Years of survey from, to or since | Type of survey and gears | Target species | No.of sets |  | Area of coverage in relation to stock distribution (\%) | Depth range | Research data related to stock size estimates |  |  |  | Indiv- <br> idual weights | Countr$\mathrm{y}$ | $\begin{aligned} & \text { SCS/ } \\ & \text { SCR } \\ & \text { Doc. } \\ & \text { No } \\ & \hline \end{aligned}$ |
|  |  |  |  |  |  |  | 24 hr <br> fishing |  |  | Abundance | Biomass | ALK | LF |  |  |  |
| Multi-species bottom rawl survey | 3NO | 6 | $\begin{aligned} & \hline 1977- \\ & 2006 \end{aligned}$ | Stratifiedrandom, Campelen 1800 | Demersal fishes | 54 | + | 50 | $\begin{aligned} & \hline \hline 45-105 \\ & \mathrm{~m} \end{aligned}$ | Y | Y | N | Y | Y | Canada | 07/12 |


| Stock name: Redfish in Divisions 30 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Name of survey | Location (Div.) | Season months(s) | Years of survey from, to or since | Type of survey and gears | Target species | $\begin{gathered} \begin{array}{c} \text { No. of } \\ \text { sets } \end{array} \\ \hline \hline \end{gathered}$ | 24 hr fishing | Area of coverage in relation to stock distri -bution (\%) | Depth range | Resea <br> abun- <br> dance | ch data size biomass | related to mates <br> ALK | tock | Individual weights | Country | SCS/ SCR Doc. No. |
| USSR groundfish | 30 | Apr-Jun (mostly) | $\begin{gathered} \text { 1983-91, } \\ 1993, \\ 1994 \end{gathered}$ | Stratifiedrandom Bottom trawl | Multispecies Groundfish | 75-100 | Y | Unknown | to 732 m | Y | Y | Y | Y | Sometimes | Russia | 86/66 |
| Canada groundfish | 30 | Apr-Jun | 1971-90 | Stratifiedrandom Bottom trawl | Multispecies Groundfish | 30-36 in redfish depths | Y | Unknown | to 367 m | Y | Y | Y | Y | N | Canada | NAFO <br> Studies No. 2 |
| EU-Spain | 30 | Jun | $\begin{aligned} & 1995- \\ & 2019, \\ & 2021 \end{aligned}$ | Stratifiedrandom Bottom trawl | Multispecies Groundfish | 6-23 | N | Unknown | $\begin{gathered} 93- \\ 1410 \mathrm{~m} \end{gathered}$ | Y | Y | N | Y | Some Surveys | Spain | $\begin{gathered} \text { SCR } \\ 22 / 05 \end{gathered}$ |
| Canada groundfish | 30 | ```Sep-Dec series + Apr-May series``` | $\begin{gathered} 1991- \\ 2013, \\ 2015-20 \\ \\ 1991- \\ 2005, \\ 2007- \\ 2019 \\ \hline \end{gathered}$ | Stratifiedrandom Bottom trawl | Multispecies Groundfish | $\begin{gathered} 24-40 \\ + \\ 35-51 \end{gathered}$ <br> in redfish depths | Y | Unknown | $\begin{gathered} \text { To } 1464 \\ \mathrm{~m} \end{gathered},$ | $Y$ $Y$ | Y <br> Y | N N | Y <br> Y | $Y$ $Y$ | Canada | SCR 22/07 |


| Stock name: Thorny skate in Divisions 3L, 3N, 3O, and 3Ps |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Name of survey | Location (Div.) | Season months(s) | Years of survey from, to or since | Type of survey and gears | Target Species | $\begin{aligned} & \text { No. of } \\ & \text { Sets } \\ & (2021) \end{aligned}$ | 24 hr fishing | Area of coverage in relation to stock distribution (\%) | Depth range | Resear size est <br> abun- <br> dance | data re ates <br> bio- <br> mass | d to st <br> ALK |  | Indiv- <br> idual weights | Country | SCS/ <br> SCR <br> Doc. <br> No. |
| Canadian <br> Groundfish (Spring) | Div. <br> 3LNOPs | Spring <br> (April-May) | $\begin{aligned} & \text { 1971- } \\ & 2019 \text {, } \\ & \text { (Subdiv. } \\ & \text { 3Ps only) } \\ & 2021 \end{aligned}$ | Stratifiedrandom bottom trawl | Groundfish \& shellfish | 143 | Y | 30 | $\begin{aligned} & 40 \text { to } \\ & 691 \mathrm{~m} \end{aligned}$ | Y | Y | N | Y | Y | Canada | $\begin{aligned} & \text { SCR } \\ & 22 / 007 \end{aligned}$ |
| Canadian <br> Groundfish <br> (Autumn) | Div. 3LNO | Autumn (Oct-Dec) | $\begin{aligned} & 1990- \\ & 2020 \end{aligned}$ | Stratifiedrandom bottom trawl | Groundfish \& shellfish | 0 |  | 0 |  |  |  |  |  |  | Canada | $\begin{aligned} & \text { SCR } \\ & 22 / 007 \end{aligned}$ |
| EU-Spain Groundfish | Div. 3NO <br> Regulatory Area | Spring <br> (May-June) | $\begin{aligned} & 1997- \\ & 2019 \\ & 2021 \end{aligned}$ | Stratifiedrandom bottom trawl | Groundfish | 113 | N | 15 | $\begin{aligned} & 42 \text { to } \\ & 1394 \mathrm{~m} \end{aligned}$ | Y | Y | N | Y | Y | EU- <br> Spain | $\begin{aligned} & \text { SCR } \\ & 22 / 005 \end{aligned}$ |
| EU-Spain Groundfish | Div. 3L <br> Regulatory <br> Area | Summer <br> (July- <br> August) | $\begin{aligned} & 2003- \\ & 2019 \end{aligned}$ | Stratifiedrandom bottom trawl | Groundfish | 0 |  | 0 |  |  |  |  |  |  | EU- <br> Spain | $\begin{aligned} & \text { SCR } \\ & 22 / 005 \end{aligned}$ |


| Stock name: White hake in Divisions 3N, 3O, and 3Ps |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Name of survey | Location (Div.) | Season months(s) | Years of survey from, to or since | Type of survey and gears | Target Species | No. of Sets (2021) | 24 hr fishing | Area of coverage in relation to stock distribution (\%) | Depth range | Resear size es <br> abun- <br> dance <br> LF | data re ates <br> bio- <br> mass | d to |  | Individual weights | Country | SCS/ <br> SCR <br> Doc. <br> No. |
| Canadian <br> Groundfish <br> (Spring) | Div.3NOPs | Spring <br> (April-May) | $\begin{aligned} & \text { 1971- } \\ & 2019, \\ & \text { (Subdiv. } \\ & \text { 3Ps only) } \\ & \text { 2021 } \end{aligned}$ | Stratifiedrandom bottom trawl | Groundfish \& shellfish | 143 | Y | 30 | $\begin{aligned} & 40 \text { to } \\ & 691 \mathrm{~m} \end{aligned}$ | Y | Y | N | Y | Y | Canada | $\begin{aligned} & \text { SCR } \\ & 22 / 007 \end{aligned}$ |
| Canadian <br> Groundfish <br> (Autumn) | Div. 3NO | Autumn (Oct-Dec) | $\begin{aligned} & 1990- \\ & 2020 \end{aligned}$ | Stratifiedrandom bottom trawl | Groundfish \& shellfish | 0 |  | 0 |  |  |  |  |  |  | Canada | $\begin{aligned} & \text { SCR } \\ & 22 / 007 \end{aligned}$ |
| EU-Spain Groundfish (Spring) | Div. 3NO <br> Regulatory Area | Spring <br> (May-June) | $\begin{aligned} & 1997- \\ & 2019, \\ & 2021 \end{aligned}$ | Stratifiedrandom bottom trawl | Groundfish | 113 | N | 15 | $\begin{aligned} & 42 \text { to } \\ & 1394 \mathrm{~m} \end{aligned}$ | Y | Y | N | Y | Y | EU- <br> Spain | $\begin{aligned} & \text { SCR } \\ & 22 / 005 \end{aligned}$ |


| Stock name: Roughhead Grenadier in Subareas 2 and 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Name of survey | Location (Div.) | Season <br> Months(s) | Years of Survey since | Type of survey and gears | Target Species | No. of Sets | 24 hr fishing | Area of coverage in relation to stock distribution (\%) | Depth <br> Range | Res <br> abun- <br> dance | arch da <br> size <br> bio- <br> mass | ated to mates <br> ALK |  | Individual weights | Country | SCR <br> Doc. <br> No. |
| Canadian Autumn Survey | $\begin{aligned} & \text { 2GHJ } \\ & \text { 3MLNO } \end{aligned}$ | Oct-Dec | 1978 | Stratified random <= 1994 Engel >=1995 Campelen | Groundfish Shellfish | $\begin{gathered} 204 \text { in } \\ 2021 \end{gathered}$ | Yes |  | $<1500$ | + | + |  | + | No | CAN | $\begin{array}{r} \text { SCR } \\ 22 / 07 \end{array}$ |
| Canadian Spring Survey | 3 LNO | Spring May-July | 1978 | Stratified random <=1995 Engel >= 1996 <br> Campelen | Groundfish Shellfish | $\begin{gathered} 143 \text { in } \\ 2021 \end{gathered}$ | Yes |  | $<730$ m |  | + |  |  | No | CAN | $\begin{gathered} \text { SCR } \\ 22 / 07 \end{gathered}$ |
| Canadian deepwater | 3MLN | August <br> February <br> Spring | $\begin{aligned} & 1991 \\ & 1994 \\ & 1995 \end{aligned}$ | Bottom trawl | Groundfish |  |  |  | $<1500$ | + | + |  | + | No | CAN | $\begin{gathered} \text { SCR } \\ 95 / 51 \end{gathered}$ |
| Spanish Surveys in Div. 3NO | 3NO | June | 1995 | Stratified <br> Random $<=2001$ <br> Pedreira $>=2001$ <br> Campelen | Groundfish | $\begin{aligned} & 113 \text { in } \\ & 2021 \end{aligned}$ | No | Low | $<1500$ | + | + |  | + | + | EU-ESP | $\begin{gathered} \text { SCR } \\ 22 / 05 \end{gathered}$ |
| Spanish Surveys in Div. 3L | 3L | August | 2003 | Stratified <br> Random Campelen | Groundfish | $\begin{aligned} & 96 \text { in } \\ & 2019 \end{aligned}$ | No | Low | <1500 | + | + |  | + | + | EU-ESP | $\begin{gathered} \text { SCR } \\ 20 / 14 \end{gathered}$ |
| EU Flemish Cap Surveys | 3 M | July | 1988 | Stratified <br> Random <br> (Lofoten) | Groundfish Shrimp | $\begin{aligned} & 180 \text { in } \\ & 2022 \end{aligned}$ | No | Flemish Cap | <1500 | + | + | + | + | + | $\begin{aligned} & \text { EU-ESP } \\ & \text { EU-PRT } \end{aligned}$ | $\begin{gathered} \text { SCR } \\ 22 / 04 \end{gathered}$ |
| Russian | 3M | May/June | $\begin{aligned} & 2001 \text { and } \\ & 2002 \end{aligned}$ | Stratified random bottom trawl | Groundfish | 94 | Yes | Flemish Cap | $\begin{gathered} 120- \\ 1280 \mathrm{~m} \end{gathered}$ | + | + |  | + |  | RUS | $\begin{gathered} \text { SCR } \\ 03 / 09 \\ \text { SCR } \\ 07 / 10 \end{gathered}$ |
| EU Deepwater | 3LMN | April-May | 1996 | Longline | Groundfish | 64 | Yes |  | $\begin{gathered} 700- \\ 3100 \mathrm{~m} \end{gathered}$ |  |  |  | + | + | EU-ESP <br> EU-PRT | $\begin{gathered} \text { SCR } \\ 96 / 34, \\ 97 / 19, \\ 97 / 20 \end{gathered}$ |


| Stock name: Greenland halibut in Subareas 2+3KLMNO |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Name of survey | Location (Div.) | $\begin{gathered} \text { Season } \\ \text { months(s) } \end{gathered}$ | Years of survey from, to or since | Type of survey and gears | Target species | $\begin{gathered} \begin{array}{c} \text { No.of } \\ \text { sets } \end{array} \\ \hline \hline \end{gathered}$ | $\begin{gathered} 24 \mathrm{hr} \\ \text { fishing } \\ \hline \hline \end{gathered}$ | Area of coverage in relation to stock distribution (\%) | Depth range | Research data related to stock sizeestimates |  |  |  | Individual weights | Country | SCS/ <br> SCR <br> Doc. <br> No |
|  |  |  |  |  |  |  |  |  |  | Abundance | Bio- mass | ALK | LF |  |  |  |
| Canadian groundfish spring | 3LNO | Apr-June | $\begin{gathered} \hline \hline \text { Since } 1995 \\ (2006, \\ 2015,2020, \\ 2021 \\ \text { incomplete) } \\ \hline \end{gathered}$ | Stratified-random Campelen trawl | Multi- <br> species survey |  | Y |  | $42-725 \mathrm{~m}$ | Y | Y | Y | Y | Y | Canada | 22/007 |
| Canadian groundfish autumn | $\begin{gathered} \hline 2 \mathrm{~J} 3 \mathrm{~K} \\ \text { 3LNO } \end{gathered}$ | Autumn | 2J3K since <br> 1978 (2008 <br> incomplete) <br> 3L since <br> 1981 <br> (2014, <br> 2021 <br> incomplete) | Stratified-random <br> Engel trawl 1978- <br> 94 2J3K <br> Yankee <br> trawl 1981-82 3L <br> Engel trawl 1984-94 3LNO <br> Campelen Trawl all areas since 1995 | Multispecies survey | $\begin{gathered} \hline 2 \mathrm{~J} 3 \mathrm{~K}: \\ 149 \end{gathered}$ | Y | This column not appropriate for this species given differences in depth coverage and areas covered in the surveys | 2 J $129-1325$ m 3 K $139-658$ m 3 L $62-668 \mathrm{~m}$ | Y | Y | Y | Y | Y | Canada | 22/007 |
| $\begin{aligned} & \text { EU bottom } \\ & \text { trawl } \end{aligned}$ | 3M | Jun-Jul | 1988-2020 | Stratified-random Lofoten trawl | Groundfish \& shrimp | 181 | N |  | $\begin{gathered} 128-1460 \\ \mathrm{~m} \end{gathered}$ | Y | Y | Y | Y | Y | EU | 22/004 |
| EU-Spain bottom trawl | Reg. <br> Area <br> 3LNO | Apr-May | 3NO since 3L since 2003 $(2000$, 2008,2020 incomplete $)$ | Stratified-random Bottom trawl | Groundfish | $\begin{gathered} \hline 3 \mathrm{NO}: \\ 114 \end{gathered}$ | N |  | 3 NO $44-$ 1450 m 3 L $126-1447$ m | Y | Y | N | Y | Y | Spain | 22/005 |
| Canadian groundfish autumn | 2GH | Sep-Oct | 2 G no longer covered; 2 H since 1978 | Stratified-random Campelen in 1996-2018 | Multispecies survey | 2H: 52 | Y |  | $\begin{gathered} 98-1399 \\ \mathrm{~m} \mathrm{2H} \end{gathered}$ | Y | Y | Y | Y | Y | Canada | 22/007 |
| Canadian groundfish autumn | 3 MNO | Sep-Dec | 3NO since $1990(2021$ incomplete) 3 M $1996-2003$, $2006-2007$ | Stratified-random Campelen | Multispecies survey |  |  |  | $\begin{aligned} & 3 \mathrm{~N} 40- \\ & 634 \mathrm{~m} \\ & 3 \mathrm{O} 64- \\ & 7665 \mathrm{~m} \end{aligned}$ |  |  |  |  |  | Canada | 22/007 |
| Russian | 3M | May | 1987-96 | Stratified-random Bottom trawl | Groundfish | 90 | Y | Flemish Cap | $\begin{array}{r} 914 \mathrm{~m} \\ \text { in } 1996 \\ \hline \end{array}$ | Y | Y | Y | Y | N | Russia | 98/13 |
| Russian | 3LM <br> Flemish <br> Pass <br> 3M | Feb Apr-May | $\begin{gathered} \hline 1995-96 \\ 2000 \end{gathered}$ | Stratified-random Bottom trawl | Groundfish | 84 | Y |  | $\begin{gathered} 732-1280 \\ \mathrm{~m} \end{gathered}$ | Y | Y | Y | Y | N | Russia | 01/10 |
| Russian | 3M | May-Jun | 2001-02 | Stratified-random Bottom trawl | Groundfish |  | Y |  | $\begin{gathered} 127- \\ 1280 \mathrm{~m} \end{gathered}$ | Y | Y | Y | Y | N | Russia | 03/09 |


| Stock name: $\quad$ Short-finned Squid in Subareas 3 and 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Name of survey | Location (Div.) | Season months(s) | Years of survey from, to or since |  |  |  |  | Area of coverage |  | Research data related to stock size estimates |  |  |  | Indiv. weights | Country | $\begin{aligned} & \text { SCS/SCR } \\ & \text { Doc.No } \\ & \hline \end{aligned}$ |
|  |  |  |  | Type of survey and gears | Target species | No. of sets | 24 hr <br> fishing | in <br> relation <br> to stock <br> distributi <br> on (\%) | $\begin{aligned} & \begin{array}{l} \text { Depth } \\ \text { range } \end{array} \\ & \hline \end{aligned}$ | Abundance | $\begin{aligned} & \text { Bio- } \\ & \text { mass } \end{aligned}$ | ALK | LF |  |  |  |
| July multispecies bottom trawl | SA 4 | July | $\begin{aligned} & \text { Since } \\ & 1970 \end{aligned}$ | Stratified random bottom trawl | Multispecies | $\sim 190$ | Y | Unknown | 20-366 m | Y | Y | N | Y | N | Canada | $\begin{aligned} & \hline \hline \text { SCR } \\ & \text { 19/42REV } \end{aligned}$ |
| CA Autumn multispecies bottom trawl | 4T | Sep | Since 1971 | Stratified random bottom trawl | Multispecies | 63-202; increased over the years | Y, after 1986 | Unknown likely < $20 \%$ |  | Y | Y | N | Unknown | N | Canada | $\mathrm{SCR}$ 19/42REV |
| EU Flemish Cap multispecies bottom trawl | 3M | July | $\begin{aligned} & \hline \text { Since } \\ & 1988 \end{aligned}$ | Stratified random bottom trawl | Multispecies | 101-121 | $\begin{aligned} & \text { N, 0600- } \\ & 2200 \end{aligned}$ | $\begin{aligned} & \text { Unknown } \\ & \text {, likely < } \\ & 5 \% \end{aligned}$ | $\begin{aligned} & 127-730 \\ & \mathrm{~m}, \text { up to } \\ & 1,400 \mathrm{~m} \\ & \text { in } 2005 \end{aligned}$ | Y | Y | N | Y | N | $\begin{aligned} & \hline \text { EU } \\ & \text { (Spain) } \end{aligned}$ | SCR 16/21 SCR19/42REV |
| CA Spring multispecies bottom trawl | 3LNOP | AprilJune | $\begin{aligned} & \text { Since } \\ & 1996 \end{aligned}$ | Stratified random bottom trawl | Multispecies | 470-597 | Y | Unknown | $\begin{aligned} & \hline 20- \\ & 870 \mathrm{~m}, \\ & \text { but } \\ & \text { inconsis- } \\ & \text { tent } \\ & \text { inshore } \end{aligned}$ | Y | Y | N | Y | N | Canada | $\mathrm{SCR}$ 19/42REV |
| CA Autumn multispecies bottom trawl | 3KLNO | Mainly Sept-Dec, but also Jan in some years | $\begin{aligned} & \hline \text { Since } \\ & 1995 \end{aligned}$ | Stratified random bottom trawl | Multispecies | 608-840 | Y | Unknown | $\begin{aligned} & 30-1500 \\ & \text { m, va } \\ & \text { riable } \\ & \text { inshore } \\ & \text { and }>730 \\ & \mathrm{~m} \end{aligned}$ | Y | Y | N | Y | N | Canada | $\overline{\mathrm{SCR}}$ 19/42REV |
| EU-Spain Summer multispecies bottom trawl | 3NO | June | $\begin{aligned} & \text { Since } \\ & 2002 \end{aligned}$ | Stratified random bottom trawl | Multispecies | $\sim 120$ | Y | Unknown | $\begin{aligned} & 30-1500 \\ & \mathrm{~m} \end{aligned}$ | Y | Y | N | Y | N | Canada | $\begin{aligned} & \hline \text { SCR } \\ & \text { 19/42REV } \end{aligned}$ |

*The data in this table is only updated every three years (e.g., 2016 and 2019) when a full assessment is conducted

| Stock name: Northern Shrimp in Divisions 3LNO |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | Area of coverage in |  | Researc estimate | data rel |  |  |  |  |  |
| urvey | Location (Div.) | Season months(s) | from, to <br> or <br> since | Type of survey and gears | Target species | No. of sets | 24 hr <br> fishing | stock <br> distribution (\%) | Depth range | Abundance | Bio- <br> mass | ALK | LF | Indiv- <br> idual <br> weights | Country | SCR <br> Doc. <br> No |
| Multi-species Spring Survey | $\begin{aligned} & \hline \hline \text { 3LNO } \\ & \text { 3Ps } \end{aligned}$ | May to June | 1999 to present | Stratifiedrandom bottom trawl | Groundfish Shellfish (crab, shrimp)/ capelin | ~300 sets in 3LNO | Yes | $100 \%$ of area covered | $\begin{aligned} & \hline \hline 30-732 \\ & \mathrm{~m} \end{aligned}$ | Y | Y | N | Y | N | Canada | $\begin{aligned} & \hline \hline \text { SCR } \\ & 16 / 58 \end{aligned}$ |
| Multi-species Autumn Survey | $\begin{aligned} & \hline \text { 2HJ } \\ & \text { 3KLNO } \end{aligned}$ | October to December | $1995 \text { to }$ <br> present | Stratifiedrandom bottom trawl | Groundfish Shellfish (crab, shrimp)/ capelin | ~300 sets in 3LNO | Yes | $100 \%$ of area covered | $\begin{aligned} & \text { 30-1500 } \\ & \mathrm{m} \end{aligned}$ | Y | Y | N | Y | N | Canada | $\begin{aligned} & \text { CSAS } \\ & 2017 / \\ & 12 \end{aligned}$ |
| EU Bottom Trawl Survey | 3NO | May June | 1995present | Stratifiedrandom bottom trawl | Groundfish Shellfish (crab, shrimp)/ capelin | 95 | No |  | 60-1500 | Y | Y |  |  |  | $\begin{aligned} & \text { EU- } \\ & \text { Spain } \end{aligned}$ | $\begin{aligned} & \text { SCR } \\ & 16 / 51 \end{aligned}$ |
| EU Bottom Trawl Survey | 3L | August | $2003 \text { - }$ <br> present | Stratifiedrandom bottom trawl | Groundfish Shellfish (crab, shrimp)/ capelin | 97 | No |  | 60-1500 | Y | Y |  | Y | Y | Spain | $\begin{aligned} & \text { SCR } \\ & 16 / 51 \end{aligned}$ |


| Stock name: Northern Shrimp in Division 3M |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Name of survey | Location (Div.) |  | Years of survey from, to or since | Type of survey and gears | Target species | No .of sets | 24 hr <br> fishing | Area of coverage in relation to stock distribution (\%) |  | Research data related to stock size estimates |  |  |  |  |  |  |
|  |  | Season months(s) |  |  |  |  |  |  | Depth range | Abundance | Bio- <br> mass | ALK | LF | Indiv- <br> idual weights | Country | $\begin{aligned} & \text { SCS/SCR } \\ & \text { Doc.No } \\ & \hline \end{aligned}$ |
| EU-Flemish Cap <br> Survey | 3M | Jul-Aug | 1988 to present | Stratifiedrandom bottom trawl | All | 182 | N | 100\% | $<750 \mathrm{~m}$ $(88-02)$ $<1400 \mathrm{~m}$ | Y | Y | Y | Y | Y | EU | SCR22/052 <br> SCR22/004 |
|  |  |  |  |  |  |  |  |  | (03-20) |  |  |  |  |  |  |  |

Stock name: : Northern Shrimp in Subareas 0+1

| Name of survey | Location (Div.) | Season months(s) | Years of survey from, to or since | Type of survey and gears | Target species | $\begin{aligned} & \text { No.of } \\ & \text { Sets }^{1} \\ & \hline \end{aligned}$ | 24 hr <br> fishing | Area of coverage in relation to stock distribution (\%) | Depth range | Research data related to stock size estimates |  |  |  | Individual weights | Country | $\begin{aligned} & \text { SCS/ } \\ & \text { SCR } \\ & \text { Doc. } \\ & \text { No } \\ & \hline \hline \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  | Abundance | Bio- <br> mass | $\mathrm{ALK}^{2}$ | LF |  |  |  |
| West Greenland Trawl Survey (West Greenland Shelf) | SA 0+1 | Jun-Jul | $\begin{aligned} & \hline \hline \text { Since } \\ & 1988 \end{aligned}$ | Stratified semisystematic; trawl; <br> Cosmos 2000 w/rockhopper | Northern shrimp and groundfish | 206 | N | 95 | $\begin{aligned} & \hline \hline 150- \\ & 600 \mathrm{~m} \end{aligned}$ | Y | Y | N/A | Y | Y | GRL | 22/045 |

${ }^{1}$ First number is number of stations trawled at depths between 150 and 600 m targeting shrimp; second number is number of stations in water shallower than 150 m targeting principally Atlantic cod; Third
number is number of stations in water deeper than 600 m targeting principally Greenland halibut.
${ }^{2}$ Lack of satisfactory method of ageing shrimp precludes generating age-length keys.

| Stock name: : Northern Shrimp in Denmark Strait* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Name of survey | Location (Div.) | Season months(s) | Years of survey from, to or since | Type of survey and gears | Target species | $\begin{aligned} & \text { No.of } \\ & \text { sets } \\ & \hline \end{aligned}$ | 24 hr <br> fishing | Area of coverage in relation to stock distribution (\%) | Depth <br> range | Research data related to stock size estimates |  |  |  | Indiv- <br> idual weights | Country | $\begin{aligned} & \text { SCS/ } \\ & \text { SCR } \\ & \text { Doc. } \\ & \text { No } \\ & \hline \end{aligned}$ |
|  |  |  |  |  |  |  |  |  |  | Abundance | Bio- <br> mass | ALK | LF |  |  |  |
| East Greenland Trawl Survey | $\begin{aligned} & \hline \hline \text { ICES } \\ & \text { XIV } \end{aligned}$ | July- Aug | Since 2008 <br> No surveys in 2017, 2018, <br> 2019 and <br> 2021 | Stratified semisystematic; trawl; Cosmos 2000 w/rockhopper | Northern shrimp Groundfish | 95 | Y | unknown | 0-600m | Y | Y | N | Y | Y | Greenland | 22/049 |

*No update for 2017-2019 and 2021 due to a cancelled survey.

