



Fisheries and Oceans
Canada

Pêches et Océans
Canada

Ecosystems and
Oceans Science

Sciences des écosystèmes
et des océans

Canadian Science Advisory Secretariat (CSAS)

Research Document 2026/055

Newfoundland and Labrador

Stock Status of Redfish (*Sebastes* spp.) in NAFO Subarea 2 + Div. 3K

Rajeev Kumar, Danny Ings, Divya Varkey, Eugene Lee, Bob Rogers, and Rick Rideout

Fisheries and Oceans Canada
P.O. Box 5667
St. John's, NL A1C 5X1

Foreword

This series documents the scientific basis for the evaluation of aquatic resources and ecosystems in Canada. As such, it addresses the issues of the day in the time frames required and the documents it contains are not intended as definitive statements on the subjects addressed but rather as progress reports on ongoing investigations.

Published by:

Fisheries and Oceans Canada
Canadian Science Advisory Secretariat
200 Kent Street
Ottawa ON K1A 0E6

[http://www.dfo-mpo.gc.ca/csas-sccs/
DFO.CSAS-SCAS.MPO@dfo-mpo.gc.ca](http://www.dfo-mpo.gc.ca/csas-sccs/DFO.CSAS-SCAS.MPO@dfo-mpo.gc.ca)



© His Majesty the King in Right of Canada, as represented by the Minister of the Department of Fisheries and Oceans, 2026

This report is published under the [Open Government Licence - Canada](#)

ISSN 1919-5044

ISBN 978-1-100-00127-2 Cat. No. Fs70-5/2026-055E-PDF

Correct citation for this publication:

Kumar, R., Ings, D.W., Varkey, D.A., Lee, E., Rogers, B., and Rideout, R. 2026. Stock Status of Redfish (*Sebastes* spp.) in NAFO Subarea 2 + Div. 3K. DFO Can. Sci. Advis. Sec. Res. Doc. 2026/055. iv + 46 p.

Aussi disponible en français :

Kumar, R., Ings, D.W., Varkey, D.A., Lee, E., Rogers, B., et Rideout, R. 2026. État des stocks de sébastes (Sebastes sp.) dans la sous-zone 2 et la division 3K de l'OPANO. Secr. can. des avis sci. du MPO. Doc. de rech. 2026/055. iv + 49 p.

TABLE OF CONTENTS

ABSTRACT	iv
1. INTRODUCTION	1
2. REDFISH BIOLOGY	1
2.1. SPECIES AND POPULATION STRUCTURE	1
2.2. LIFE HISTORY AND REPRODUCTION	2
2.3. DIET AND PREDATION.....	2
3. ECOSYSTEM	3
3.1. PHYSICAL OCEANOGRAPHIC ENVIRONMENT	3
3.2. INVERTEBRATE AND FISH COMMUNITY	3
4. THE FISHERY	4
4.1. MANAGEMENT REGULATIONS	4
4.2. FISHERY REMOVALS.....	4
5. ASSESSMENT	5
5.1. SURVEY DESIGN	5
5.2. SURVEY DISTRIBUTION	5
5.3. SURVEY ABUNDANCE AND BIOMASS	6
5.3.1. Divisions 2G and 2H	6
5.3.2. Divisions 2J and 3K.....	6
5.3.3. Length composition and recruitment	7
5.4. RELATIVE HARVEST RATE	7
5.5. SOURCE OF UNCERTAINTY	8
6. CONCLUSION	9
7. REFERENCES CITED.....	9
8. FIGURES	12
9. TABLES	24

ABSTRACT

The assessment of redfish (*Sebastes* spp.) in Northwest Atlantic Fisheries Organization (NAFO) Subarea (SA) 2 (Divisions 2G, 2H, and 2J) and Division 3K incorporates commercial catch data (1959–2020) and Canadian research vessel fall survey data spanning a 43-year time series (1978–2020). Commercial landings peaked at 187,000 tonnes (t) in 1959 but declined sharply to an average of 2,000 t annually by the late 1980s and early 1990s. A fishery moratorium has been in place since 1997, with removals mainly from bycatch in shrimp and Greenland Halibut fisheries, averaging 240 t annually. While relative harvest rates have remained low (<1%) since 2007, the impacts of juvenile redfish bycatch and discards on stock recovery remain poorly understood. Survey abundance indices from Div. 2J and 3K, combined, showed a general decline from 2010–17, followed by a sharp recruitment-driven increase in 2020, reaching the third-highest value in the 43-year time series. The recruitment index, based on fish under 15 cm, was unprecedentedly high—nearly three times greater than any previous estimate. However, biomass indices did not reflect this surge due to the slow growth of redfish and the predominance of small fish. Significant uncertainties persist due to episodic recruitment, limited age and species composition data, and inconsistent sampling in some divisions, complicating stock status evaluation and the development of population models. In the absence of established reference points within a Precautionary Approach framework, and given the low biomass despite recent recruitment pulses, a cautious management strategy is advised. Continued monitoring of recruitment patterns, bycatch impacts, and improved data collection on species composition and age structure are critical to inform future assessments and support sustainable management of this vulnerable stock.

1. INTRODUCTION

Redfish (*Sebastes* spp.) are commercially harvested in both the Atlantic and Pacific Oceans. In the Northwest Atlantic (NWA), they are widely distributed along the continental shelf and slope, ranging from Baffin Island in the north to the waters off New Jersey in the south. Redfish typically inhabit cool, deep waters between 3°C and 8°C, most commonly at depths of 100 to 1000 m, where they mainly occur along the slopes of fishing banks and within deep channels.

In Northwest Atlantic Fisheries Organization (NAFO) Subarea (SA) 2 (Div. 2G, 2H, and 2J) and Div. 3K, abbreviated as SA2+3K in this report (Figure 8.1), the redfish stock complex is composed of three species: *Sebastes mentella* (Deepwater Redfish), *S. fasciatus* (Acadian Redfish), and *S. marinus* (Golden Redfish) (DFO 2011). While *S. marinus* is now scientifically referred to as *S. norvegicus*, for consistency with previous assessments, we continue to use the name *S. marinus* in this report. The first two species, *S. mentella* and *S. fasciatus*, are difficult to distinguish visually (COSEWIC 2010) and are often grouped together in landings. *S. marinus* can be distinguished by its coloration, eye size, and the relative size of a bony protrusion on its lower jaw. Despite these differences, the three species have traditionally not been separated in commercial catches or research vessel (RV) surveys and are therefore managed as a single stock complex (Power 2001).

Drawing on genetic, morphometric, meristic, and parasite evidence, COSEWIC (2010) identified *S. mentella* in SA2+3K, along with NAFO SA0 and Divisions 3LNO, as part of the Northern Population Designatable Unit (DU), while *S. fasciatus* from SA 2+3K and Divisions 3LNO was assigned to the Northern Area of the Atlantic Population DU. Based on abundance and biomass indices from Fisheries and Oceans Canada (DFO) RV surveys, both populations were designated as “Threatened” (i.e., species likely to become endangered if limiting factors are not addressed). This designation was due to a 98% and 99.7% decline in the abundance indices of mature individuals in Divisions 2J and 3K for *S. mentella* and *S. fasciatus*, respectively. The fishery on this stock was under Total Allowable Catch (TAC) regulation from 1974, starting at 30,000 tonnes (t) and decreasing to 200 t by 1996. Since 1997, a moratorium has been in place, banning directed fishing.

This Research Document was prepared for the virtual Zonal Peer Review Meeting held May 4–7, 2021, which assessed redfish stocks in two areas: NAFO SA0 and SA2+3K. This report provides updated information on the redfish stock in SA2+3K, including trends in abundance, biomass, length distributions, commercial bycatch, and discards.

2. REDFISH BIOLOGY

2.1. SPECIES AND POPULATION STRUCTURE

In the NWA, the geographic distribution pattern differs between *S. mentella* and *S. fasciatus*. *S. mentella* is more common in the northern range of redfish distribution, particularly in Davis Strait, while *S. fasciatus* predominates in the Gulf of Maine and the Scotian Shelf (Valentin et al. 2006). Both species overlap in the Gulf of St. Lawrence and the Labrador Sea, but *S. mentella* is typically found in deeper waters (350–500 m) compared to *S. fasciatus* (150–300 m) (COSEWIC 2010). Along the continental shelf and slope, *S. mentella* is primarily found from the Gulf of St. Lawrence northward, whereas *S. fasciatus* is more common from the southern Grand Banks to the Gulf of Maine (Gascon 2003).

In the redfish stock complex of the northeast Newfoundland and Labrador (NL) Shelves (SA2+3K), *S. mentella* and *S. fasciatus* dominate commercial fisheries, while *S. marinus* is

much less abundant. Characterizing the population structure of redfish in SA2+3K and other areas of the NWA has been challenging due to the co-occurrence of these three closely related species, the potential for large-scale larval dispersal, adult migrations of *S. mentella*, and hybridization between *S. mentella* and *S. fasciatus* (Roques et al. 2002; Morin et al. 2004; Saborido-Rey et al. 2004; Valentin et al. 2014). Microsatellite DNA analysis has suggested the existence of three broad-scale redfish populations across the North Atlantic: a western population in the Gulf of St. Lawrence, a 'panoceanic' population extending from the Grand Bank and Labrador Sea to the Faroe Islands and centered in the Irminger Sea (off southern Greenland), and an eastern population in Norway and the Barents Sea (Roques et al. 2002; Saborido-Rey et al. 2004).

2.2. LIFE HISTORY AND REPRODUCTION

Redfish are slow-growing and have long life expectancy, with some individuals reported to live up to 75-80 years (Campana et al. 1990). The maximum length of *S. mentella* ranges from 40-45 cm for males and 45-60 cm for females, while *S. fasciatus* reaches a maximum length of 45 cm (Mayo et al. 1990; Gascon 2003). Growth rates in *S. mentella* are generally higher than those of *S. fasciatus*, and in both species, females grow faster than males (Morin et al. 2004). A latitudinal cline in growth rate has also been observed, with fish from southern areas growing faster than those from northern regions (Branton et al. 2003). The estimated age at maturity and generation time for female *S. mentella* in SA2+3K are 15.1–23.1 years and 10.3–18.3 years for *S. fasciatus* (Gascon 2003). Males mature 1–2 years earlier and at smaller sizes than females in both species (Branton et al. 2003).

Redfish are viviparous, with internal fertilization. Embryos are retained in the female until they are released as larvae. Larvae are born with a size range of 6-9 mm (Penney and Evans 1985). The number of larvae produced by a female varies from 1,500 to 107,000 and increases as a power function with body length or mass; however, *S. fasciatus* generally exhibits greater fecundity than *S. mentella* (Saint-Pierre and de Lafontaine 1995; Lambert et al. 2003). Breeding occurs in the fall, with larvae being released in the following spring to early summer, depending on the region and species (Ni and Templeman 1985; Lambert et al. 2003). Juveniles settle on the ocean floor by fall (Kenchington 1984). Adult redfish are considered to be a semi-pelagic species found both near the bottom and higher up in the water column, with their vertical distribution varying due to diel migrations and seasonal movements (Morin et al. 2004). Redfish dispersal is believed to occur primarily during the larval stage; however, large-scale movement by adults is also possible given the species' long lifespan (COSEWIC 2010). In general, redfish recruitment is highly variable and episodic, with strong year-classes occurring at intervals of 5 to 12 years or more (Morin et al. 2004).

2.3. DIET AND PREDATION

Redfish larvae primarily feed on fish and invertebrate eggs, as well as copepods and euphausiids as they develop (Anderson 1994; Pikanowski 1999). As juveniles and adults, *Sebastes fasciatus* and *S. mentella* are pelagic feeders whose diets are dominated by zooplankton—particularly amphipods, copepods, and euphausiids—with increasing proportions of fish consumed as body size increases (Dutil et al. 2003). Northern shrimp (*Pandalus borealis*) also occurs in the diet and has been identified as an important prey item on the NL Shelf, particularly for larger individuals (Dawe et al. 2012).

Redfish are an important prey species for several large piscivorous fishes and marine mammals in the region, including Atlantic Cod (*Gadus morhua*), Greenland Halibut (*Reinhardtius hippoglossoides*), Black Dogfish (*Centroscyllium fabricii*), and Harp Seals (*Pagophilus groenlandicus*) (Pikanowski 1999; Hammill and Stenson 2000; Pérez-Rodríguez and Saborido-

Rey 2012; NAFO 2021). In NAFO Divisions 2J3KL, long-term diet analyses indicate that redfish were a notable prey item for large Greenland Halibut during the late 1970s and 1980s, comprising up to approximately 20% of diet by weight prior to the early 1990s (Dwyer et al. 2010). Thereafter, the contribution of redfish to Greenland Halibut diet declined markedly. Fall multispecies stomach sampling in NAFO Divisions 2J3KL (late 1970s to present) indicates that redfish occurs regularly in Atlantic Cod and Greenland Halibut diets, although they rarely constitute the dominant prey category (NAFO 2021).

Collectively, information on redfish diet composition and their role as prey indicates that redfish occupy a mid-trophic position, consuming zooplankton and shrimp and serving as prey for larger groundfish species.

3. ECOSYSTEM

3.1. PHYSICAL OCEANOGRAPHIC ENVIRONMENT

The SA2+3K region extends off northern Labrador to the eastern Newfoundland Shelf with bottom topography consisting of relatively shallow banks, deep cross-shelf channels and steep continental slopes (Figure 8.1). The ocean circulation is dominated by the southward-flowing Labrador Current system which transports colder relatively fresh water from the Arctic on the shelf, as well as warmer saltier Labrador Sea water along the continental slope. Sub-surface hydrographic properties on the shelf (e.g., bottom temperature and cold intermediate layer) are largely determined by the previous winter conditions and these properties are carried over by this current system. Summer conditions are influenced by other factors such as local winds, freshwater runoff and air temperatures. The main features of an analysis of historical climate data show mostly above average temperature conditions during the 1960s, a brief cold period during the early 1970s and again in the mid-1980s. Temperature conditions then reached the coldest on record in the early 1990s and remained below normal until the mid-1990s. Since then there has been a significant warming trend with temperature values reaching record highs around 2010–11. After a short return to colder temperature between about 2014–17, the recent years (2018–20) suggest a return to a warming trend (Frederic Cyr, DFO, personal communication).

3.2. INVERTEBRATE AND FISH COMMUNITY

Since the mid-1990s, the ecosystem structure of the SA2+3K region has undergone significant changes. The entire fish community collapsed in the late 1980s and early 1990s, accompanied by a decline in average fish size. After this collapse, the system became increasingly dominated by shellfish, with peak dominance occurring in 2003 when more than 60% of the estimated Fall RV biomass was shellfish. Signs of the fish community's recovery became evident in the mid-to-late 2000s, with a corresponding increase in average fish size. In the 2010s, overall biomass remained relatively stable, but groundfish dominance increased while shellfish biomass decreased.

Redfish has become the most prominent planktonic piscivore in the region, with its biomass tripling between the mid-1990s and the 2010s. This rise reflects broader changes in trophic structure following the collapse and gradual rebuilding of the groundfish community. Although redfish now frequently appears in the diets of key predators like Atlantic Cod and Greenland Halibut, it generally constitutes a modest portion of their overall prey compared to other species. Recent years have also seen a shift in predator foraging patterns, particularly a transition from shrimp to Capelin, highlighting continued adjustments of trophic relationships within the ecosystem.

4. THE FISHERY

4.1. MANAGEMENT REGULATIONS

The fishery has been managed under a TAC system since 1974, when a quota of 30,000 t was first introduced (Figure 8.2, Table 9.1). The TAC was increased to 35,000 t in 1980 and remained at that level until it was reduced to 20,000 t in 1991. Further reductions followed: the TAC dropped to 1,000 t in 1994 and was lowered again to 200 t in 1995, with the stipulation that any directed fishing must occur under a “scientific protocol”. This condition remained in place through 1996. In 1997, a moratorium on directed fishing was implemented and remains in effect to the present day.

4.2. FISHERY REMOVALS

Fishery removals for SA2+3K redfish have been estimated using multiple data sources: non-Canadian landings from outside Canada’s Exclusive Economic Zone (EEZ), obtained through the NAFO STATLANT21A database; Canadian landings compiled by the Policy and Economics Branch of DFO NL region; and fishery discard estimates (includes both bycatch and discarded redfish) derived from fishery observer data, particularly from the shrimp and Greenland Halibut fisheries since 1980.

Prior to 1978, the redfish fishery was primarily prosecuted by non-Canadian fleets (mainly Russia, Germany, Iceland, and Poland), with Canadian removals quite low during that period (Table 9.2). Canadian removals increased significantly starting in 1978 and remained high until 1990; however, Canadian catch declined sharply after 1990, reaching very low levels throughout the early 1990s and staying minimal until the moratorium on the directed fishery was implemented in 1997. The highest total recorded catch was about 187,000 t in 1959. The catch dropped sharply to 20,000 t by 1962 and fluctuated between 15,000 t and 56,000 t from 1961–87. A period of decline followed from 1988–96, with landings averaging around 1,800 t until the moratorium in 1997 (Figures 8.2 and 8.3).

Since the moratorium, redfish have been taken primarily as discards and bycatch in other directed fisheries, with total annual landings ranging from approximately 56 t to 1,500 t, averaging 430 t per year. Most removals occurred in NAFO Div. 3K, with smaller amounts from Div. 2J, and sporadic, minimal removals from Div. 2H and 2G—except in 2020, when Div. 2G recorded the highest bycatch removal at approximately 177 t (Figure 8.4).

Discards became a significant component of redfish removals since the 1980s, particularly from emerging bottom trawl fisheries for northern shrimp and from Greenland Halibut trawl and gillnet fisheries. Discard estimates were derived from observer-based catch rates scaled to total landings in these fisheries. Between 1980–87, shrimp fishery discards ranged from 15 t to 200 t annually. Following the 1997 moratorium, combined discards from shrimp and Greenland Halibut fisheries ranged from 33 t to 600 t per year, averaging 240 t annually. Since 2006, omitting Russian removals, discards have constituted the largest portion of redfish removals in most years (Tables 9.1 to 9.2).

Note that Russian catch during 2001–07 and Lithuanian catch during 2001–11 assigned to NAFO Div. 2J in the STATLANT21A database were caught outside the 200 nautical mile limit and likely originated from the Irminger Sea pelagic stock (Paramonov 2007, 2008). These values are omitted from the catch totals for redfish in SA2+3K (Tables 9.1 and 9.2). It has been hypothesized that this stock has shifted its summer distribution, with a portion extending into NAFO Div. 1F and, to some degree, into Div. 2J (Melnikov and Bakay 2002). The relationship between redfish residing in SA2+3K on the continental slope and those shoreward with the Irminger Sea pelagic stock is not well understood.

5. ASSESSMENT

This assessment considered Canadian RV survey data collected during fall surveys from 1978–2020 in NAFO SA 2 (Div. 2J, 2H, and 2G) and NAFO Div. 3K, along with landings data from all countries from 1959–2020. The RV survey data from Div. 2J and 3K have the most consistent survey coverage and, therefore, form the primary basis for assessing biomass and abundance indices for the SA2+3K redfish stock. In contrast, Div. 2G and 2H were surveyed sporadically—Div. 2G was last surveyed in 1999, and consistent sampling in Div. 2H only began in 2010—limiting the ability to compare indices across all divisions in many years (Figure 8.5).

5.1. SURVEY DESIGN

RV multispecies bottom trawl surveys, using a depth-stratified random design (Doubleday 1981), were conducted in the fall Div. 2J and 3K from 1978–95, with coverage of depths to 1000 m and from 1996–2020 with coverage to 1500 m, except in 2008, 2018 and 2019 when several deep strata were missed. The RV surveys in Div. 2G were conducted sporadically with varying spatial coverage between 1978–99. Div. 2H surveys were sporadic between 1978 and 2010, with consistent annual surveys beginning in 2010; depth coverage in Div. 2H was extended from 1,000 m to 1,500 m in 1996, but several recent years have missed strata with depths greater than 750 m.

Prior to fall 1995, RV surveys used an Engels 145 high-lift otter trawl outfitted with a 29 mm mesh liner in the codend, with 30-minute tows at 3 knots. In fall 1995, the survey transitioned to a Campelen 1800 shrimp trawl with a finer 12 mm codend liner and shorter 15-minute tows, maintaining the same vessel speed. The trawl was equipped with Seabird CTD sensors to record temperature, salinity, and depth profiles, while Scanmar sensors measured trawl geometry parameters including clearance from the seafloor, door spread, and headrope and footrope depths. Comparative fishing trials were conducted between the new vessel and gear (CCGS Teleost with Campelen 1800 shrimp trawl) and the previous vessel and gear (MV Gadus Atlantica with Engel 145 Otter trawl). The data collected were analysed by length groups to provide a means to convert the older data time series into Campelen equivalents (Power and Orr 2001). Campelen data and Campelen-equivalents were used in the assessment.

A revision of the stratification scheme based on improved depth charts was implemented in 1993 (Bishop 1994). Although this introduces some uncertainty when comparing recent data with that collected prior to 1993, the total area covered by the revised stratification differs only slightly from the scheme used between 1978–92 (Power 2001). Detailed data on mean numbers of redfish per tow, mean weights (kg) per tow, and the number of fishing sets by year and survey strata are presented for SA2+3K in Tables 9.3 to 9.23.

5.2. SURVEY DISTRIBUTION

Distribution plots for redfish based on total weight (kg) and total number per 15-minute tow from RV surveys are presented in (Figures 8.6 and Figure 8.7). These plots reflect spatio-temporal changes in abundance and biomass estimates; for example, Figure 8.7 shows that several sets with large numbers of redfish were observed in Div. 2H and 2J in 2020. The distribution figures indicate that most redfish are encountered on or near the bank slopes, less frequently in the shallower shelf areas of the banks, and rarely within the shallow nearshore zones that are covered by the fall multispecies survey. Overall, the distribution plots align with biomass estimates over time, showing that the majority of redfish biomass within SA2+3K resides in Div. 3K.

5.3. SURVEY ABUNDANCE AND BIOMASS

This assessment relies exclusively on RV survey data, without incorporating population modelling. The survey estimates presented should be interpreted as relative indices rather than absolute values of population abundance or biomass. To highlight this, the terms “survey abundance,” “survey biomass,” or “indices” are used throughout. The mean number or weight per tow of RV survey is raised at the strata level, and the sum of the values across all the index strata gives the estimates of survey abundance or survey biomass (Smith and Somerton 1981).

5.3.1. Divisions 2G and 2H

As noted earlier, in Div. 2H, survey coverage was inconsistent between 1978–2010, followed by annual surveys from 2011–20 (Figure 8.5). Strata previously known to be occupied by redfish were not surveyed at depths >750 m in 2014–15, 2017, and 2020. To estimate the potential contribution of these missed strata to total survey biomass in Div. 2H from 2016–20, we calculated the average proportion each stratum contributed to total biomass in years when it was surveyed, using the Campelen time series (1995–2020). For each missing stratum, we computed its mean proportional contribution based on (i) the full time series and (ii) the most recent five years it was surveyed. In summary, the combined contribution of all missed strata in Div. 2H was estimated at approximately 25%–35% in 2019 and 70%–80% in 2020 (Figure 8.8). These clearly indicate that the missed strata in Div. 2H can represent a significant portion of total survey biomass, particularly in 2020.

Div. 2G has not been surveyed since 1999, and therefore, it was not possible to determine long-term trends in survey abundance or biomass for this division. The only continuous survey period in Div. 2G (1996–99) showed a decline in abundance from 265 million to 127 million fish (Figure 8.9, Table 9.3), alongside a similar decrease in biomass from 25,000 t to 10,000 t (Figure 8.10, Table 9.3).

Starting in 2005, a portion of Div. 2G has been included in the Northern Shrimp Research Foundation (NSRF) survey. Redfish abundance and biomass indices for Div. 2G from the NSRF survey showed an increase from 2005–10, followed by a decline to series low or near low levels by 2019. This was followed by an exceptional increase in abundance in 2020. The increase in biomass in 2020 is also substantial but not as high as observed for the abundance (Figure 8.11), mainly because the increased abundance of young fish did not contribute much to the biomass.

5.3.2. Divisions 2J and 3K

Div. 2J and 3K were consistently surveyed throughout the entire time period, although several strata were missed in 2019. Using the same approach applied to Div. 2H, we estimated the mean contribution of the missing strata to total survey biomass in Div. 2J3K. In 2019, the combined contribution of the unsurveyed strata was approximately 14% based on the 1995–2020 mean, but less than 10% based on the recent five-year mean (Figure 8.8). Because the missed strata contributed little to the overall biomass estimates recently, the 2019 data were included in the assessment.

Historically, the maximum combined survey biomass for Div. 2J and 3K was approximately 2.25 million metric tonnes (Mt), recorded during the 1978–83 period. In contrast, the average survey biomass from 1978–2020 was just over 0.3 Mt (Figure 8.10). Survey abundance indices from the last five years (2016–20) showed an increasing trend, although the average for this period remained only about one-third of the average indices observed from 1978–83 (Figure 8.9). When analysed separately, survey abundance and survey biomass indices in

Div. 3K were generally higher than those in Div. 2J (Figures 8.12 and Figure 8.13). On average, survey abundance and biomass values in Div. 2J were 42–44% less than those in Div. 3K.

Based on relatively consistent patterns in both survey abundance and biomass indices over time in Div. 2J and 3K combined, the time series can be subdivided into four representative periods: (i) 1978–88, characterized by the highest indices; (ii) 1989–2003, a period of lowest indices; (iii) 2004–11, showing increasing trends; and (iv) 2012–20, marked by a marginal decline, except for increase in abundance in 2020. The sharp increase in survey abundance indices in 2020 is primarily attributed to historically high catches of juvenile redfish in the survey.

From 1978–88, the mean survey abundance was 0.743 billion (Bn) fish in Div. 2J and 2.18 Bn fish in Div. 3K. Between 1989–2003, mean abundance declined to 0.094 Bn and 0.172 Bn fish in Div. 2J and 3K, respectively. The period 2004–11 saw a recovery with mean abundances of 0.561 Bn in Div. 2J and 0.851 Bn in Div. 3K. From 2012–20, mean abundance was 0.533 Bn fish in Div. 2J and 1.04 Bn fish in Div. 3K (Figure 8.12). Likewise, from 1978–88, the mean survey biomass was 0.265 Mt in Div. 2J and 0.621 Mt in Div. 3K. Between 1989–2003, mean biomass declined to 0.013 Mt and 0.032 Mt in Div. 2J and 3K, respectively. During 2004–11, mean biomass increased to 0.068 Mt in Div. 2J and 0.155 Mt in Div. 3K. From 2012–20, mean biomass was 0.066 Mt in Div. 2J and 0.179 Mt in Div. 3K (Figure 8.12).

The combined survey abundance and biomass indices for Div. 2J and 3K were used as surrogates for indices within redfish stock in SA2+3K, due to inconsistent sampling in Div. 2G and 2H. The period from 2010–20 represents the only interval with complete and comparable survey sampling across Div. 2H, 2J, and 3K. During this time, the survey biomass of redfish in Div. 2H accounted for less than 20% of the total survey biomass across Div. 2H, 2J, and 3K combined (Figure 8.14). The average contribution of each of Div. 2H, 2J, and 3K to the total survey biomass in that period were 9.5%, 28%, and 62.5%, respectively.

5.3.3. Length composition and recruitment

Although the Campelen trawl (used since 1995) samples small (<20 cm) redfish more effectively than the Engel trawl, relatively few small redfish were collected in annual surveys before 2005 (Power and Orr 2001). From 2005 onward, one or multiple length modes became apparent in the length-frequency distributions within Div. 2H, 2J, and 3K. These modes persisted over time, and some can be tracked across several years. However, in Div. 2J and 3K, few fish larger than 30 cm have been sampled in recent years compared to the 1978–88 period (Figure 8.15).

A recruitment index (Figure 8.16), calculated as the abundance index of redfish less than 15 cm, was relatively low (averaging about 36 million) from 1979–2000 in Div. 2J3K, reiterating that smaller redfish were not captured as frequently prior to 1995. Since then, the index has generally been at or above the time series average of 331 million redfish. In 2020, the recruitment index was exceptionally high, reaching 3,538 million. Div. 2H also showed an exceptionally high recruitment index in 2020. Length-frequency information is not available from the NSRF survey in Div. 2G. As redfish grow slowly, sequential index values are not independent, and multiple cohorts may contribute to annual values. Recruitment is episodic, and the conditions that produce strong year classes are not well understood, including the potential for recruits to originate from neighboring areas. Therefore, it remains unclear how the large number of small fish observed in 2020 will contribute to future fisheries.

5.4. RELATIVE HARVEST RATE

The relative harvest rate, used as a proxy for fishing mortality in Div. 2J and 3K, was calculated as the ratio of total fishery removals in a given year to the RV survey biomass index from the previous year (Figure 8.17). During the pre-moratorium period (prior to 1997), harvest rates

were quite variable, averaging just over 2%. Following the moratorium, harvest rates initially increased, reaching a peak of about 3% during the first eight years without directed fisheries. Since 2007, directed fishing has declined below discard levels, and harvest rates have remained low (<1%) (Figure 8.17).

Harvest rates from directed fisheries versus bycatch cannot be interpreted in the same way. Directed harvests primarily consist of fish larger than 20 cm, while bycatch—especially from shrimp fisheries—mainly includes fish smaller than 20 cm (Power 2001). Even small amounts of bycatch (i.e., low harvest rates by weight) can result in the removal of large numbers of small individuals from the stock. In recent years, shrimp fisheries in Div. 2G have contributed a large proportion of estimated discards, yet the biomass estimates used to calculate harvest rates are based solely on Div. 2J and 3K. Because RV surveys have not been conducted in Div. 2G since 1999, and survey coverage in Div. 2H has been inconsistent with several deep strata (>750 m) not sampled in recent years, it is not possible to reliably estimate biomass or calculate harvest rates for these divisions.

5.5. SOURCE OF UNCERTAINTY

Redfish population in SA2+3K consists of a species mix dominated by *S. mentella*, with smaller proportions of *S. fasciatus* and occasional occurrences of *S. marinus*. Because *S. mentella* and *S. fasciatus* are morphologically similar, they are not separated in either commercial or research survey catches; *S. marinus* are only distinguished at larger sizes (>25 cm).

Catch estimates are based on combined data from STATLANT21A and DFO NL reported landings available from Policy and Economics Branch, supplemented by upscaled observer data. Notably, Russian (2001–08) and Lithuanian (2001–11) catches assigned to Div. 2J in Statlant 21A dataset occur outside the 200 nautical mile limit and likely derive from the Irminger Sea pelagic stock (Power 2001); these catches are excluded from removals reported here. It has been suggested that the Irminger Sea pelagic stock has shifted its summer distribution, now partially extending into Div. 1F and to some extent into Div. 2J (Paramonov 2008). Redfish bycatch estimates are based on observer records from shrimp and Greenland Halibut fisheries. Since not all tows are observed every year and in every division, these data are scaled up proportionally by total landings by division and year. This scaling introduces some uncertainty into bycatch estimates.

Several factors contribute to uncertainty surrounding the recent pulse in juvenile recruitment. Redfish are known for episodic recruitment, with strong year-classes appearing infrequently—sometimes once per decade or less—even in healthy populations. While 2020 showed historically high recruitment indices, the drivers of this pulse remain unclear, including whether recruits originated from within the stock area or neighboring stocks, which have also reported recent recruitment increases. One aspect to consider here in making the conclusion about historical high recruitment in 2020 is that the Campelen trawls catch small fish (<20 cm) more effectively than Engel trawls (which were used prior to 1995). Following comparative fishing experiments, conversion factors (catchability ratios) were developed to standardize catch rates across Engel and Campelen tows (i.e., essentially converting older Engel trawl catches into Campelen-equivalent catches). The conversion factor for redfish < 10 cm was assumed to be the same as for redfish equal to 10 cm because sample sizes were too small at lengths < 10 cm to generate a reliable conversion factor (Power and Orr 2001). Therefore, long-term trends need to be interpreted with caution as surveys before 1995 are in Campelen-equivalent units, and may under-represent actual recruitment in the pre-1995 period. Additionally, catchability varies due to biological factors such as dense schooling behavior and environmental influences like temperature or depth, causing inconsistent survey catches and high year-to-year variability.

Major challenges for redfish stock-assessment model development include: (1) lack of survey-at-age data, (2) absence of commercial catch-at-age data, (3) episodic and variable recruitment patterns, and (4) species identification within the survey and commercial catch.

6. CONCLUSION

Available data on redfish in NAFO Divisions SA2+3K include commercial catches (1959–2020) and Canadian fall survey data (1978–2020). Since the 1997 moratorium, catches have mainly come from bycatch in shrimp and Greenland Halibut fisheries, with discards averaging 240 t annually. Biomass and abundance indices from Div. 2J and 3K show a decline from 2010–17, followed by a sharp recruitment-driven increase in 2020. Despite this, biomass remains low.

Significant uncertainties remain due to episodic recruitment, slow growth, incomplete data on juvenile bycatch impacts, and inconsistent sampling in some divisions. The relative harvest rate has been low (<1%) since 2007, but without established reference points, stock status under the Precautionary Approach cannot be determined.

Given these uncertainties and challenges, a cautious management approach is recommended for this stock, including continued monitoring of recruitment, bycatch impacts, and enhanced data collection on species composition and age structure.

7. REFERENCES CITED

- Anderson, J.T. 1994. Feeding ecology and condition of larval and pelagic juvenile redfish *Sebastes* spp. Mar. Ecol. Prog. Ser. 104: 211–226.
- Bishop, C.A. 1994. Revisions and additions to stratification schemes used during research vessel surveys in NAFO subareas 2 and 3. NAFO SCR Doc. 94/43. p. 23.
- Branton, R.M., Morin, B., Power, D., and Sevigny, J.M. 2003. Standardized inter-regional redfish survey sampling and analysis of growth and maturity in management units 1,2,3, and NAFO div. 3O. In Redfish multidisciplinary research zonal program (1995–1998): Final report. Edited by D. Gascon. pp. 49–56.
- Campana, S., Zwanenburg, K., and Smith, J. 1990. [210Pb/226Ra Determination of Longevity in Redfish](#). Can. J. Fish. Aquat. Sci. 47(1): 163–165.
- COSEWIC. 2010. [COSEWIC assessment and status report on the Deepwater Redfish/Acadian Redfish complex *Sebastes mentella* and *Sebastes fasciatus* in Canada - 2010](#). COSEWIC. pp. x + 80.
- Dawe, E., Koen-Alonso, M., Chabot, D., Stansbury, D., and Mullowney, D. 2012. [Trophic interactions between key predatory fishes and crustaceans: Comparison of two northwest atlantic systems during a period of ecosystem change](#). Mar. Ecol. Prog. Ser. 469: 233–248.
- DFO. 2011. [Recovery potential assessment of redfish \(*Sebastes fasciatus* and *S. mentella*\) in the northwest Atlantic](#). DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2011/044. (Erratum: June 2013).
- Doubleday, W.G. 1981. Manual on groundfish surveys in the northwest Atlantic. NAFO Sci. Coun. Stud. 2: 7–55.
- Dutil, J.-D., Lambert, Y., Larocque, R., and Sévigny, J.-M. 2003. Temperature preference and tolerance in larval and adult redfish *S. fasciatus* and *S. mentella*. In Redfish multidisciplinary research zonal program (1995–1998): Final report. Edited by D. Gascon. pp. 73–78.

-
- Dwyer, K.S., Buren, A., and Koen-Alonso, M. 2010. [Greenland halibut diet in the northwest atlantic from 1978 to 2003 as an indicator of ecosystem change](#). J. Sea Res. 64(4): 436–445.
- Gascon, D. (Editor). 2003. Redfish multidisciplinary research zonal program (1995–1998): Final report.
- Hammill, M.O., and Stenson, G.B. 2000. [Estimated prey consumption by harp seals \(*Phoca groenlandica*\), hooded seals \(*Cystophora cristata*\), grey seals \(*Halichoerus grypus*\), and harbour seals \(*Phoca vitulina*\) in Atlantic Canada](#). J. Northwest Atl. Fish. Sci. 26: 1–23.
- Kenchington, T.J. 1984. Population structures and management of the redfishes (sebastes spp.: Scorpaenidae) of the scotian shelf. Dalhousie University, PhD thesis.
- Lambert, Y., Dutil, J.-D., and Sévigny, J.-M. 2003. Variability in reproductive characteristics and larvae production of redfish (*Sebastes fasciatus*) in the Gulf of St. Lawrence. In Redfish multidisciplinary research zonal program (1995–1998): Final report. Edited by D. Gascon. pp. 99–105.
- Mayo, R., Burnett, J., Smith, T., and Muchant, C. 1990. [Growth-maturation interactions of acadian redfish \(*sebastes fasciatus storer*\) in the gulf of maine-georges bank region of the northwest atlantic](#). ICES J. Mar. Sci. 46(3): 287–305.
- Melnikov, S.P., and Bakay, Y.I. 2002. Spatial structure of pelagic concentrations of sebastes mentella of the irminger sea and adjacent waters. ICES North-Western Working Group 2002, Working Doc. No. 17, 1–24.
- Morin, R.B., Methot, R., Sévigny, J.-M., Power, D.J., Branton, R.M., and McIntyre, T.M. 2004. [Review of the structure, the abundance and distribution of sebastes mentella and s. Fasciatus in atlantic canada in a species-at-risk context](#). DFO Can. Sci. Advis. Sec. Res. Doc. 2004/058: vi + 90 p.
- NAFO. 2021. Report of the 14th meeting of the NAFO scientific council working group on ecosystem science and assessment (WG-ESA). NAFO SCS Doc. 21/21, Serial No. N7256.
- Ni, I.-H., and Templeman, W. 1985. Reproductive cycles of redfishes (sebastes) in southern newfoundland waters. J. Northwest Atl. Fish. Sci. 6(1): 57–63.
- Paramonov, V.V. 2007. Migrations of adult beaked redfish (sebastes mentella) in north atlantic in periods of fishing. NAFO SCR Doc. 07/04, Serial No. N5344: 9 p.
- Paramonov, V.V. 2008. Migrations of adult beaked redfish (sebastes mentella) in north atlantic in 2007. NAFO SCR Doc. 08/04, Serial No. N5489: 10 p.
- Penney, R.W., and Evans, G.T. 1985. [Growth histories of larval redfish \(*sebastes* spp.\) on an offshore atlantic fishing bank determined by otolith increment analysis](#). Can. J. Fish. Aquat. Sci. 42(9): 1452–1464.
- Pérez-Rodríguez, A., and Saborido-Rey, F. 2012. Food consumption of Flemish Cap cod *Gadus morhua* and redfish *Sebastes* sp. Using generic bioenergetic models. NAFO SCS Doc. 12/068, Serial No. N6136.
- Pikanowski, R.A. 1999. Essential fish habitat source document: Redfish, *Sebastes* spp., life history and habitat characteristics. NOAA Tech. Memo. NMFS-NE-132, Northeast Fisheries Science Center: 42 p.
- Power, D. 2001. [The status of Redfish in SA2 + Div. 3K](#). DFO Can. Sci. Advis. Sec. Res. Doc. 2001/102: i + 20 p.
-

-
- Power, D.J., and Orr, D.C. 2001. [Canadian research survey data conversions for redfish in SA2 + Div. 3K based on comparative fishing trials between an engel 145 otter trawl and a campelen 1800 shrimp trawl](#). DFO Can. Sci. Advis. Sec., Res. Doc. 2001/103: i + 15 p.
- Roques, S., Sévigny, J.-M., and Bernatchez, L. 2002. [Genetic structure of deep-water redfish, *sebastes mentella*, populations across the north atlantic](#). Mar. Biol. 140: 297–307.
- Saborido-Rey, F., Garabana, D., Stransky, C., Melnikov, S., and Shibarov, V. 2004. [Review of the population structure and ecology of *S. mentella* in the Irminger sea and adjacent waters](#). Rev. Fish Biol. Fish. 14: 455–479.
- Smith, S.J., and Somerton, G.D. 1981. STRAP: A user-oriented computer analysis system for groundfish research trawl survey data. Can. Tech. Rep. Fish. Aquat. Sci. 1030: iv + 66 p.
- St-Pierre, J.-F., and Lafontaine, Y. de. 1995. Fecundity and reproduction characteristics of beaked redfish (*Sebastes fasciatus* and *S. mentella*) in the Gulf of St. Lawrence. Can. Tech. Rep. Fish. Aquat. Sci. 2059: vii + 32 p.
- Valentin, A.E., Penin, X., Chanut, J.P., Power, D., and Sévigny, J. 2014. [Combining microsatellites and geometric morphometrics for the study of redfish \(*sebastes* spp.\) population structure in the northwest atlantic](#). Fish. Res. 154: 102–119.
- Valentin, A., Sévigny, J.-N., Morin, B., Power, D., and Branton, R.M. 2006. [Extensive sampling and concomitant use of meristic characteristics and variation at the MDH-a* locus reveal new information on redfish species distribution and spatial pattern of introgressive hybridization in the northwest Atlantic](#). J. Northwest Atl. Fish. Sci. 36: 65–80.

8. FIGURES

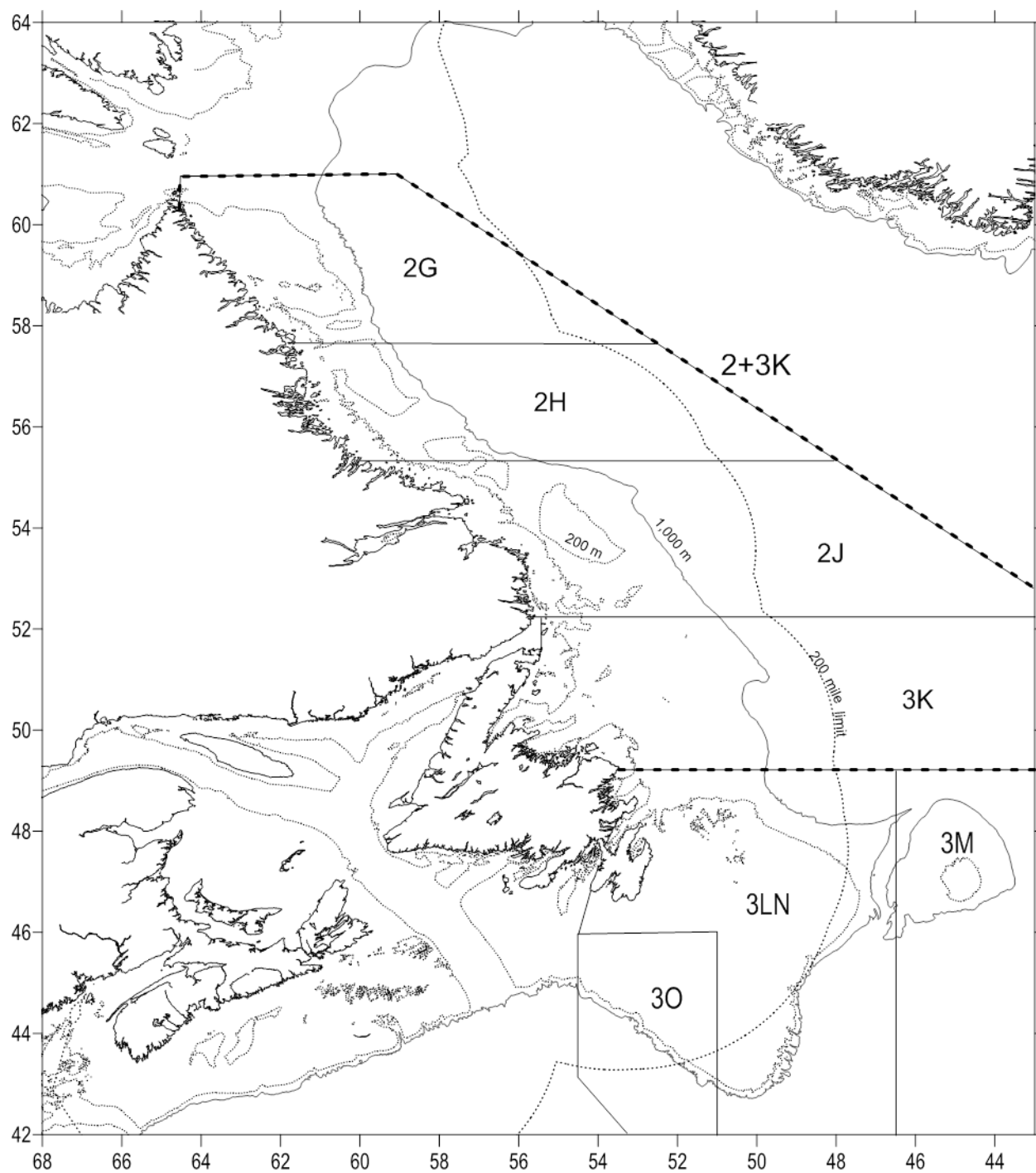


Figure 8.1. Map of the Northwest Atlantic showing the SA2+3K management area for redfish.

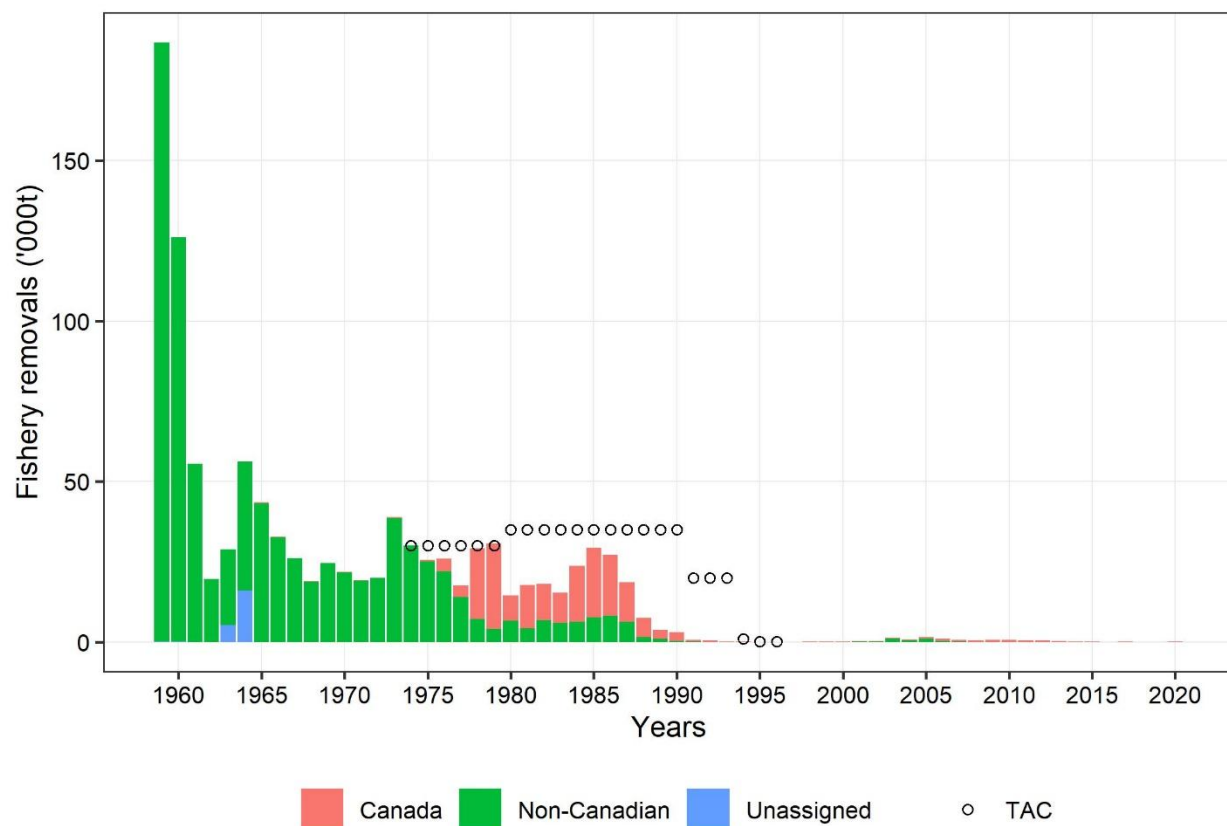


Figure 8.2. Redfish reported removals in SA2+3K by Canadian (including discards) and non-Canadian fleets. Circles represent TAC.

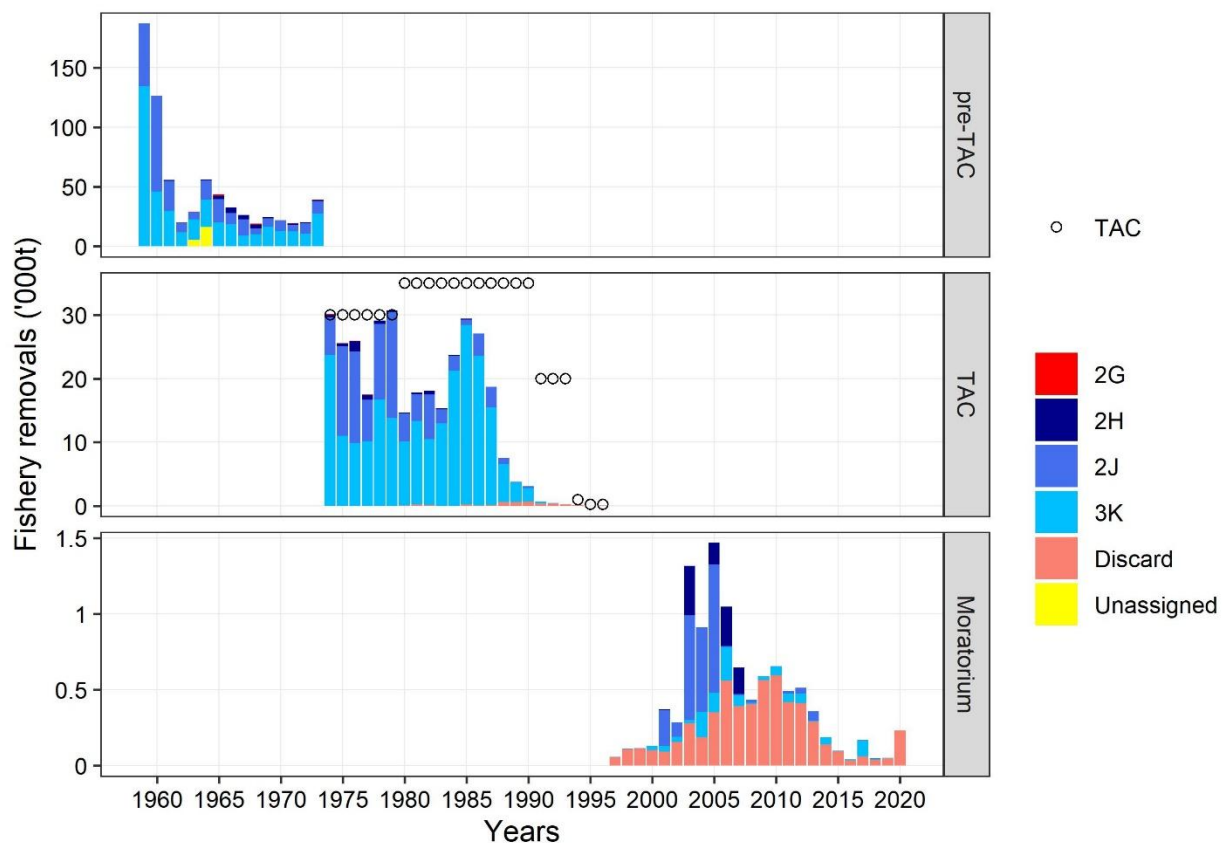


Figure 8.3. Redfish reported removals split into three phases: before the TAC regulation (pre-TAC), during TAC regulation, and during the moratorium. The “Discard” portion of the plot also includes landed bycatch.

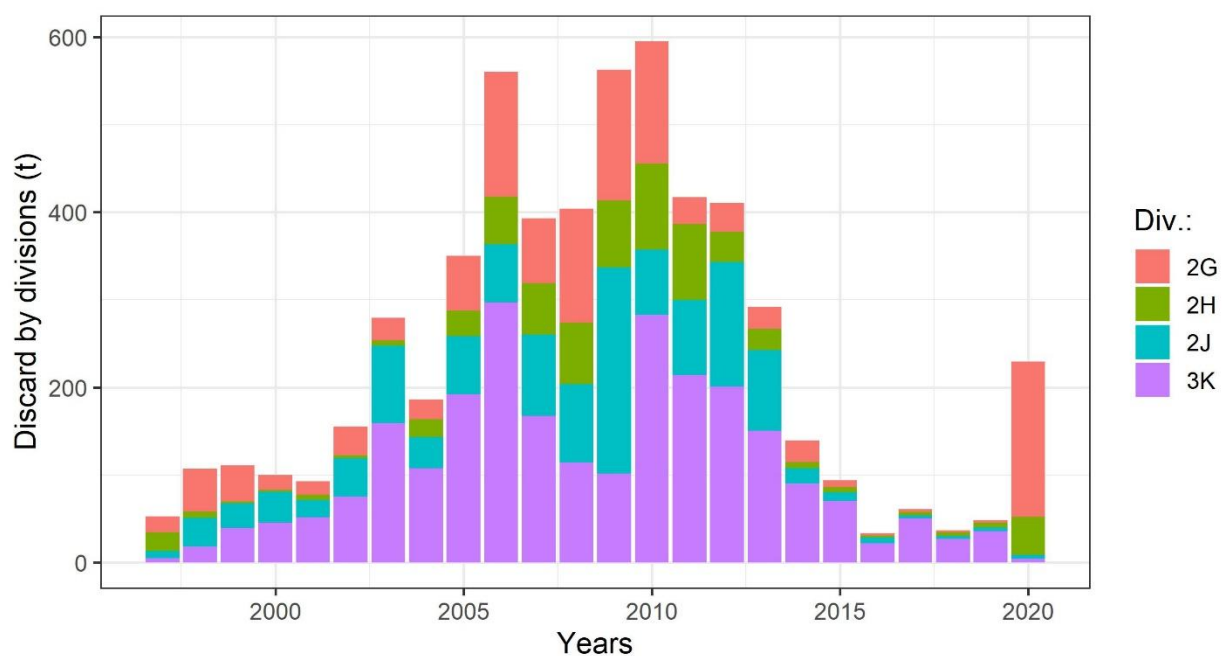


Figure 8.4. Redfish discards in SA2+3K. The discard data also includes landed bycatch.

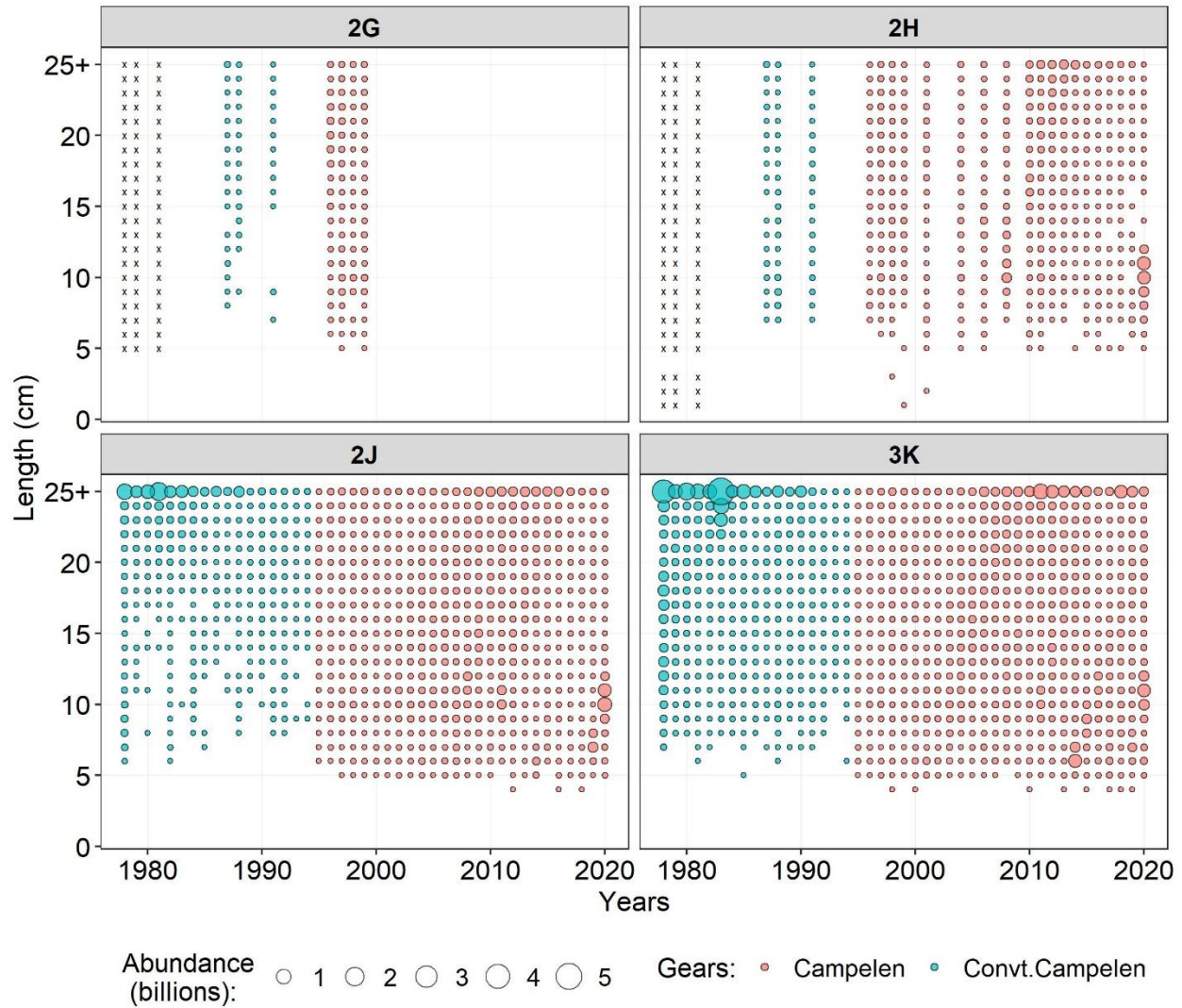


Figure 8.5. Bubble plots showing years with Canadian fall RV survey coverage in NAFO SA2+3K. Bubble size is proportional to the survey estimate of redfish abundance-at-length. Colors distinguish indices derived from Engel and Campelen trawl gear. An “x” indicates years when the survey was conducted but length-frequency data were not available and blanks indicate years with no survey data.

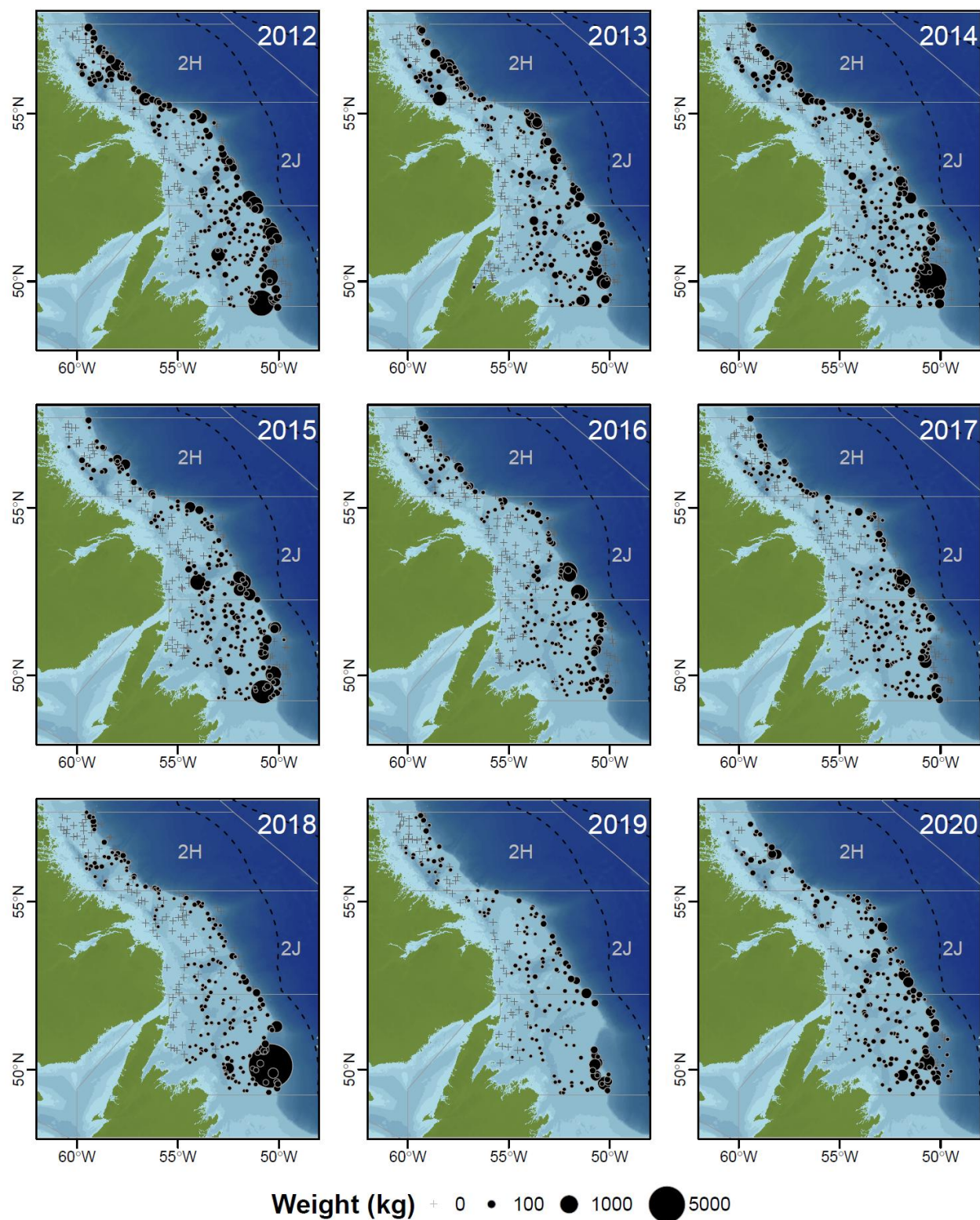


Figure 8.6. Distribution of redfish (weight (kg) per tow) from fall RV surveys in SA2+3K (2012–20).

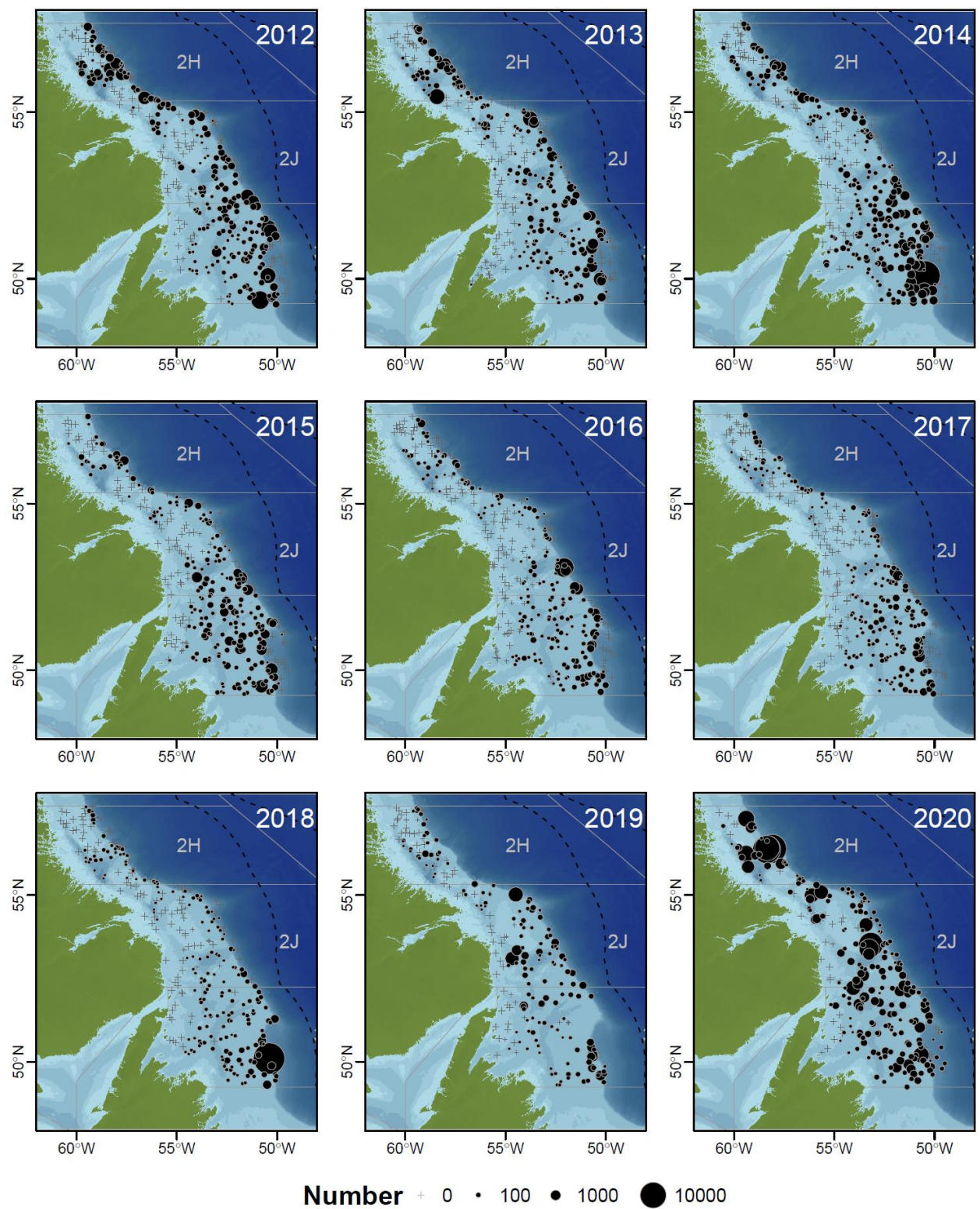


Figure 8.7. Distribution of redfish (number per tow) from fall RV surveys in SA2+3K (2012–20).

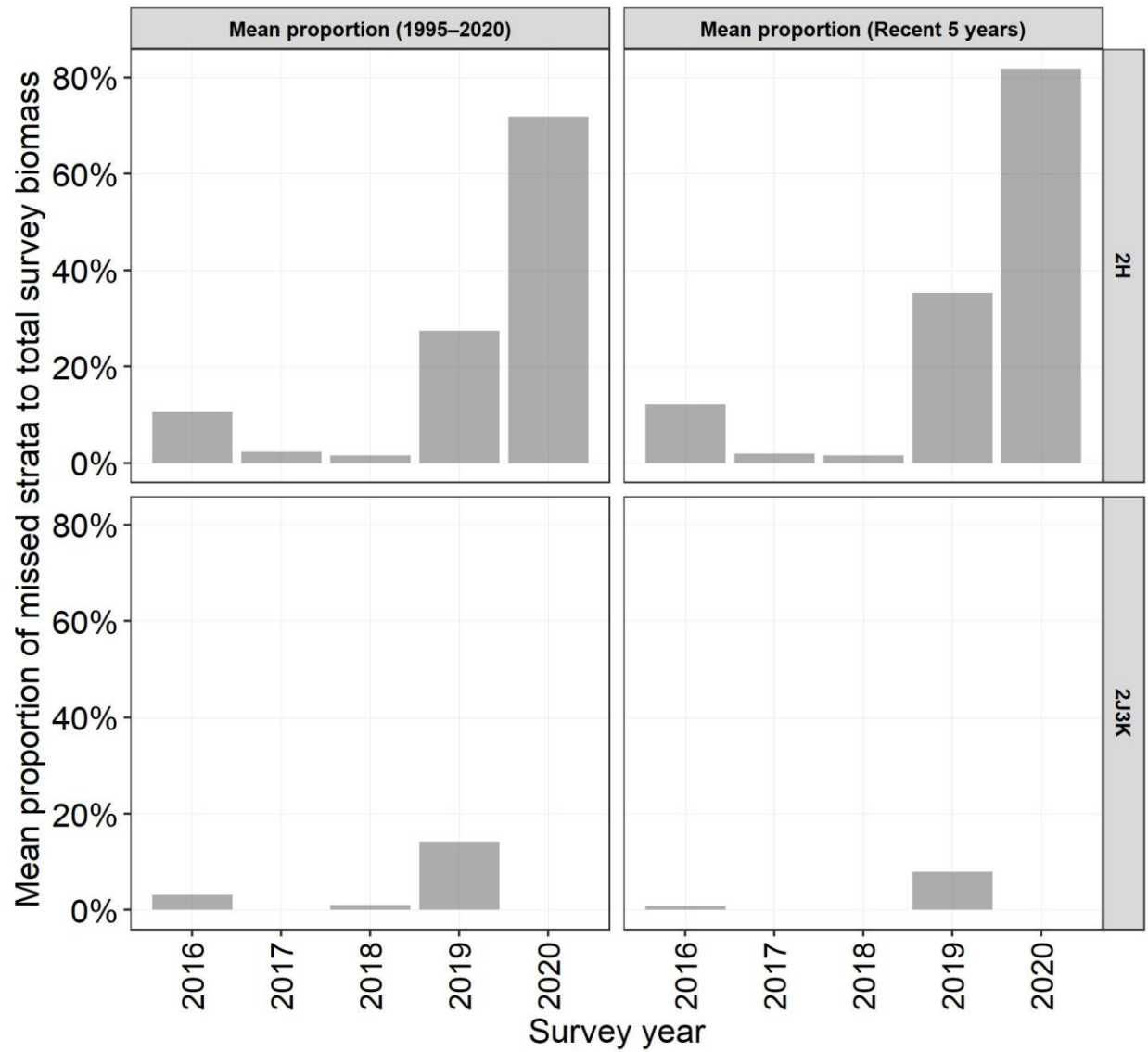


Figure 8.8. Mean proportional contribution of unsurveyed strata to total survey biomass in Div. 2H and 2J3K (combined) from 2016 onward, based on catch data from 1995–2020 and the most recent five years. Bars represent the combined contribution of all missing strata in each year.

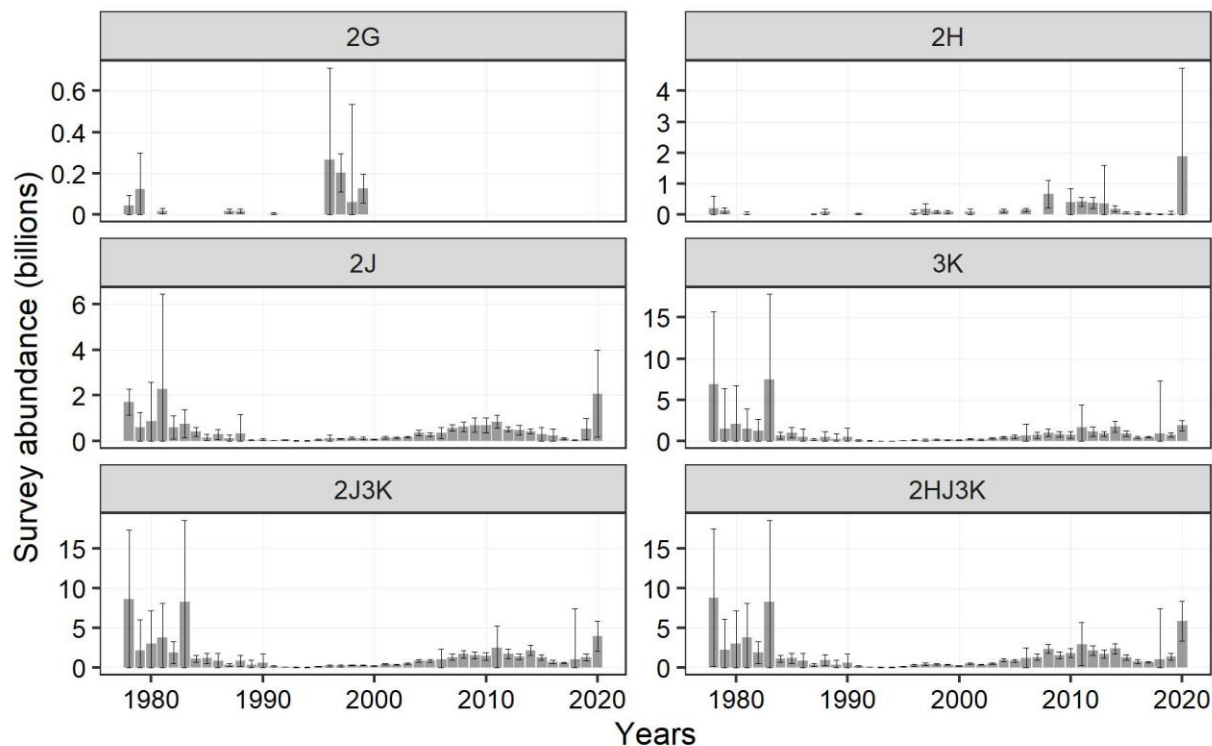


Figure 8.9. Canadian RV survey abundance for redfish in each NAFO division. Vertical lines in each bar represent 95% confidence intervals. Years with no bar represent years when no RV survey occurred.

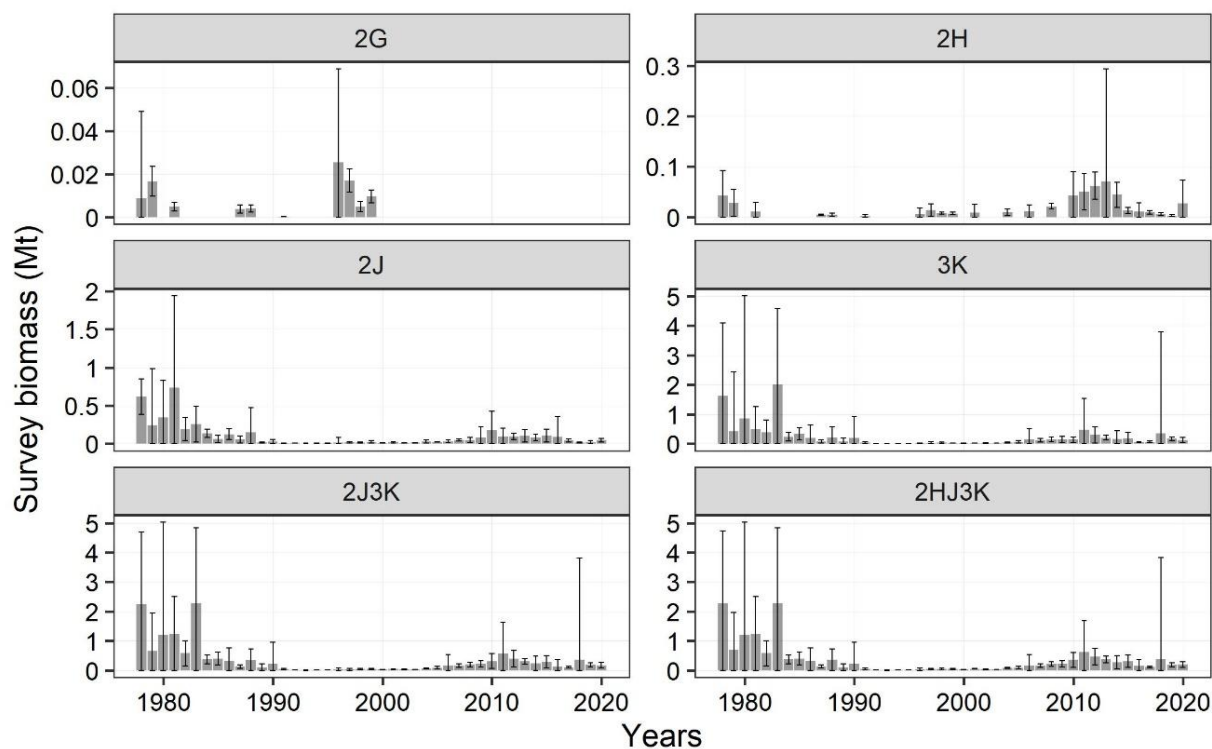


Figure 8.10. Canadian RV survey biomass for redfish in each NAFO division. Vertical lines in each bar represent 95% confidence intervals. Years without bars represent years when no RV survey occurred.

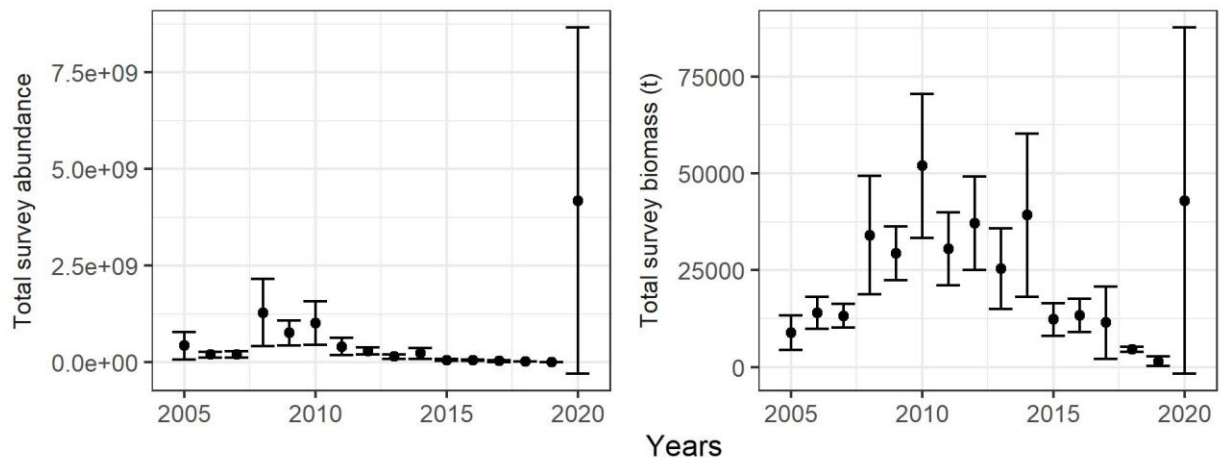


Figure 8.11. Redfish abundance and biomass (t) from the NSRF survey in Div. 2G. Source: DFO Arctic region.

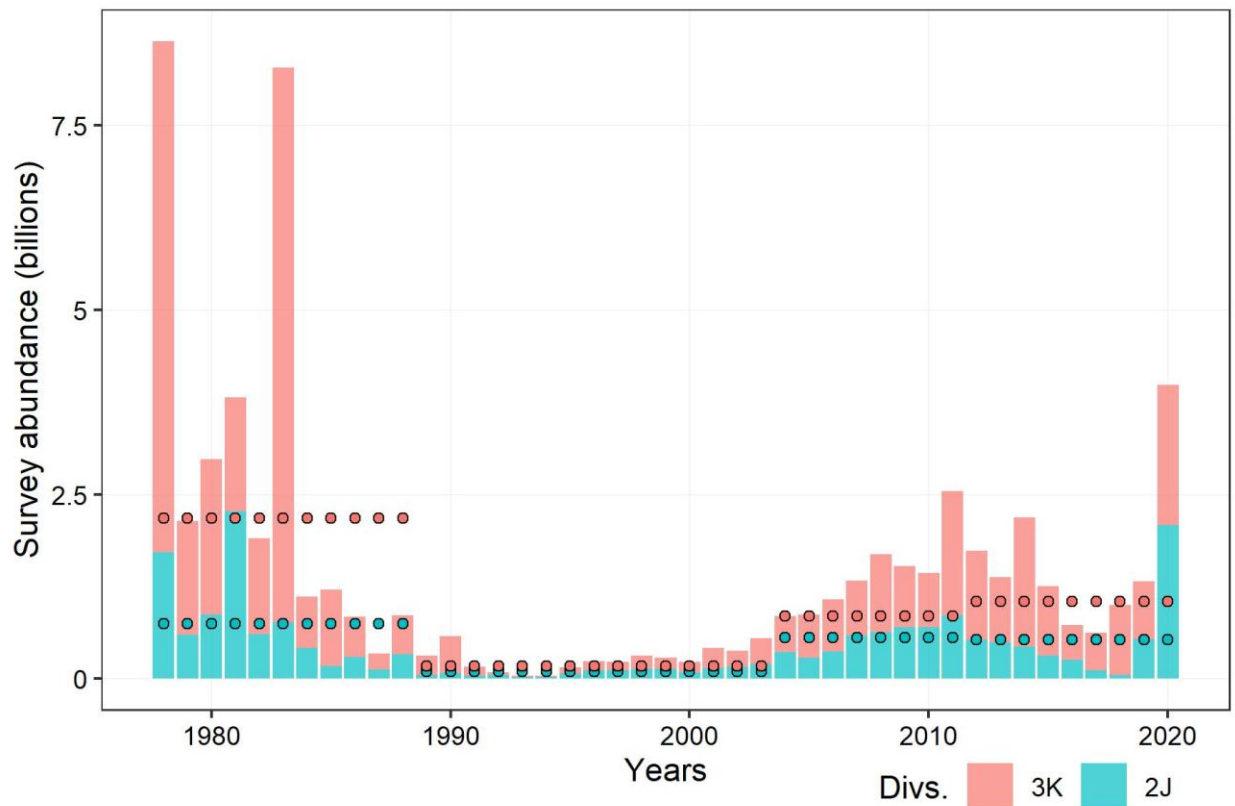


Figure 8.12. Survey abundance of redfish in NAFO Div. 2J and 3K. Dotted lines represent the mean abundance within each division for four time periods: 1978–88, 1989–2003, 2004–11, and 2012–20.

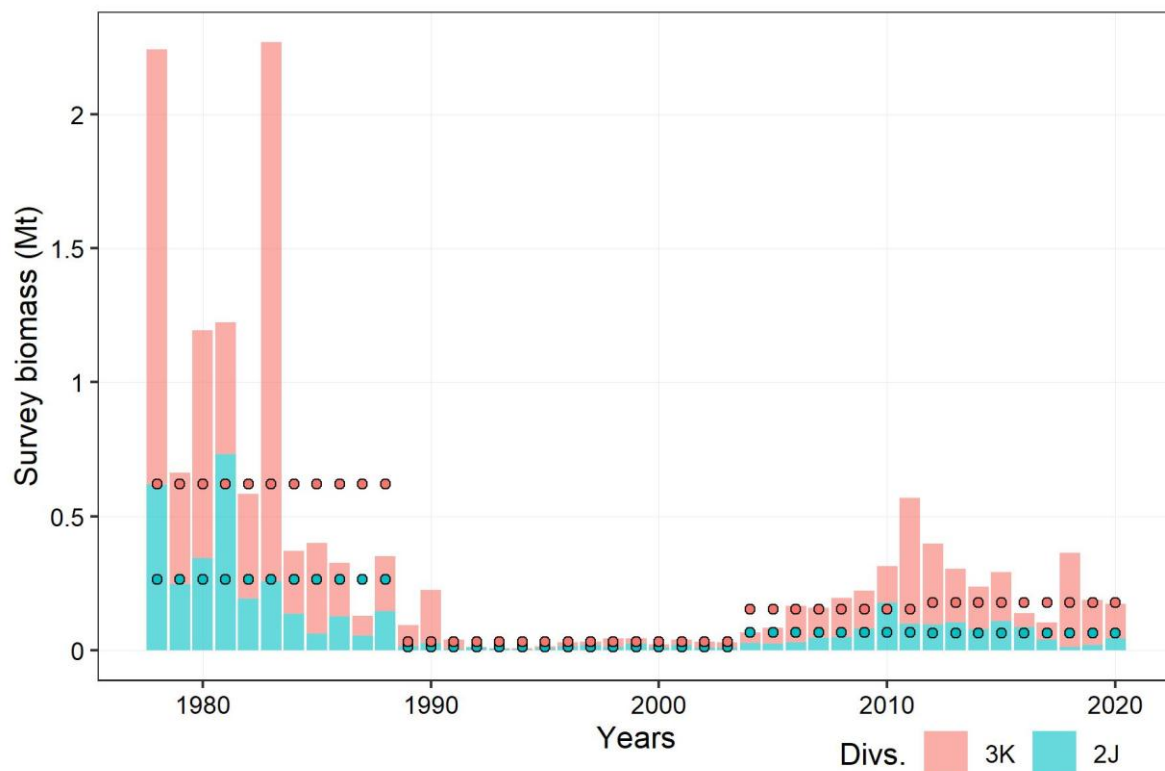


Figure 8.13. Survey biomass of redfish in NAFO Div. 2J and 3K. Dotted lines represent the mean biomass within each division for four time periods: 1978–88, 1989–2003, 2004–11, and 2012–20.

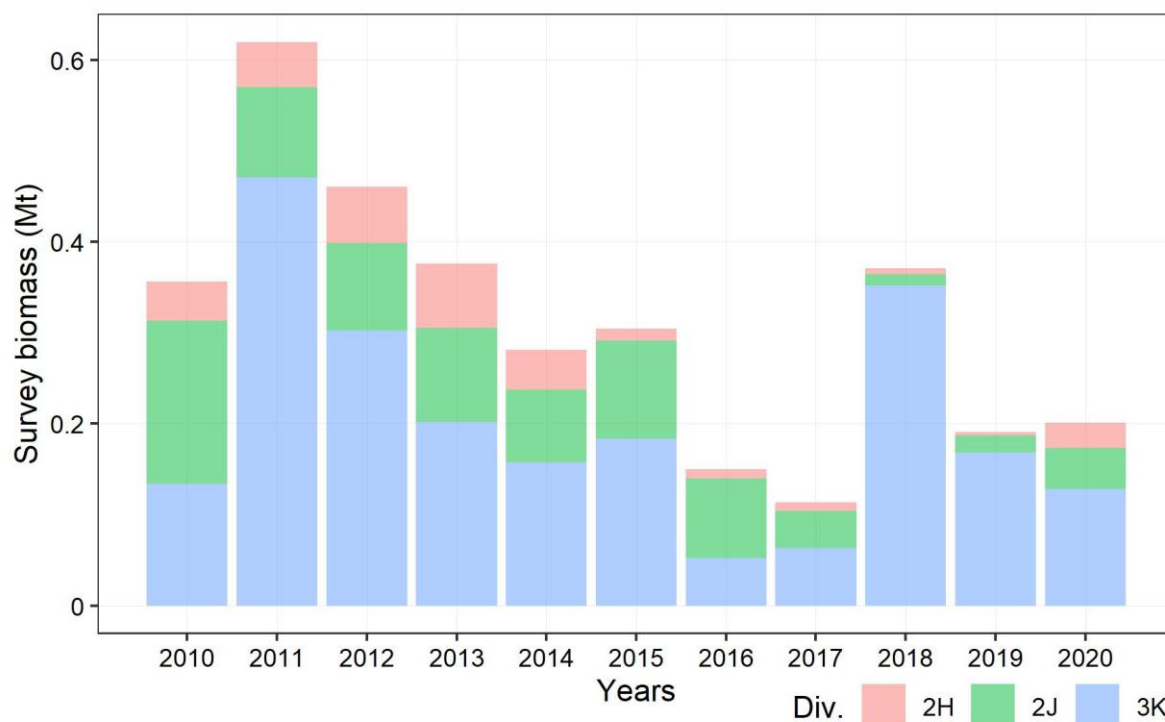


Figure 8.14. Survey biomass of redfish in NAFO Div. 2H, 2J, and 3K from 2010–2020—the period during which all three divisions were consistently surveyed.

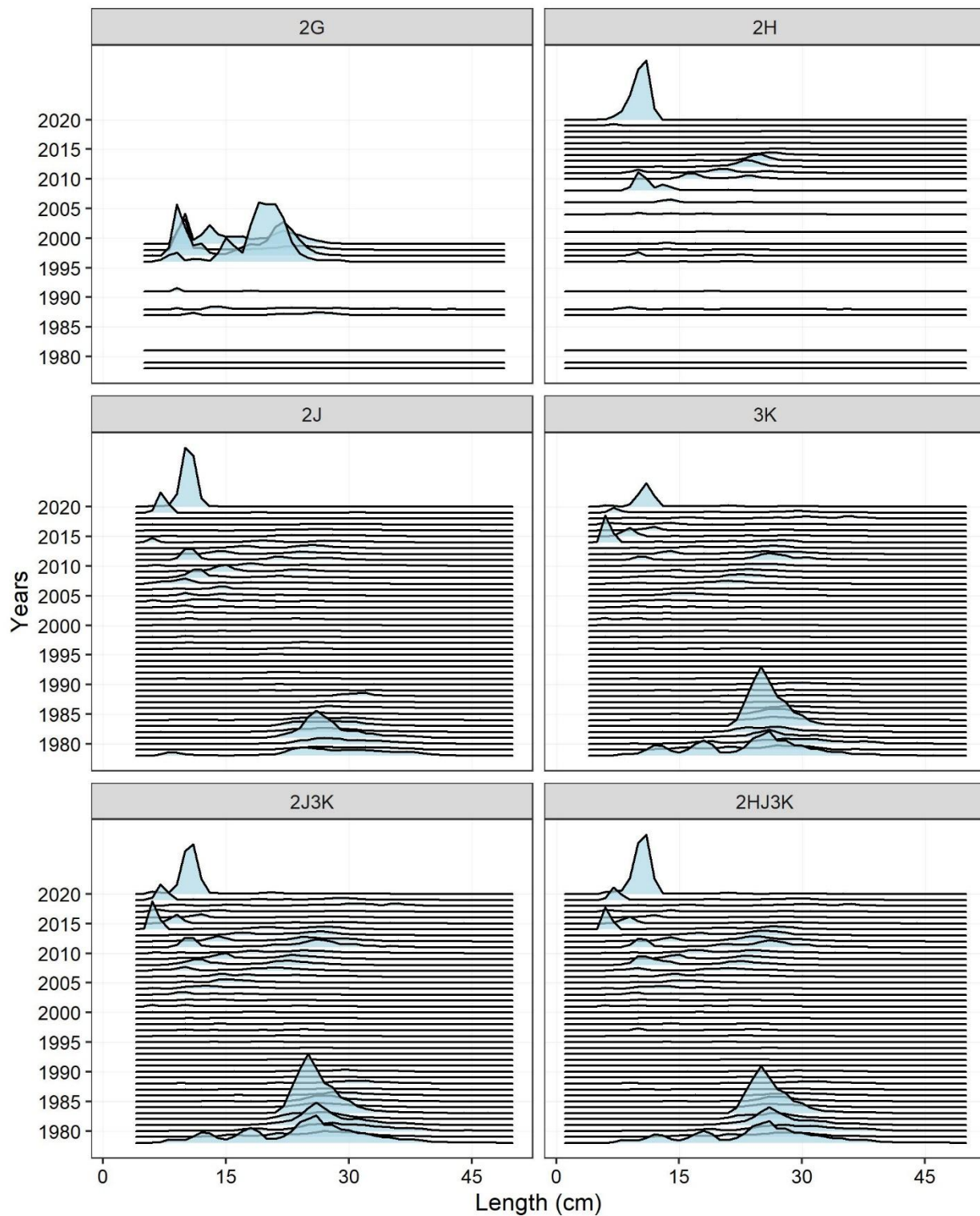


Figure 8.15. Length-frequency distributions of redfish abundance-at-length in each NAFO division. Gaps indicate years when no RV survey was conducted.

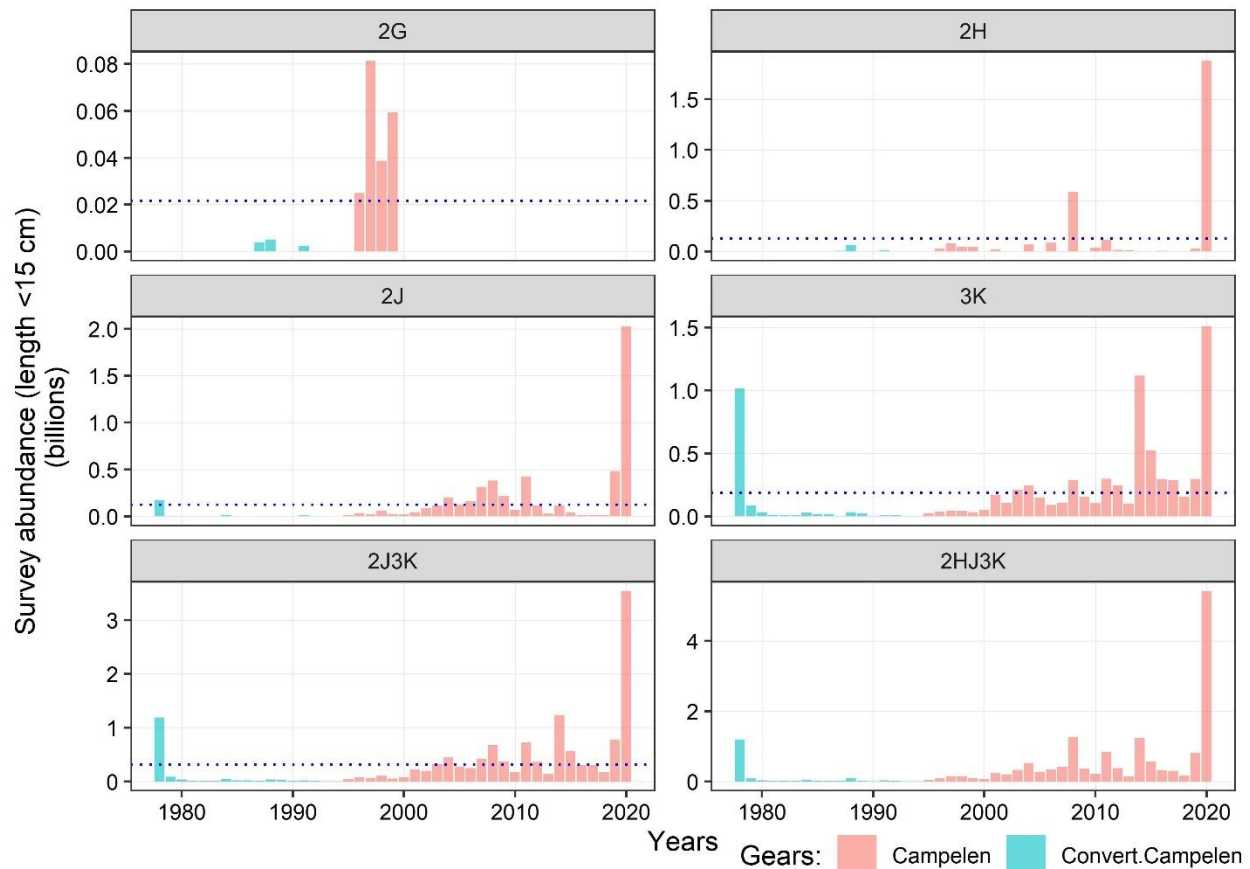


Figure 8.16. Recruitment index for redfish in SA 2 and Div. 3K, based on total survey abundance estimates of fish less than 15 cm in length. Dotted lines indicate the mean value over the time series for the respective Divisions (or aggregate trends over multiple Divisions).

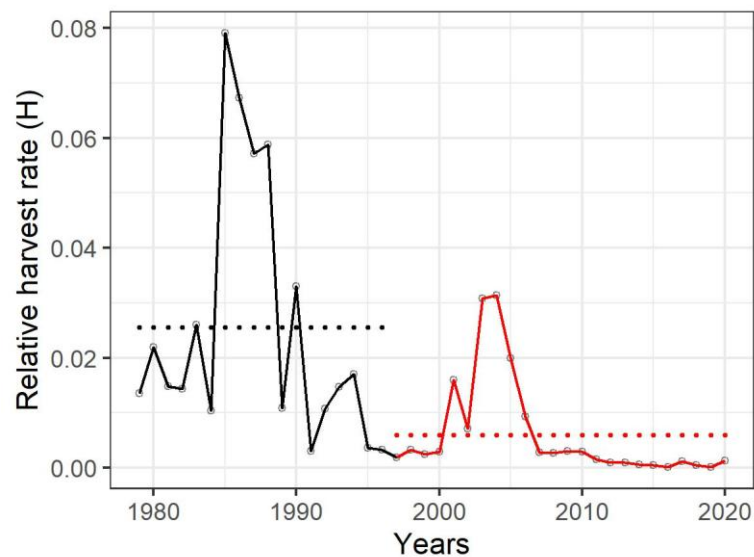


Figure 8.17. Relative harvest rate of redfish in NAFO Div. 2J+3K from 1979–2020, calculated as the ratio of catch in a given year to the RV survey biomass from the previous year. Dotted lines indicate the mean harvest rate for the pre-moratorium and moratorium periods.

9. TABLES

Table 9.1. Redfish removals (t) in SA2+3K. An asterisk (*) indicates either no catch or no information available.

Year	2G	2H	2J	3K	Unassigned	Discard	IrmingerSea	Total ¹	TAC
1959	*	23	52519	134065	230	*	*	186837	*
1960	*	56	80292	45698	118	*	*	126164	*
1961	*	542	25052	29861	10	*	*	55465	*
1962	*	155	7576	11925	3	*	*	19659	*
1963	245	16	5873	17510	5254	*	*	28898	*
1964	120	938	16001	23044	16129	*	*	56232	*
1965	1103	2878	19516	20042	*	*	*	43539	*
1966	197	4678	9135	18720	*	*	*	32730	*
1967	24	3327	13699	9112	*	*	*	26162	*
1968	670	3156	4938	10104	40	*	*	18908	*
1969	177	869	7128	16407	54	*	*	24635	*
1970	90	501	8372	12834	22	*	*	21819	*
1971	471	1079	5084	12672	6	*	*	19312	*
1972	22	637	8879	10495	*	*	*	20033	*
1973	192	742	10545	27486	*	*	*	38965	*
1974	85	429	5943	23688	*	*	*	30145	30000
1975	67	383	14096	11013	*	*	*	25559	30000
1976	89	1606	14412	9858	*	*	*	25965	30000
1977	99	770	6509	10161	*	*	*	17539	30000
1978	29	554	11804	16759	*	*	*	29146	30000
1979	14	256	16659	13801	*	*	*	30730	30000
1980	2	47	4423	10047	*	85	*	14604	35000
1981	24	203	4241	13174	*	197	*	17839	35000
1982	*	583	7048	10352	*	116	*	18099	35000
1983	*	158	2166	12987	*	14	*	15325	35000
1984	49	81	2329	21230	*	27	*	23716	35000
1985	*	133	867	28225	*	211	*	29436	35000
1986	*	69	3456	23494	*	95	*	27114	35000
1987	*	16	3212	15283	*	177	*	18688	35000
1988	8	28	994	5912	*	616	*	7558	35000
1989	1	3	79	3084	*	640	*	3807	35000
1990	2	*	316	2104	*	665	*	3087	35000
1991	*	1	8	271	*	403	*	683	20000
1992	*	*	1	14	*	408	*	423	20000
1993	*	*	*	2	*	202	*	204	20000
1994	1	*	*	*	*	126	*	127	1000
1995	1	*	1	*	*	25	*	27	200
1996	1	*	1	2	*	43	*	47	200
1997	*	*	1	3	*	52	*	56	Moratorium
1998	*	*	*	3	*	107	*	110	Moratorium
1999	*	2	*	1	*	111	*	114	Moratorium
2000	*	*	*	29	*	100	*	129	Moratorium
2001	*	8	232	38	*	93	1516	371	Moratorium
2002	*	*	95	34	*	155	3043	284	Moratorium
2003	*	325	693	20	*	279	4021	1317	Moratorium
2004	*	*	557	167	*	186	4176	910	Moratorium
2005	*	144	843	132	*	350	4124	1469	Moratorium
2006	*	261	5	221	*	561	844	1048	Moratorium
2007	*	174	8	70	*	393	2836	645	Moratorium
2008	*	*	18	11	*	404	10	433	Moratorium
2009	*	*	1	26	*	563	*	590	Moratorium
2010	*	*	4	57	*	595	*	656	Moratorium
2011	*	*	17	56	*	417	74	490	Moratorium
2012	*	*	39	64	*	411	*	514	Moratorium
2013	*	*	61	4	*	292	*	357	Moratorium

Year	2G	2H	2J	3K	Unassigned	Discard	IrmingerSea	Total ¹	TAC
2014	*	*	*	48	*	139	*	187	Moratorium
2015	*	*	*	5	*	94	*	99	Moratorium
2016	*	*	*	7	*	33	*	40	Moratorium
2017	*	*	1	104	*	61	*	166	Moratorium
2018	*	*	1	8	*	37	*	46	Moratorium
2019	*	*	*	3	*	48	*	51	Moratorium
2020	*	*	*	3	*	229	*	232	Moratorium

¹Total doesn't include catches from Irminger Sea outside Canadian EEZ between 2001–11.

Table 9.2. Redfish removals (t) by country. An asterisk () indicates either no catch or no information available.*

Year	Can	Mar Can	NL	Germany	Iceland	Japan	Poland	Russia	Lithuania ²	Portugal	Others	Discards	Unassigned	Total ¹
1959	*	*	*	*	*	*	*	*	*	*	*	*	*	230 186837
1960	*	1	29636	10964	*	*	85315	*	*	130	*	*	118 126164	
1961	2	*	12762	4236	*	214	38226	*	*	15	*	*	10 55465	
1962	*	*	3298	2106	*	1188	12999	*	*	65	*	*	3 19659	
1963	*	1	1366	4405	*	11066	6788	*	*	18	*	*	5254 28898	
1964	*	13	6333	2373	*	20578	10794	*	*	12	*	*	16129 56232	
1965	246	20	12278	1895	*	21678	7355	*	*	67	*	*	* 43539	
1966	*	54	13824	1899	*	11643	5256	*	*	54	*	*	* 32730	
1967	1	28	11751	1937	*	6292	6102	*	*	51	*	*	* 26162	
1968	10	173	6115	328	2	6902	5304	*	*	34	*	*	40 18908	
1969	*	6	4870	294	*	5752	13458	*	*	201	*	*	54 24635	
1970	*	63	5266	*	10	5223	10379	*	*	856	*	*	22 21819	
1971	*	153	2756	209	44	6188	9785	*	*	171	*	*	6 19312	
1972	*	49	2870	296	*	2136	13481	*	620	581	*	*	* 20033	
1973	*	374	5833	*	*	4489	24230	*	2784	1255	*	*	* 38965	
1974	*	153	9058	*	*	3646	11898	*	4820	570	*	*	* 30145	
1975	21	424	4284	*	*	4219	13575	*	2971	65	*	*	* 25559	
1976	1943	1951	2376	2	*	3950	14881	*	823	39	*	*	* 25965	
1977	2012	1486	2108	*	4	2269	8014	*	845	801	*	*	* 17539	
1978	11114	10938	3066	*	255	625	2685	*	378	85	*	*	* 29146	
1979	15492	11095	611	*	*	302	2578	*	544	108	*	*	* 30730	
1980	4017	3768	1250	*	9	870	4208	*	266	131	85	*	* 14604	
1981	3118	10298	720	*	4	635	2474	*	393	*	197	*	* 17839	
1982	3784	7350	605	*	2662	24	3073	*	456	29	116	*	* 18099	
1983	3884	5413	703	*	*	1406	3722	*	183	*	14	*	* 15325	
1984	5069	12298	596	*	1218	366	3690	*	437	15	27	*	* 23716	
1985	6716	14863	305	*	3471	66	3689	*	106	9	211	*	* 29436	
1986	7860	10933	197	*	4178	297	3528	*	20	6	95	*	* 27114	
1987	3429	8719	443	*	2127	41	3733	*	*	19	177	*	* 18688	
1988	923	4437	0	*	698	36	848	*	*	*	616	*	* 7558	
1989	585	1594	*	*	489	8	491	*	*	*	640	*	* 3807	
1990	242	1806	*	*	240	*	134	*	*	*	665	*	* 3087	
1991	10	161	*	*	66	*	1	*	*	42	403	*	* 683	
1992	9	*	*	*	*	*	*	*	*	6	408	*	* 423	
1993	*	2	*	*	*	*	*	*	*	*	202	*	* 204	
1994	*	*	*	*	*	*	*	*	*	*	126	*	* 126	
1995	*	1	*	*	*	*	*	*	*	*	25	*	* 26	
1996	*	2	*	*	1	*	*	*	*	*	43	*	* 46	
1997	*	4	*	*	*	*	*	*	*	1	52	*	* 57	
1998	*	3	*	*	*	*	*	*	*	*	107	*	* 110	
1999	2	3	*	*	*	*	*	*	*	*	111	*	* 116	
2000	1	28	*	*	*	*	*	*	*	*	100	*	* 129	
2001	*	41	*	*	*	*	1292	232	230	8	93	*	* 372	
2002	*	35	*	*	*	*	3043	*	*	95	155	*	* 285	
2003	*	21	467	*	*	*	3574	447	82	467	279	*	* 1316	
2004	*	169	28	138	*	*	3140	1036	*	391	186	*	* 912	
2005	*	138	237	263	*	*	4124	*	9	472	350	*	* 1469	

Year	Can	Mar Can	NL	Germany	Iceland	Japan	Poland	Russia	Lithuania ²	Portugal	Others	Discards	Unassigned	Total ¹
2006	*	221	4	*	*	*	*	844	*	*	262	561	*	1048
2007	*	29	*	*	*	*	*	2403	433	223	*	393	*	645
2008	*	20	*	*	*	*	*	*	*	*	10	404	*	434
2009	*	28	*	*	*	*	*	*	*	*	*	563	*	591
2010	*	61	*	*	*	*	*	*	*	*	*	595	*	656
2011	*	73	*	*	*	*	*	*	74	*	*	417	*	490
2012	*	104	*	*	*	*	*	*	*	*	1	411	*	516
2013	*	66	*	*	*	*	*	*	*	*	*	292	*	358
2014	*	48	*	*	*	*	*	*	*	*	*	139	*	187
2015	*	5	*	*	*	*	*	*	*	*	*	94	*	99
2016	*	7	*	*	*	*	*	*	*	*	*	33	*	40
2017	*	105	*	*	*	*	*	*	*	*	*	61	*	166
2018	*	9	*	*	*	*	*	*	*	*	*	37	*	46
2019	*	3	*	*	*	*	*	*	*	*	*	48	*	51
2020	*	3	*	*	*	*	*	*	*	*	*	229	*	232

¹Total doesn't include catches from Irminger Sea by Russia and Lithuania outside Canadian EEZ between 2001–11.

²Prior to 2001, Lithuanian catches are included in 'Others'

Table 9.3. Annual total survey abundance indices (N, millions), biomass indices (B, '000t), and number of sets in NAFO Div. 2GHJ3K. An '*' denotes no survey.

Years	2G B	2G N Sets	2G N Sets	2H B	2H N Sets	2H N Sets	2J B	2J N Sets	2J N Sets	3K B	3K N Sets	3K N Sets
1978	8.8	44.2	47	42.0	212.4	38	618.8	1719.0	49	1622.4	6920.9	84
1979	16.6	124.8	52	28.1	140.8	71	246.9	593.9	39	415.2	1546.2	54
1980	*	*	*	*	*	*	344.4	868.6	43	848.6	2110.2	55
1981	4.8	18.4	46	11.3	33.7	79	732.6	2268.4	65	491.9	1540.8	119
1982	*	*	*	*	*	*	193.0	606.5	101	390.2	1293.9	143
1983	*	*	*	*	*	*	256.9	768.4	86	2011.4	7515.9	122
1984	*	*	*	*	*	*	135.9	413.1	66	234.7	703.0	150
1985	*	*	*	*	*	*	62.7	170.9	85	338.9	1030.8	164
1986	*	*	*	*	*	*	125.2	297.1	75	201.6	540.9	94
1987	3.8	17.6	51	4.5	21.2	120	54.4	128.6	83	73.6	208.0	141
1988	3.9	18.6	59	4.6	90.6	118	147.4	335.1	72	203.7	523.0	114
1989	*	*	*	*	*	*	15.6	48.6	79	78.0	260.8	133
1990	*	*	*	*	*	*	28.0	79.7	72	196.5	496.4	124
1991	0.2	4.1	26	2.0	28.7	47	5.7	35.0	113	33.6	129.2	162
1992	*	*	*	*	*	*	9.2	52.0	113	4.7	34.1	161
1993	*	*	*	*	*	*	4.2	20.4	74	3.2	21.8	153
1994	*	*	*	*	*	*	4.0	18.8	83	3.2	19.6	143
1995	*	*	*	*	*	*	6.6	65.1	66	7.5	82.9	122
1996	25.3	265.4	43	5.5	68.2	74	16.3	118.9	71	14.0	121.8	142
1997	16.9	204.3	66	13.8	177.5	71	19.1	112.1	71	14.5	113.0	142
1998	4.8	61.5	27	8.2	94.8	82	13.3	132.0	72	31.6	180.3	142
1999	9.6	127.4	69	7.1	94.5	77	24.2	133.7	71	19.8	147.3	142
2000	*	*	*	*	*	*	10.8	87.8	71	11.9	141.4	123
2001	*	*	*	8.6	99.7	54	19.5	147.4	73	20.5	266.6	136
2002	*	*	*	*	*	*	10.8	157.2	71	21.3	217.7	142
2003	*	*	*	*	*	*	11.3	196.3	71	17.7	348.5	140
2004	*	*	*	9.6	135.9	86	26.7	359.5	70	39.8	486.6	118
2005	*	*	*	*	*	*	24.3	284.5	71	60.5	580.5	136
2006	*	*	*	11.6	158.8	79	31.1	369.5	71	134.6	707.5	121
2007	*	*	*	*	*	*	47.4	582.9	70	110.9	742.1	119
2008	*	*	*	21.5	680.3	65	50.3	634.7	62	146.0	1052.2	90
2009	*	*	*	*	*	*	82.1	701.1	66	139.9	828.5	129
2010	*	*	*	42.7	416.5	69	179.4	699.6	70	133.8	733.5	142
2011	*	*	*	50.1	422.7	75	98.6	859.6	64	470.8	1679.6	120
2012	*	*	*	62.1	386.6	84	96.0	524.6	71	302.4	1204.8	136
2013	*	*	*	70.5	372.2	82	103.6	486.6	71	201.6	890.5	123
2014	*	*	*	43.9	191.3	66	80.1	437.6	70	157.2	1745.9	142
2015	*	*	*	12.9	59.6	53	108.1	315.0	72	183.4	940.1	139
2016	*	*	*	10.5	48.9	74	87.7	254.1	71	52.0	468.7	129
2017	*	*	*	9.8	32.4	68	40.5	113.4	71	63.4	509.2	139
2018	*	*	*	6.1	24.6	82	12.8	51.6	66	351.7	948.1	100
2019	*	*	*	3.1	40.3	56	19.0	533.4	53	168.4	789.2	67
2020	*	*	*	27.1	1895.1	28	45.2	2080.7	59	128.3	1899.1	117

Table 9.4. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 2G. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area. An '**' denotes no survey. Data shown for years 1978–88.

Div	Str	Area	Deep	1978	1978	1978	1979	1979	1979	1981	1981	1981	1987	1987	1987	1988	1988	1988
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
2G	909	2773	200	0.1	3.4	13	0.3	6.5	12	0.0	0.0	8	*	*	*	*	*	*
2G	910	2339	200	0.0	0.0	8	0.0	0.0	8	0.0	0.0	8	*	*	*	*	*	*
2G	925	1804	200	0.0	0.0	5	0.0	0.0	4	0.0	0.0	3	*	*	*	*	*	*
2G	901	1213	300	0.9	34.8	9	0.1	5.4	7	0.0	0.0	6	0.0	2.2	4	0.0	0.0	5
2G	908	585	300	7.4	138.0	2	29.3	686.7	3	2.1	17.3	3	0.7	40.0	5	0.3	11.5	4
2G	911	692	300	8.2	73.8	4	8.3	139.5	4	0.2	8.7	3	0.0	0.0	3	0.0	0.0	2
2G	924	756	300	4.6	42.0	2	10.3	49.7	3	2.3	29.0	2	0.0	0.0	2	0.8	19.4	5
2G	926	433	300	*	*	*	*	*	*	*	*	*	*	*	*	0.0	0.0	3
2G	902	120	400	*	*	*	*	*	*	*	*	*	2.8	13.7	3	6.2	48.0	2
2G	912	73	400	*	*	*	*	*	*	*	*	*	4.5	23.5	2	1.0	3.5	2
2G	923	186	400	23.3	74.5	2	*	*	*	56.4	166.0	2	3.9	19.5	2	2.6	33.5	2
2G	927	832	400	*	*	*	*	*	*	*	*	*	0.8	6.6	5	2.4	33.0	4
2G	903	80	500	*	*	*	94.3	389.0	2	40.3	116.5	2	10.9	41.0	2	14.1	75.5	2
2G	913	62	500	*	*	*	*	*	*	*	*	*	6.5	24.5	2	49.5	235.0	2
2G	922	186	500	239.5	496.0	2	*	*	*	17.2	41.5	2	*	*	*	*	*	*
2G	928	783	500	*	*	*	*	*	*	*	*	*	2.0	7.7	3	0.1	0.7	3
2G	904	153	750	*	*	*	171.2	437.3	3	36.0	70.0	4	38.1	134.3	3	49.4	118.3	3
2G	914	113	750	*	*	*	*	*	*	*	*	*	38.7	109.5	2	36.8	102.0	2
2G	921	142	750	*	*	*	225.6	894.5	2	*	*	*	9.2	23.0	2	7.8	14.0	2
2G	929	1261	750	*	*	*	18.5	96.8	4	7.5	29.7	3	8.3	32.4	5	4.1	12.8	4
2G	905	164	1000	*	*	*	*	*	*	*	*	*	*	*	*	0.5	3.5	2
2G	915		1000	*	*	*	*	*	*	*	*	*	*	*	*	8.0	18.0	2
2G	920		1000	*	*	*	*	*	*	*	*	*	1.5	4.0	4	5.8	13.5	2
2G	906	229	1250	*	*	*	*	*	*	*	*	*	0.2	4.5	2	0.6	2.0	2
2G	916	146	1250	*	*	*	*	*	*	*	*	*	*	*	*	0.0	0.0	2
2G	919	316	1250	*	*	*	*	*	*	*	*	*	*	*	*	0.6	1.0	2
2G	907	360	1500	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Table 9.5. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 2G. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area. An '**' denotes no survey. Data shown for years 1991–99.

Div	Str	Area	Deep	1991	1991	1991	1996	1996	1996	1997	1997	1997	1998	1998	1998	1999	1999	1999
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
2G	909	2773	200	0.0	0.0	10	0.0	0.0	8	*	*	*	0.2	1.5	2	0.0	0.0	12
2G	910	2339	200	0.0	0.0	2	0.0	0.2	6	*	*	*	0.0	0.0	2	0.0	0.0	9
2G	925	1804	200	*	*	*	0.0	0.0	4	*	*	*	*	*	*	0.1	4.8	4
2G	901	1213	300	0.0	1.1	7	0.3	21.8	4	0.5	24.2	8	*	*	*	1.8	71.4	5
2G	908	585	300	0.3	26.7	3	0.6	42.5	2	3.2	37.9	4	6.8	481.5	2	1.7	36.3	3
2G	911	692	300	0.0	0.0	2	0.7	55.7	3	4.0	266.4	5	0.0	0.0	3	0.0	0.0	3
2G	924	756	300	*	*	*	0.3	4.0	2	3.9	289.3	5	*	*	*	4.3	277.7	3
2G	926	433	300	*	*	*	0.0	1.3	2	0.0	1.0	3	*	*	*	0.0	0.0	2
2G	902	120	400	*	*	*	3.9	58.0	2	7.6	97.7	3	4.7	75.0	2	16.9	224.5	2
2G	912	73	400	*	*	*	*	*	*	31.9	312.0	2	12.6	122.5	2	3.4	44.0	2
2G	923	186	400	*	*	*	19.5	388.0	2	38.5	922.8	2	*	*	*	29.5	711.0	2
2G	927	832	400	*	*	*	61.3	806.5	2	24.7	274.9	6	*	*	*	11.2	142.0	2
2G	903	80	500	14.9	163.0	2	*	*	*	79.6	656.8	3	58.5	416.0	2	85.5	697.0	2
2G	913	62	500	*	*	*	*	*	*	42.2	325.5	2	34.2	258.0	2	26.3	223.0	2
2G	922	186	500	*	*	*	*	*	*	19.0	170.0	2	*	*	*	15.8	146.0	2
2G	928	783	500	*	*	*	134.0	1169.0	3	31.3	244.6	3	*	*	*	9.7	67.5	2
2G	904	153	750	*	*	*	*	*	*	101.6	577.5	2	103.9	450.5	2	91.1	521.0	2
2G	914	113	750	*	*	*	*	*	*	30.3	205.2	2	55.9	223.5	2	38.4	264.5	2
2G	921	142	750	*	*	*	*	*	*	56.9	256.3	2	*	*	*	59.9	415.0	2
2G	929	1261	750	*	*	*	17.8	135.1	3	15.5	119.0	8	*	*	*	*	*	*

Div	Str	Area	Deep	1991	1991	1991	1996	1996	1996	1997	1997	1997	1998	1998	1998	1999	1999	1999
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
2G	905	164	1000	*	*	*	*	*	*	*	*	*	0.0	0.0	2	0.0	0.0	2
2G	915		1000	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2G	920		1000	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2G	906	229	1250	*	*	*	*	*	*	0.0	0.0	2	0.0	0.0	2	0.7	3.5	2
2G	916	146	1250	*	*	*	*	*	*	*	*	*	0.0	0.0	2	*	*	*
2G	919	316	1250	*	*	*	*	*	*	1.3	5.1	2	*	*	*	*	*	*
2G	907	360	1500	*	*	*	*	*	*	*	*	*	*	*	*	0.0	0.0	2

Table 9.6. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 2H. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area. An '**' denotes no survey. Data shown for years 1978–96.

Div	Str	Area	Deep	1978	1978	1978	1979	1979	1979	1981	1981	1981	1987	1987	1987	1988	1988	1988	1991	1991	1991	1996	1996	1996
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
2H	930	1028	200	0.0	2.8	4	0.1	0.2	6	0.0	0.0	8	0.0	0.0	9	0.0	0.0	10	0.8	13.0	3	0.9	8.2	4
2H	954	971	200	0.5	15.8	5	0.0	0.0	5	0.0	0.0	6	0.0	0.0	11	0.2	4.4	10	0.1	0.7	3	0.1	2.0	4
2H	956	1051	200	0.0	0.0	3	0.0	0.0	6	0.0	0.0	4	0.0	0.0	10	0.0	0.0	10	0.2	7.2	5	0.0	0.0	3
2H	957	1371	200	0.0	0.0	5	0.0	0.0	6	0.0	0.0	6	0.0	0.0	11	0.0	0.0	14	0.0	0.0	6	0.0	1.0	5
2H	931	276	300	0.0	0.0	3	5.2	9.3	3	0.1	0.3	3	0.0	0.0	4	2.2	40.0	3	0.2	2.5	2	0.2	1.5	2
2H	943	354	300	0.0	5.5	2	0.0	0.0	2	1.3	3.5	2	0.0	0.0	4	1.2	91.8	4	0.2	1.5	2	0.0	0.0	2
2H	950	261	300	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.0	0.0	2
2H	953	291	300	42.4	1842.0	2	8.0	602.3	3	1.0	14.0	4	0.1	14.7	3	6.9	707.3	3	0.2	24.0	2	2.5	446.0	2
2H	955	389	300	52.3	957.5	2	28.7	366.3	3	91.2	288.0	3	2.0	100.5	4	3.9	151.2	4	0.2	6.0	2	0.8	51.0	2
2H	958	294	300	*	*	*	4.5	19.0	2	0.0	0.0	2	0.0	0.0	3	4.7	269.3	3	0.0	0.0	2	0.0	0.0	2
2H	932	55	400	*	*	*	*	*	*	*	*	*	6.0	19.0	2	2.6	4.5	2	1.4	10.0	2	12.1	110.5	2
2H	944	860	400	307.6	672.8	6	29.4	179.7	9	25.4	61.8	9	2.7	14.9	10	3.7	120.6	8	0.3	3.8	4	3.1	53.7	3
2H	949	206	400	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	5.0	92.0	2
2H	952	177	400	*	*	*	17.2	244.5	2	7.8	75.5	2	4.0	23.3	3	10.0	263.3	3	1.0	22.0	2	9.1	182.0	2
2H	959	178	400	*	*	*	340.0	871.0	3	40.2	104.0	3	1.8	15.0	3	18.3	132.5	2	4.1	184.0	2	1.4	20.4	2
2H	933	50	500	*	*	*	*	*	*	*	*	*	*	*	*	22.1	53.0	2	4.0	21.5	2	17.8	137.5	2
2H	942	55	500	*	*	*	18.3	56.5	2	96.9	227.5	2	31.2	107.3	3	29.1	63.0	2	4.9	33.5	2	4.8	35.5	2
2H	945	461	500	*	*	*	20.4	167.7	3	2.0	8.5	6	2.4	11.8	5	2.4	38.6	5	16.2	168.5	2	34.4	242.5	2
2H	948	246	500	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	3.1	49.8	2
2H	951	234	500	27.5	136.5	2	29.0	218.0	2	2.2	17.3	3	5.4	21.5	2	2.3	24.5	2	17.7	224.0	2	15.6	143.5	2
2H	960	107	500	*	*	*	154.9	465.0	2	33.4	97.0	2	64.0	256.3	3	15.6	80.0	3	2.0	30.5	2	10.1	81.5	2
2H	934	78	750	*	*	*	425.4	981.5	2	*	*	*	88.1	199.5	2	8.7	14.7	3	*	*	*	21.8	69.0	2
2H	941	89	750	*	*	*	*	*	*	*	*	*	32.9	66.5	2	9.1	11.0	2	*	*	*	20.2	133.5	2
2H	946	721	750	1.4	7.0	4	4.5	27.2	5	0.1	0.3	7	2.2	10.0	8	1.0	35.5	6	*	*	*	1.6	12.3	3
2H	947	227	750	*	*	*	0.2	6.5	2	0.0	0.0	4	1.1	4.3	3	1.0	9.0	2	*	*	*	3.6	31.0	2
2H	961	211	750	*	*	*	137.1	312.0	3	24.9	54.0	3	20.7	60.0	2	45.6	110.7	3	*	*	*	16.9	83.5	2
2H	935	96	1000	*	*	*	*	*	*	*	*	*	0.0	0.0	2	0.0	0.0	2	*	*	*	*	*	*
2H	940	97	1000	*	*	*	*	*	*	*	*	*	5.3	20.5	2	0.4	0.5	2	*	*	*	0.3	1.5	2
2H	962	242	1000	*	*	*	*	*	*	*	*	*	0.7	1.7	3	1.2	3.0	2	*	*	*	0.2	1.0	2
2H	936	78	1250	*	*	*	*	*	*	*	*	*	3.9	6.0	2	0.9	1.5	2	*	*	*	*	*	*
2H	939	130	1250	*	*	*	*	*	*	*	*	*	2.1	7.0	2	0.8	1.0	2	*	*	*	0.3	1.0	2
2H	963	265	1250	*	*	*	*	*	*	*	*	*	0.0	0.0	2	1.0	2.5	2	*	*	*	0.0	0.0	2
2H	937	94	1500	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2H	938	191	1500	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.8	1.0	2
2H	964	342	1500	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.0	0.0	2

Table 9.7. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 2H. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area. An '*' denotes no survey. Data shown for years 1997–2008.

Div	Str	Area	Deep	1997	1997	1997	1998	1998	1998	1999	1999	1999	2001	2001	2001	2004	2004	2004	2006	2006	2006	2008	2008	2008
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
2H	930	1028	200	*	*	*	0.0	0.0	5	0.0	1.2	4	0.0	0.0	3	0.0	0.0	5	0.0	1.1	4	0.0	0.0	3
2H	954	971	200	*	*	*	0.0	0.0	5	0.0	0.8	4	0.0	0.0	3	0.0	0.4	5	0.0	1.0	4	0.0	0.0	3
2H	956	1051	200	*	*	*	0.0	0.0	5	0.0	0.0	4	0.2	1.4	4	0.1	4.1	5	0.0	0.0	4	0.0	0.0	3
2H	957	1371	200	*	*	*	0.0	0.0	7	0.0	0.0	7	0.0	0.0	5	0.0	0.0	7	0.0	0.0	6	0.0	0.0	5
2H	931	276	300	0.0	0.0	2	1.4	19.6	2	0.0	0.0	2	*	*	*	0.0	0.0	2	2.5	96.5	2	5.7	201.0	2
2H	943	354	300	4.0	166.7	2	0.0	0.0	2	0.0	0.0	2	*	*	*	12.2	323.1	2	8.0	300.0	2	83.2	2946.0	2
2H	950	261	300	0.4	18.5	2	*	*	*	0.0	1.0	2	0.5	8.2	2	0.5	9.7	2	0.0	0.0	2	*	*	*
2H	953	291	300	0.0	0.0	2	0.0	0.0	2	0.0	0.5	2	1.8	22.2	2	0.2	38.0	2	0.2	13.5	2	29.1	2575.0	2
2H	955	389	300	13.7	1059.3	3	6.2	181.4	2	3.5	143.0	2	1.3	80.7	2	2.8	156.9	2	1.1	59.0	2	*	*	*
2H	958	294	300	0.5	15.7	2	1.9	32.0	2	0.0	0.0	2	1.4	49.5	2	6.1	383.9	2	0.3	33.5	2	0.0	1.0	2
2H	932	55	400	18.0	144.5	2	8.1	90.1	2	6.7	68.0	2	*	*	*	7.9	78.0	2	29.2	298.7	2	55.9	419.0	2
2H	944	860	400	12.1	156.0	6	4.8	106.4	4	8.8	200.0	4	*	*	*	7.9	198.1	4	25.6	593.7	4	45.5	2413.3	3
2H	949	206	400	4.5	285.9	2	*	*	*	*	*	*	5.0	71.7	2	1.7	44.8	2	*	*	*	*	*	*
2H	952	177	400	4.4	96.0	2	20.7	537.5	2	24.1	666.4	2	1.0	62.9	2	13.1	462.5	2	15.1	438.5	2	*	*	*
2H	959	178	400	5.1	54.0	2	8.6	191.0	2	5.7	65.5	2	7.7	481.9	2	4.9	88.0	2	6.3	148.0	2	70.4	1995.6	2
2H	933	50	500	41.7	295.0	2	11.4	85.7	2	33.0	202.1	2	*	*	*	24.7	169.5	2	37.6	247.5	2	90.2	527.9	2
2H	942	55	500	26.8	185.5	2	31.7	217.5	2	12.5	111.5	2	24.2	178.1	2	15.8	118.0	2	24.8	181.1	2	82.5	467.4	2
2H	945	461	500	72.3	540.0	3	12.9	171.0	2	11.4	149.0	2	55.8	495.6	2	19.6	251.5	2	6.5	78.5	2	29.6	360.0	2
2H	948	246	500	5.7	77.6	2	3.4	94.6	2	*	*	*	0.5	13.2	2	*	*	*	2.8	73.5	2	17.5	716.6	2
2H	951	234	500	39.4	392.8	2	13.8	174.5	2	23.9	364.5	2	20.7	260.7	2	13.3	235.0	2	3.0	67.5	2	24.5	365.0	2
2H	960	107	500	118.1	858.9	2	26.7	214.9	2	17.3	173.0	2	7.4	163.6	2	122.6	831.4	2	35.4	304.0	2	121.9	770.5	2
2H	934	78	750	51.3	228.0	2	12.4	46.5	2	66.0	268.0	2	*	*	*	33.9	114.5	2	53.5	218.0	2	24.0	51.0	2
2H	941	89	750	29.4	146.0	2	39.9	175.5	2	37.3	243.0	2	48.5	389.6	2	59.1	197.4	2	58.0	373.0	2	*	*	*
2H	946	721	750	2.6	18.3	5	6.5	50.2	4	3.1	38.1	4	5.1	56.1	3	5.4	65.2	4	1.5	16.3	3	*	*	*
2H	947	227	750	6.6	53.4	2	3.9	52.0	2	3.5	31.5	2	10.1	111.2	2	2.4	30.0	2	3.2	35.0	2	7.3	187.0	2
2H	961	211	750	40.6	206.7	2	94.1	588.5	2	45.3	265.5	2	70.3	649.2	2	52.5	204.6	2	134.8	722.5	2	58.4	164.0	2
2H	935	96	1000	0.0	0.0	2	7.0	22.5	2	2.6	9.1	2	*	*	*	1.0	2.6	2	1.1	2.2	2	3.3	5.5	2
2H	940	97	1000	0.0	0.0	2	3.0	9.5	2	0.2	1.5	2	*	*	*	3.2	9.5	2	12.2	40.0	2	0.5	1.5	2
2H	962	242	1000	3.4	16.0	2	0.2	1.5	2	0.8	2.7	2	*	*	*	0.0	0.0	2	0.3	0.5	2	0.0	0.0	2
2H	936	78	1250	0.0	0.0	2	0.0	0.5	2	*	*	*	0.0	0.0	2	0.0	0.0	2	1.0	2.7	2	0.0	0.0	2
2H	939	130	1250	0.0	0.0	2	*	*	*	0.0	0.0	2	*	*	*	0.6	1.2	2	*	*	*	0.0	0.0	2
2H	963	265	1250	0.0	0.0	2	0.0	0.0	2	0.4	1.0	2	*	*	*	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2
2H	937	94	1500	1.5	10.5	2	0.0	0.0	2	*	*	*	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2
2H	938	191	1500	0.1	1.8	2	0.2	1.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2
2H	964	342	1500	0.0	0.5	2	0.4	2.0	2	0.0	0.0	2	*	*	*	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2

Table 9.8. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 2H. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area. An '*' denotes no survey. Data shown for years 2010–16.

Div	Str	Area	Deep	2010	2010	2010	2011	2011	2011	2012	2012	2012	2013	2013	2013	2014	2014	2014	2015	2015	2015	2016	2016	2016
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
2H	930	1028	200	0.0	1.3	3	0.0	1.8	4	0.0	0.2	5	0.1	0.2	5	0.0	1.0	3	0.0	0.0	5	0.0	0.0	4
2H	954	971	200	0.0	0.0	3	0.4	40.7	4	0.1	1.0	5	0.0	0.2	5	0.0	0.0	5	0.0	0.0	5	0.0	0.0	4
2H	956	1051	200	0.0	0.0	3	0.1	8.2	5	0.1	0.7	6	0.0	0.0	6	0.0	0.0	6	0.0	0.0	6	0.0	0.2	6
2H	957	1371	200	0.0	0.0	5	0.0	1.3	6	0.1	0.4	7	0.0	0.0	6	0.0	0.0	7	0.0	0.0	4	0.0	0.0	7
2H	931	276	300	16.6	224.4	2	19.0	329.3	2	16.6	129.5	2	9.3	143.4	2	0.1	1.5	2	1.7	32.5	2	0.3	5.1	2
2H	943	354	300	0.1	5.3	2	3.4	235.5	2	19.8	191.5	2	14.6	154.8	2	23.0	239.0	2	3.1	10.0	2	0.4	25.1	2
2H	950	261	300	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2H	953	291	300	1.4	151.0	2	2.0	148.0	2	1.1	93.7	2	0.0	0.0	2	0.0	0.5	2	0.7	4.5	2	0.6	47.0	3
2H	955	389	300	1.0	92.5	2	34.8	913.0	2	8.9	60.9	2	88.6	611.5	2	0.3	8.0	2	6.4	70.0	2	2.9	43.8	2
2H	958	294	300	2.6	273.0	2	24.5	1177.2	2	1.1	81.5	2	9.0	182.0	2	2.3	28.5	2	0.3	4.5	2	0.0	0.0	2
2H	932	55	400	66.4	424.0	2	149.5	875.4	2	378.8	1697.5	2	27.4	134.0	2	83.3	384.8	2	18.3	104.4	2	9.5	38.0	2
2H	944	860	400	145.9	1146.0	3	54.0	475.6	4	207.6	1350.6	5	138.1	702.1	6	120.0	534.3	5	27.6	116.7	5	9.8	44.4	4
2H	949	206	400	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2H	952	177	400	267.6	4655.5	2	15.8	263.0	2	88.7	806.5	2	57.2	460.0	2	54.2	296.0	2	10.2	55.5	2	1.4	81.4	2
2H	959	178	400	33.8	618.5	2	458.5	2522.5	2	124.7	650.0	2	120.2	722.5	2	83.4	490.0	2	24.2	124.5	2	2.0	6.7	2
2H	933	50	500	221.1	1041.8	2	80.8	323.4	3	47.4	169.0	2	24.8	94.0	2	340.8	1241.1	2	110.2	441.6	2	22.7	94.9	2
2H	942	55	500	575.8	3351.1	2	297.4	1274.5	2	376.0	1558.6	2	*	*	*	189.9	636.4	2	292.3	951.0	2	*	*	*
2H	945	461	500	17.3	163.5	2	131.3	1023.1	2	85.0	588.2	2	440.1	2361.0	2	77.8	379.4	2	33.8	157.1	2	10.2	44.8	2
2H	948	246	500	*	*	*	*	*	*	50.2	442.9	2	23.4	140.5	2	30.8	143.8	2	8.5	54.6	2	*	*	*
2H	951	234	500	48.4	707.0	2	77.5	682.8	2	136.6	905.0	2	35.8	190.8	2	39.9	198.9	2	44.6	228.0	2	42.9	214.0	2
2H	960	107	500	96.8	524.4	2	82.6	372.0	2	227.6	996.0	2	135.1	571.5	2	151.6	620.1	2	83.9	364.0	2	20.6	101.5	2
2H	934	78	750	158.6	580.5	2	64.9	185.1	2	127.9	331.0	2	84.7	245.5	2	47.0	83.8	2	*	*	*	*	*	*
2H	941	89	750	130.1	580.0	2	416.8	1274.5	2	6.7	21.0	2	263.4	731.8	2	368.0	1100.5	2	*	*	*	142.1	438.0	2
2H	946	721	750	9.9	133.4	2	12.8	97.0	3	47.1	311.8	4	9.8	53.0	4	20.0	85.7	4	*	*	*	5.1	22.7	4
2H	947	227	750	23.8	349.0	2	38.9	387.0	2	11.2	82.0	2	11.1	66.5	2	20.4	92.7	2	*	*	*	5.8	22.5	2
2H	961	211	750	49.1	182.5	2	133.0	501.4	2	92.7	236.0	2	205.7	599.0	2	124.1	307.6	2	*	*	*	137.2	521.5	2
2H	935	96	1000	0.0	0.0	2	0.3	1.2	2	0.0	0.0	2	0.0	0.0	2	*	*	*	*	*	*	2.5	6.5	2
2H	940	97	1000	16.9	90.0	2	1.7	3.6	2	0.0	0.0	2	3.2	9.5	2	*	*	*	*	*	*	0.0	0.0	2
2H	962	242	1000	0.3	0.5	2	0.8	1.5	2	3.0	10.0	2	0.0	0.0	2	*	*	*	*	*	*	0.9	2.5	2
2H	936	78	1250	7.1	28.0	2	*	*	*	0.0	0.0	2	0.0	0.0	2	*	*	*	*	*	*	0.0	0.0	2
2H	939	130	1250	0.0	0.0	2	0.3	0.6	2	0.0	0.0	2	0.0	0.0	2	*	*	*	*	*	*	*	*	*
2H	963	265	1250	0.9	17.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	*	*	*	*	*	*	0.0	0.0	2
2H	937	94	1500	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2H	938	191	1500	0.0	0.0	2	0.0	0.0	2	0.7	1.5	2	0.0	0.0	2	*	*	*	*	*	*	0.0	0.0	2
2H	964	342	1500	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	*	*	*	*	*	*	0.0	0.0	2

Table 9.9. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 2H. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area. An '*' denotes no survey. Data shown for years 2017–20.

Div	Str	Area	Deep	2017	2017	2017	2018	2018	2018	2019	2019	2019	2020	2020	2020
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
2H	930	1028	200	0.0	0.0	5	0.1	0.4	5	0.0	0.0	5	0.8	100.0	2
2H	954	971	200	0.2	1.0	5	0.0	0.0	5	0.0	12.0	5	0.0	0.0	2
2H	956	1051	200	0.0	0.0	6	0.0	0.0	6	0.0	0.0	6	0.0	0.0	3
2H	957	1371	200	0.0	0.0	7	0.0	0.0	7	0.0	3.3	7	0.0	0.0	2
2H	931	276	300	2.5	12.0	2	0.0	1.1	2	*	*	*	*	*	*
2H	943	354	300	0.4	3.5	2	0.9	16.6	2	*	*	*	12.5	1023.0	2
2H	950	261	300	*	*	*	*	*	*	*	*	*	*	*	*
2H	953	291	300	0.0	0.0	2	0.0	10.5	2	0.8	275.0	2	32.4	2600.0	2
2H	955	389	300	0.0	0.0	2	2.2	51.5	2	*	*	*	204.5	14847.7	2
2H	958	294	300	0.0	0.0	2	0.0	0.0	2	0.0	11.5	2	27.8	3268.0	2
2H	932	55	400	7.3	22.8	2	4.6	14.3	2	*	*	*	*	*	*
2H	944	860	400	21.4	78.8	5	6.0	26.2	5	8.8	83.5	5	101.1	6159.6	3
2H	949	206	400	*	*	*	*	*	*	*	*	*	*	*	*
2H	952	177	400	1.6	6.5	2	6.7	30.0	2	0.5	117.3	2	10.7	671.0	2
2H	959	178	400	27.0	118.6	2	6.7	19.2	2	1.5	251.0	2	*	*	*
2H	933	50	500	34.8	118.7	2	30.1	95.5	2	*	*	*	*	*	*
2H	942	55	500	64.3	197.4	2	29.4	94.3	2	*	*	*	*	*	*
2H	945	461	500	9.8	37.7	2	11.7	60.5	2	3.0	10.6	2	*	*	*
2H	948	246	500	1.3	6.3	2	0.1	2.0	2	0.1	0.7	2	18.9	1359.7	2
2H	951	234	500	12.5	54.5	2	17.4	62.2	2	5.9	49.3	2	*	*	*
2H	960	107	500	66.8	245.5	2	47.4	162.3	2	27.5	147.0	2	*	*	*
2H	934	78	750	48.2	112.8	2	24.8	50.6	2	*	*	*	*	*	*
2H	941	89	750	43.3	87.0	2	38.6	75.4	2	*	*	*	*	*	*
2H	946	721	750	1.4	5.2	4	1.0	3.4	4	0.5	2.0	4	0.1	4.5	2
2H	947	227	750	3.5	12.0	2	1.7	6.7	2	1.1	4.0	2	3.6	284.5	2
2H	961	211	750	78.3	194.3	2	51.9	148.9	2	37.2	94.5	2	*	*	*
2H	935	96	1000	*	*	*	0.6	1.5	2	*	*	*	*	*	*
2H	940	97	1000	*	*	*	0.0	0.0	2	*	*	*	*	*	*
2H	962	242	1000	*	*	*	0.8	2.5	2	0.0	3.5	2	*	*	*
2H	936	78	1250	*	*	*	*	*	*	*	*	*	*	*	*
2H	939	130	1250	*	*	*	0.0	0.0	2	*	*	*	*	*	*
2H	963	265	1250	*	*	*	0.0	0.0	2	0.4	2.3	2	*	*	*
2H	937	94	1500	*	*	*	*	*	*	*	*	*	*	*	*
2H	938	191	1500	*	*	*	0.0	0.0	2	*	*	*	*	*	*
2H	964	342	1500	*	*	*	0.0	0.0	2	*	*	*	*	*	*

Table 9.10. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 2J. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area, with '/' indicating post-1993 changes. An '*' denotes no survey. Data shown for years 1978–84.

Div	Str	Area	Deep	1978	1978	1978	1979	1979	1979	1980	1980	1980	1981	1981	1981	1982	1982	1982	1983	1983	1983	1984	1984	1984
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
2J	209	1608/680	300	0.3	38.5	2	0.0	0.0	2	3.6	10.5	2	0.4	0.7	6	0.0	1.0	11	0.2	0.9	7	0.1	0.1	7
2J	210	774/1035	300	10.6	598.7	3	4.4	19.5	2	1.8	5.0	2	0.0	0.0	3	5.7	73.7	6	0.7	1.5	2	6.0	153.0	4
2J	213	1725/1583	300	107.8	554.7	3	129.7	462.7	3	0.6	2.0	3	4.7	22.8	6	6.5	21.7	10	158.2	632.3	10	73.7	300.6	5
2J	214	1171/1341	300	131.8	522.3	3	4.6	11.0	2	0.0	0.0	2	79.6	257.6	5	41.0	134.0	8	45.3	126.8	8	0.5	1.2	4
2J	215	1270/1302	300	13.2	53.7	3	7.8	22.0	2	13.0	61.5	2	1.5	4.4	5	1.1	10.7	9	2.7	9.9	8	3.1	8.3	3
2J	228	1428/2196	300	67.1	688.7	3	4.6	33.5	2	597.6	1658.0	2	2399.7	8259.2	6	53.8	219.0	10	133.7	362.2	6	127.5	376.1	7
2J	203	480/487	400	5.3	70.5	2	2.1	19.0	2	7.9	40.0	2	2.4	22.5	2	4.4	32.3	3	4.7	26.7	3	6.7	39.5	2
2J	208	448/588	400	71.1	270.0	2	1507.5	2376.0	2	21.2	42.5	2	6.9	30.5	2	10.5	43.7	3	5.4	29.0	2	29.8	88.7	3
2J	211	330/251	400	25.3	101.0	2	24.0	71.0	2	47.4	92.5	2	778.5	1113.0	2	23.5	86.0	2	0.3	1.0	2	58.6	193.0	2
2J	216	384/360	400	2564.8	6744.0	2	368.0	1000.0	2	1068.8	2580.0	2	105.5	306.0	2	281.5	741.5	2	197.3	613.0	3	335.3	820.5	2
2J	222	441/450	400	1965.9	5265.5	2	483.2	1536.5	2	616.7	1898.0	2	1504.7	4246.5	2	970.2	3382.7	3	1413.8	3948.7	3	452.7	1440.7	3
2J	229	567/536	400	94.3	384.0	2	239.4	636.5	2	385.9	1052.5	2	984.0	2459.0	2	668.5	2263.2	4	579.7	2021.2	4	176.4	436.0	3
2J	204	354/288	500	10.5	94.0	2	6.3	50.0	2	*	*	*	6.5	49.5	2	0.8	4.3	3	6.3	39.3	3	9.9	56.5	2
2J	217	268/241	500	1049.1	2762.5	2	235.6	714.0	2	579.9	1229.0	2	92.0	210.0	2	284.0	703.5	2	302.9	688.5	2	*	*	*
2J	223	180/158	500	1572.3	3810.0	2	308.6	865.5	2	716.9	1556.0	2	565.6	1220.0	2	427.6	879.0	2	332.4	686.0	2	342.7	858.0	2
2J	227	686/598	500	963.0	1476.0	2	157.0	306.0	2	158.4	290.5	2	11.1	34.5	2	119.0	258.4	5	86.7	189.5	4	72.6	161.7	3
2J	235	420/414	500	5.1	21.5	2	24.2	93.5	2	26.5	58.0	2	5.4	15.5	2	9.0	30.0	3	17.1	49.5	2	49.5	138.3	3
2J	240	133	500	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2J	212	664/557	750	3.0	8.0	2	6.5	20.0	2	0.9	5.0	2	2.9	6.0	2	4.5	11.6	5	4.1	12.7	3	11.3	27.3	3
2J	218	420/362	750	691.8	1205.5	2	*	*	*	363.6	634.0	2	106.0	200.5	2	61.7	109.5	2	115.9	211.0	2	*	*	*
2J	224	270/228	750	853.6	1367.0	2	476.5	995.5	2	339.3	644.0	2	234.0	432.0	2	106.4	187.5	2	119.2	216.0	2	141.3	307.0	2
2J	230	237/185	750	1414.1	2833.5	2	*	*	*	193.3	311.5	2	88.5	159.5	2	144.7	263.0	2	78.4	149.0	2	80.2	181.0	2
2J	239	120	750	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2J	219	213/283	1000	*	*	*	*	*	*	*	*	*	9.1	19.0	2	*	*	*	2.0	2.0	2	*	*	*
2J	231	182/186	1000	0.0	0.0	2	*	*	*	2.3	3.0	2	*	*	*	3.4	5.5	2	3.3	7.0	2	22.3	43.5	2
2J	236	122/193	1000	*	*	*	*	*	*	*	*	*	4.9	12.5	2	3.5	6.0	2	3.1	6.0	2	5.3	10.5	2

Table 9.11. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 2J. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area, with '/' indicating post-1993 changes. An '*' denotes no survey. Data shown for years 1985–91.

Div	Str	Area	Deep	1985	1985	1985	1986	1986	1986	1987	1987	1987	1988	1988	1988	1989	1989	1989	1990	1990	1990	1991	1991	1991
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
2J	209	1608/680	300	0.1	0.1	9	0.0	0.0	7	0.1	2.5	8	0.0	0.0	5	0.0	0.0	8	0.0	0.0	6	0.0	0.0	7
2J	210	774/1035	300	0.1	3.2	4	0.2	0.7	3	0.0	0.0	4	1.4	41.3	3	0.0	0.0	4	0.0	0.0	3	0.1	1.0	7
2J	213	1725/1583	300	1.1	2.6	9	0.0	0.0	9	0.8	2.1	9	0.6	2.1	8	0.0	0.0	9	0.2	1.5	8	0.2	0.8	14
2J	214	1171/1341	300	0.9	2.8	6	2.4	9.3	6	1.8	4.8	6	3.3	15.5	6	0.3	1.0	6	0.4	1.6	5	0.3	1.8	15
2J	215	1270/1302	300	0.5	5.3	6	2.8	10.0	5	0.3	0.9	7	0.2	2.0	7	0.2	4.2	6	0.6	3.0	6	0.1	2.6	15
2J	228	1428/2196	300	0.0	0.7	7	24.3	97.2	6	9.5	31.0	7	8.1	23.0	5	2.9	13.2	8	2.3	20.0	6	1.0	20.3	3
2J	203	480/487	400	0.7	7.0	3	0.4	1.5	2	0.1	1.0	3	0.0	0.0	2	0.8	4.7	3	0.0	0.0	2	0.0	0.0	3

Div	Str	Area	Deep	1985	1985	1985	1986	1986	1986	1987	1987	1987	1988	1988	1988	1989	1989	1989	1990	1990	1990	1991	1991	1991
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
2J	208	448/588	400	17.5	67.3	3	0.2	1.0	2	1.2	6.5	2	1.2	1.5	2	2.0	8.5	2	0.0	0.0	2	0.3	2.7	3
2J	211	330/251	400	89.1	251.7	3	1.0	2.5	2	4.8	17.0	2	1.1	2.5	2	4.5	36.5	2	1.1	6.0	2	0.6	6.2	5
2J	216	384/360	400	109.7	331.5	2	357.2	1132.0	2	218.2	665.0	2	70.4	209.5	2	18.8	108.5	2	3.8	13.5	2	4.3	20.7	3
2J	222	441/450	400	223.4	657.5	2	63.7	177.5	2	78.4	194.5	2	1438.5	3468.0	2	10.1	49.0	2	3.2	14.0	2	0.6	12.3	3
2J	229	567/536	400	147.2	508.0	3	408.2	1072.0	3	10.1	38.0	3	3.0	8.7	3	37.0	134.3	3	5.1	30.5	2	5.7	90.3	3
2J	204	354/288	500	0.0	0.0	2	0.2	1.0	2	0.0	0.0	2	0.2	0.5	2	0.9	2.5	2	3.6	13.0	2	0.8	4.7	3
2J	217	268/241	500	93.7	228.5	2	235.9	626.0	2	121.1	302.0	2	349.7	787.5	2	26.9	71.0	2	51.9	320.5	2	9.1	50.7	3
2J	223	180/158	500	382.1	753.0	2	653.9	1182.5	2	95.3	207.0	2	489.0	942.5	2	41.6	133.0	2	13.5	68.5	2	11.9	62.7	3
2J	227	686/598	500	57.6	127.2	4	205.7	355.3	3	40.1	84.0	4	6.6	10.7	3	7.2	21.8	4	135.0	311.7	3	10.2	62.7	6
2J	235	420/414	500	7.3	20.5	2	2.3	8.5	2	10.7	27.0	2	19.5	63.5	2	1.6	4.5	2	56.9	114.5	2	7.0	33.7	3
2J	240	133	500	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2J	212	664/557	750	3.0	9.0	4	3.8	10.7	3	1.0	5.5	4	0.0	0.0	2	0.4	1.5	4	1.4	8.3	3	7.2	21.0	2
2J	218	420/362	750	52.3	118.0	2	45.4	76.5	2	221.1	435.5	2	232.2	383.0	2	69.2	155.5	2	33.2	83.5	2	4.9	15.5	2
2J	224	270/228	750	26.4	43.5	2	157.4	250.0	2	144.3	252.5	2	317.8	514.0	2	13.2	29.0	2	7.8	23.5	2	12.5	54.5	2
2J	230	237/185	750	77.7	140.0	2	336.5	550.0	2	156.3	260.5	2	42.6	58.0	2	83.8	149.5	2	172.3	410.5	2	37.7	130.5	2
2J	239	120	750	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2J	219	213/283	1000	0.0	0.0	2	15.2	26.5	2	0.3	1.0	2	1.6	3.0	2	0.0	0.0	2	3.5	12.0	2	0.0	0.0	2
2J	231	182/186	1000	13.9	35.0	2	5.9	10.0	2	1.7	2.0	2	5.8	9.5	2	*	*	*	0.0	0.0	2	0.7	2.0	2
2J	236	122/193	1000	13.7	25.0	2	5.4	7.5	2	2.6	3.5	2	0.0	0.0	2	*	*	*	0.3	0.5	2	0.0	0.0	2

Table 9.12. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 2J. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area, with '/' indicating post-1993 changes. An '*' denotes no survey. Data shown for years 1992–98.

Div	Str	Area	Deep	1992	1992	1992	1993	1993	1993	1994	1994	1994	1995	1995	1995	1996	1996	1996	1997	1997	1997	1998	1998	1998
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
2J	209	1608/680	300	0.0	0.0	5	0.0	0.0	3	0.0	0.0	2	0.0	4.5	2	0.1	4.3	3	0.5	14.3	3	0.0	4.4	3
2J	210	774/1035	300	0.4	4.0	7	0.0	0.0	4	0.0	0.0	6	0.0	0.0	3	0.0	0.0	4	0.1	1.2	4	0.0	0.5	4
2J	213	1725/1583	300	0.0	1.6	19	0.2	0.5	6	0.4	0.3	3	0.0	0.8	6	1.3	41.1	6	0.3	4.7	6	0.4	29.5	6
2J	214	1171/1341	300	0.4	2.7	14	0.0	0.0	5	0.1	0.3	6	0.1	1.5	4	0.6	12.6	5	0.2	6.0	5	0.2	12.9	5
2J	215	1270/1302	300	0.4	8.0	10	0.3	3.8	5	0.0	1.2	5	0.0	0.0	2	0.2	3.1	5	0.8	8.3	5	0.8	27.2	5
2J	228	1428/2196	300	1.0	17.2	5	0.1	2.1	9	0.3	4.3	3	0.8	18.0	7	2.9	94.8	8	2.0	63.9	8	2.4	78.5	8
2J	203	480/487	400	0.0	0.0	3	0.4	3.0	2	0.0	0.0	2	0.1	0.8	2	0.2	3.0	2	0.0	0.0	2	0.1	1.5	2
2J	208	448/588	400	1.1	6.7	3	0.0	0.0	2	0.0	0.0	3	0.1	2.5	2	0.2	1.0	2	0.3	16.5	2	1.2	42.0	2
2J	211	330/251	400	0.6	5.2	6	0.0	0.0	2	0.0	0.0	3	1.3	30.0	2	2.5	31.0	2	8.8	117.5	2	13.2	204.3	2
2J	216	384/360	400	3.5	17.0	3	1.7	10.5	2	0.4	6.0	2	4.1	33.6	2	2.6	22.1	2	4.9	38.5	2	4.7	39.1	2
2J	222	441/450	400	3.7	21.0	3	0.8	4.5	2	1.6	8.0	3	2.1	59.5	2	12.4	86.0	2	3.1	38.0	2	7.3	145.1	2
2J	229	567/536	400	3.3	26.0	3	2.5	21.0	2	0.1	3.7	3	9.0	137.5	2	3.3	35.8	2	5.2	36.5	2	9.4	210.0	2
2J	204	354/288	500	0.3	3.3	3	0.2	1.5	2	1.5	14.3	3	0.0	0.0	2	0.2	2.0	2	0.0	0.0	2	0.0	1.0	2
2J	217	268/241	500	34.3	208.7	3	12.3	70.0	2	13.3	67.7	3	2.2	23.7	2	26.9	172.8	2	26.8	173.0	2	27.0	167.4	2
2J	223	180/158	500	10.8	61.0	3	10.5	52.5	2	1.7	5.7	3	3.9	32.0	2	5.4	34.4	2	31.0	160.5	2	38.0	209.8	2
2J	227	686/598	500	11.5	74.3	6	6.1	26.7	3	1.9	8.4	5	2.0	21.5	2	1.6	17.8	2	9.7	69.0	2	15.8	157.5	2
2J	235	420/414	500	2.2	13.0	3	1.9	9.0	3	4.7	26.3	3	0.9	12.5	2	5.2	35.1	2	5.0	35.5	2	1.7	17.5	2
2J	240	133	500	*	*	*	3.4	19.0	2	5.0	26.0	3	14.4	136.3	2	50.6	290.5	2	185.6	772.0	2	47.1	287.5	2
2J	212	664/557	750	2.2	12.0	2	2.0	12.0	2	0.9	5.0	3	12.4	103.1	2	2.6	17.7	2	9.1	59.0	2	3.6	28.0	2
2J	218	420/362	750	61.8	307.0	2	13.2	48.0	2	16.7	65.0	2	20.9	184.3	3	156.4	765.5	2	101.6	477.5	2	53.1	226.4	3

Div	Str	Area	Deep	1992	1992	1992	1993	1993	1993	1994	1994	1994	1995	1995	1995	1996	1996	1996	1997	1997	1997	1998	1998	1998
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
2J	224	270/228	750	15.1	55.5	2	36.2	162.5	2	23.2	100.3	3	20.2	171.0	3	43.2	215.0	2	57.5	201.5	2	32.3	125.8	2
2J	230	237/185	750	25.2	85.0	2	4.5	17.0	2	37.1	140.3	3	45.7	302.5	2	76.8	229.2	2	134.5	377.5	2	88.5	388.0	2
2J	239	120	750	*	*	*	0.1	2.5	2	0.1	1.7	3	0.1	2.1	2	0.1	0.5	2	0.0	0.0	2	0.2	0.9	2
2J	219	213/283	1000	0.7	1.0	2	6.1	17.0	2	0.2	0.5	2	6.6	32.5	2	0.2	0.5	2	0.1	1.5	2	1.1	4.0	2
2J	231	182/186	1000	2.7	12.5	2	1.5	3.5	2	1.7	3.7	3	0.1	1.5	2	1.1	5.5	2	0.1	0.5	2	2.1	5.6	2
2J	236	122/193	1000	1.7	3.0	2	2.7	8.0	2	0.4	1.0	3	22.3	153.5	2	0.0	0.0	2	0.4	1.5	2	2.8	8.0	2

Table 9.13. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 2J. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area, with '/' indicating post-1993 changes. An '' denotes no survey. Data shown for years 1999–2005.*

Div	Str	Area	Deep	1999	1999	1999	2000	2000	2000	2001	2001	2001	2002	2002	2002	2003	2003	2003	2004	2004	2004	2005	2005	2005
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
2J	209	1608/680	300	0.0	1.7	3	0.0	3.3	3	0.0	0.0	3	0.3	17.0	3	0.0	3.3	3	0.2	2.5	2	0.1	14.7	3
2J	210	774/1035	300	0.2	9.2	4	0.6	2.2	4	0.4	2.5	4	0.2	7.3	4	0.1	5.5	4	0.1	13.2	4	0.1	6.2	4
2J	213	1725/1583	300	0.0	0.5	6	0.7	17.2	6	0.4	24.8	6	1.1	47.8	6	1.8	63.3	6	0.2	8.5	6	0.8	42.3	6
2J	214	1171/1341	300	0.3	5.8	5	0.2	3.4	5	0.6	27.6	6	1.2	45.8	5	0.6	23.8	5	3.0	152.8	5	1.2	49.4	5
2J	215	1270/1302	300	1.0	17.2	5	0.5	12.4	5	0.3	4.9	5	0.0	0.8	5	2.0	52.4	5	8.3	298.2	5	2.7	115.2	5
2J	228	1428/2196	300	1.1	43.0	8	0.9	47.9	8	1.9	90.5	7	2.5	128.0	8	3.2	229.8	8	12.1	394.6	8	8.3	241.0	8
2J	203	480/487	400	0.2	1.5	2	0.1	1.5	2	0.8	4.3	2	0.0	0.0	2	0.0	4.0	2	0.0	1.0	2	1.8	45.5	2
2J	208	448/588	400	0.5	13.5	2	0.4	10.8	2	0.0	0.9	2	0.2	24.5	2	3.8	68.4	2	1.7	26.5	2	0.7	43.0	2
2J	211	330/251	400	2.1	34.4	2	3.2	43.7	2	1.1	26.0	3	2.0	146.9	2	4.8	43.0	2	4.4	90.5	2	2.1	90.0	2
2J	216	384/360	400	2.9	50.6	2	2.8	33.0	2	4.2	135.8	2	3.6	52.5	2	2.2	34.6	2	11.9	179.5	2	16.0	166.0	2
2J	222	441/450	400	10.5	126.5	2	3.6	54.5	2	9.6	91.9	3	8.2	213.6	2	8.3	201.5	2	33.2	477.0	2	8.3	170.0	2
2J	229	567/536	400	5.6	90.5	2	4.6	55.5	2	16.8	159.7	2	5.7	151.0	2	8.1	171.0	2	24.4	327.5	2	34.8	639.5	2
2J	204	354/288	500	0.2	3.9	2	0.9	8.0	2	0.0	0.0	2	0.1	0.5	2	0.1	0.5	2	0.0	0.7	2	0.2	8.0	2
2J	217	268/241	500	60.8	410.5	2	6.3	51.0	2	19.3	156.9	2	9.6	75.9	2	9.2	112.8	2	27.1	242.0	2	11.4	102.5	2
2J	223	180/158	500	47.5	309.0	2	10.8	75.0	2	17.3	94.0	2	3.7	32.9	2	8.8	100.5	2	11.8	89.5	2	90.2	455.9	2
2J	227	686/598	500	6.8	45.5	2	19.1	210.5	2	13.2	122.5	2	10.4	112.0	2	6.0	72.0	2	13.0	135.1	2	33.8	376.0	2
2J	235	420/414	500	1.5	20.3	2	5.3	39.1	2	9.3	64.0	2	5.8	55.1	2	4.0	73.0	2	11.1	112.5	2	17.0	184.6	2
2J	240	133	500	306.4	1300.0	2	18.6	169.0	2	189.3	1018.2	2	37.8	634.3	2	21.8	294.0	2	135.9	601.5	2	79.7	488.5	2
2J	212	664/557	750	15.9	94.0	2	11.4	79.5	2	2.2	14.3	2	8.9	61.1	2	24.0	244.7	2	12.5	120.5	2	12.8	98.0	2
2J	218	420/362	750	67.7	292.8	2	32.0	134.0	2	124.1	472.0	2	65.1	335.5	2	37.4	207.7	2	96.9	432.5	2	43.1	158.5	2
2J	224	270/228	750	74.5	276.9	2	34.6	145.0	2	64.1	329.5	2	16.7	135.1	2	30.7	218.0	2	82.5	302.5	2	59.7	134.0	2
2J	230	237/185	750	228.8	594.0	2	70.3	304.5	2	61.5	298.1	2	42.6	342.3	2	43.3	227.0	2	92.5	306.5	2	166.1	439.0	2
2J	239	120	750	0.1	1.0	2	0.0	0.0	2	0.0	0.4	2	0.0	0.5	2	0.0	0.5	2	0.1	1.5	2	0.6	9.0	2
2J	219	213/283	1000	0.9	8.0	2	1.5	4.1	2	6.0	10.9	2	4.6	14.2	2	4.3	10.0	2	0.0	0.0	2	0.0	0.0	2
2J	231	182/186	1000	4.9	19.5	2	43.9	103.5	2	1.6	4.0	2	14.6	29.3	2	1.5	3.4	2	1.6	8.0	2	0.0	0.0	2
2J	236	122/193	1000	0.0	0.0	2	5.9	15.5	2	5.9	11.4	2	1.0	2.5	2	8.0	21.0	2	0.0	0.0	2	0.0	0.0	2

Table 9.14. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 2J. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area, with '/' indicating post-1993 changes. An '*' denotes no survey. Data shown for years 2006–12.

Div	Str	Area	Deep	2006	2006	2006	2007	2007	2007	2008	2008	2008	2009	2009	2009	2010	2010	2010	2011	2011	2011	2012	2012	2012
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
2J	209	1608/680	300	0.0	0.3	3	1.0	114.1	3	1.1	63.2	2	0.0	1.0	2	1.7	90.3	3	0.1	3.8	2	0.1	7.0	3
2J	210	774/1035	300	0.1	5.2	4	0.0	1.5	4	0.5	16.0	3	0.2	10.3	3	0.1	7.0	4	10.5	550.0	3	1.7	20.3	4
2J	213	1725/1583	300	4.4	216.5	6	6.4	360.3	6	7.6	336.6	5	6.2	193.0	5	3.3	116.2	6	17.5	702.6	5	2.1	60.5	6
2J	214	1171/1341	300	4.3	149.0	5	4.5	238.5	4	3.3	150.9	5	4.8	150.6	5	4.1	165.4	5	9.8	184.1	4	13.4	146.2	5
2J	215	1270/1302	300	2.6	95.0	5	10.6	402.6	5	8.8	356.1	4	12.0	301.2	4	6.6	138.2	4	12.3	271.0	4	43.5	316.2	5
2J	228	1428/2196	300	2.5	85.0	8	6.1	309.5	8	11.6	273.2	7	10.0	236.4	7	362.4	734.5	8	24.5	575.9	6	14.0	319.6	8
2J	203	480/487	400	0.6	3.9	2	5.9	372.5	2	7.8	279.1	2	3.4	70.1	2	12.5	201.5	2	1.9	98.5	2	11.9	182.4	2
2J	208	448/588	400	0.9	37.0	2	1.1	41.8	2	1.3	18.7	2	37.8	562.0	2	27.3	126.0	2	5.0	136.5	2	15.6	238.0	2
2J	211	330/251	400	6.8	191.5	2	66.4	599.3	2	18.2	204.4	2	142.8	629.5	2	3.0	125.5	2	14.7	116.0	2	87.8	459.1	2
2J	216	384/360	400	12.0	128.5	2	49.0	543.5	2	48.1	775.7	2	49.3	420.0	2	122.6	840.4	2	133.7	634.0	2	99.1	499.8	2
2J	222	441/450	400	54.7	1176.5	2	58.7	774.0	2	89.1	1257.8	2	95.2	1745.7	2	55.0	419.5	2	122.4	638.3	2	211.6	632.0	2
2J	229	567/536	400	29.8	541.0	2	60.4	374.0	2	16.0	432.0	2	321.6	1294.5	2	72.2	405.8	2	39.9	258.0	2	33.8	279.5	2
2J	204	354/288	500	0.5	16.0	2	4.9	135.0	2	7.7	159.4	2	4.1	91.0	2	18.4	238.0	2	27.1	274.0	2	15.6	221.0	2
2J	217	268/241	500	83.0	492.0	2	158.1	792.7	2	115.4	645.5	2	123.0	658.5	2	388.7	1770.8	2	315.6	1078.5	2	341.4	1064.1	2
2J	223	180/158	500	18.8	108.0	2	85.7	363.0	2	90.6	502.5	2	101.5	593.9	2	216.8	1013.5	2	974.4	3407.5	2	298.2	722.4	2
2J	227	686/598	500	50.1	575.5	2	44.0	378.0	2	37.9	546.2	2	53.1	372.0	2	56.5	570.0	2	36.9	211.5	2	34.0	190.5	2
2J	235	420/414	500	26.9	238.0	2	52.5	261.0	2	150.4	1184.9	2	47.1	597.0	2	76.1	649.5	2	151.7	1068.5	2	96.0	505.8	2
2J	240	133	500	133.3	731.0	2	291.8	986.1	2	109.8	402.3	2	635.0	3264.4	2	687.4	2302.5	2	121.4	328.7	2	463.6	1613.8	2
2J	212	664/557	750	12.0	91.6	2	8.6	57.7	2	12.5	101.5	2	22.4	274.5	2	25.9	316.3	2	27.5	226.0	2	36.6	219.0	2
2J	218	420/362	750	108.6	222.0	2	94.1	311.0	2	132.6	482.6	2	55.4	161.7	2	66.7	158.2	2	143.6	308.8	2	2.4	3.0	2
2J	224	270/228	750	69.9	223.5	2	50.7	132.5	2	126.3	277.3	2	91.5	333.5	2	25.6	46.3	2	73.2	146.5	2	100.1	219.3	2
2J	230	237/185	750	67.7	138.5	2	72.2	175.5	2	43.5	123.5	2	73.1	167.5	2	117.9	418.4	2	198.5	541.6	2	526.1	1364.0	2
2J	239	120	750	0.5	8.0	2	2.1	28.0	2	4.6	94.9	2	5.8	100.6	2	7.9	102.0	2	27.9	234.0	2	36.4	222.8	2
2J	219	213/283	1000	0.0	0.0	2	0.0	0.0	2	*	*	*	0.0	0.0	2	1.5	3.3	2	0.0	0.0	2	0.0	0.0	2
2J	231	182/186	1000	1.2	8.0	2	0.0	0.0	2	0.0	0.0	2	0.3	1.3	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2
2J	236	122/193	1000	0.0	0.0	2	0.0	0.0	2	*	*	*	0.0	0.0	2	0.2	0.5	2	0.0	0.0	2	0.0	0.0	2

Table 9.15. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 2J. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area, with '/' indicating post-1993 changes. An '*' denotes no survey. Data shown for years 2013–19.

Div	Str	Area	Deep	2013	2013	2013	2014	2014	2014	2015	2015	2015	2016	2016	2016	2017	2017	2017	2018	2018	2018	2019	2019	2019
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
2J	209	1608/680	300	0.8	15.5	3	0.4	4.9	3	0.6	5.3	3	0.0	0.0	3	0.0	0.0	3	0.0	1.0	2	3.1	831.5	2
2J	210	774/1035	300	1.7	49.4	4	2.3	44.2	4	0.8	64.6	4	0.1	9.1	4	0.1	5.2	4	0.4	10.9	3	0.5	188.3	2
2J	213	1725/1583	300	1.7	26.6	6	3.1	41.1	5	5.4	45.6	7	0.5	4.6	6	0.3	2.7	6	0.1	7.0	5	1.2	140.5	4
2J	214	1171/1341	300	3.9	60.6	5	19.4	128.6	5	1.4	11.8	5	0.3	5.0	5	0.3	1.8	5	0.3	2.8	5	0.6	149.0	3
2J	215	1270/1302	300	7.1	110.2	5	8.1	69.6	5	4.7	32.1	4	2.3	13.8	5	1.5	8.6	5	0.3	4.5	5	1.4	155.3	3
2J	228	1428/2196	300	11.0	168.6	8	22.5	470.6	8	80.3	193.7	8	0.3	25.4	8	15.3	70.8	8	1.5	33.7	6	6.1	59.0	5
2J	203	480/487	400	3.8	57.9	2	2.7	18.7	2	1.6	7.0	2	0.7	4.0	2	0.2	2.0	2	0.2	1.7	2	2.8	76.9	2
2J	208	448/588	400	34.9	173.5	2	101.1	439.0	2	56.3	176.5	2	0.3	3.6	2	4.7	25.8	2	2.0	7.5	2	7.9	1952.7	2
2J	211	330/251	400	21.9	200.0	2	28.8	126.7	2	578.8	1087.0	2	0.0	3.5	2	1.9	7.0	2	5.0	22.0	2	3.8	210.1	2
2J	216	384/360	400	801.3	2977.2	2	139.8	541.5	2	11.4	52.0	2	9.6	44.0	2	82.2	114.0	2	14.4	44.5	2	5.4	210.6	2
2J	222	441/450	400	351.1	1104.7	2	83.7	394.4	2	22.0	137.9	2	41.4	100.5	2	4.9	28.0	2	5.0	28.0	2	3.7	56.6	2
2J	229	567/536	400	60.3	428.8	2	202.6	853.5	2	278.1	976.1	2	463.1	860.2	2	60.1	203.6	2	26.0	97.0	2	50.8	221.0	2
2J	204	354/288	500	73.0	767.0	2	5.9	57.6	2	8.3	55.9	2	0.7	6.0	2	0.6	3.4	2	0.6	3.3	2	0.5	3.5	2
2J	217	268/241	500	224.1	680.0	2	176.0	471.0	2	286.7	865.1	2	27.0	105.8	2	25.4	91.5	2	33.8	78.7	2	18.4	2058.0	2
2J	223	180/158	500	137.2	346.5	2	185.6	458.0	2	120.1	333.0	2	36.8	112.0	2	15.2	46.4	2	12.9	61.1	2	21.7	452.5	2
2J	227	686/598	500	22.8	108.5	2	15.5	87.0	2	12.9	66.0	2	8.3	38.5	2	12.9	47.2	2	3.6	14.0	2	1.3	34.9	2
2J	235	420/414	500	58.5	405.5	2	31.2	147.0	2	43.6	175.0	2	40.8	163.0	2	17.7	55.5	2	9.7	33.5	2	16.9	317.0	2
2J	240	133	500	300.2	837.3	2	575.4	1481.7	2	886.1	1862.7	2	1261.4	4733.8	2	741.0	1687.2	2	81.7	354.3	2	95.5	450.7	2
2J	212	664/557	750	8.3	44.0	2	11.0	59.0	2	3.5	18.4	3	54.2	244.3	2	6.1	28.0	2	7.4	25.5	2	2.1	9.0	2
2J	218	420/362	750	48.3	96.6	2	34.3	61.7	2	9.1	17.3	2	128.6	319.2	2	57.5	119.0	2	26.4	55.2	2	15.4	38.5	2
2J	224	270/228	750	13.5	32.7	2	17.5	34.0	2	7.8	19.3	2	40.3	88.4	2	96.8	242.7	2	11.2	22.0	2	48.5	152.5	2
2J	230	237/185	750	8.2	15.2	2	152.6	321.2	2	40.2	81.7	2	393.1	994.5	2	117.4	236.5	2	113.1	204.9	2	180.8	382.8	2
2J	239	120	750	3.2	27.0	2	6.2	48.0	2	9.3	63.0	2	3.3	18.5	2	1.1	7.0	2	0.2	0.9	2	0.4	2.0	2
2J	219	213/283	1000	5.1	9.1	2	0.0	0.0	2	0.0	0.0	2	0.4	0.5	2	0.8	1.7	2	0.3	1.0	2	*	*	*
2J	231	182/186	1000	0.0	0.0	2	1.7	4.7	2	0.0	0.0	2	0.0	0.0	2	0.3	0.7	2	0.2	0.5	2	*	*	*
2J	236	122/193	1000	0.0	0.0	2	0.0	0.0	2	0.2	1.5	2	0.2	0.6	2	0.0	0.0	2	0.4	1.0	2	*	*	*

Table 9.16. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 2J. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area, with '/' indicating post-1993 changes. An '' denotes no survey. Data shown for years 2020.*

Div	Str	Area	Deep	2020	2020	2020
		sqNM	m	MWPT	MNPT	Sets
2J	209	1608/680	300	0.8	45.3	2
2J	210	774/1035	300	5.9	429.7	2
2J	213	1725/1583	300	54.2	3940.2	4
2J	214	1171/1341	300	2.5	233.0	3
2J	215	1270/1302	300	16.7	1263.0	3
2J	228	1428/2196	300	7.1	295.2	5
2J	203	480/487	400	33.2	2480.0	2
2J	208	448/588	400	13.2	723.7	2
2J	211	330/251	400	52.6	1549.0	2
2J	216	384/360	400	6.2	401.8	2
2J	222	441/450	400	65.2	3959.9	2
2J	229	567/536	400	52.0	1008.0	2
2J	204	354/288	500	16.0	1144.0	2
2J	217	268/241	500	23.5	58.0	2
2J	223	180/158	500	44.6	129.6	2
2J	227	686/598	500	4.7	217.1	2
2J	235	420/414	500	3.0	78.5	2
2J	240	133	500	444.8	745.6	2
2J	212	664/557	750	20.0	1207.4	2
2J	218	420/362	750	11.0	19.6	2
2J	224	270/228	750	5.1	6.3	2
2J	230	237/185	750	7.8	13.0	2
2J	239	120	750	1.1	75.5	2
2J	219	213/283	1000	1.4	2.0	2
2J	231	182/186	1000	0.0	0.0	2
2J	236	122/193	1000	0.0	0.0	2

Table 9.17. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 3K. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area, with '/' indicating post-1993 changes. An '*' denotes no survey. Data shown for years 1978–84.

Div	Str	Area	Deep	1978	1978	1978	1979	1979	1979	1980	1980	1980	1981	1981	1981	1982	1982	1982	1983	1983	1983	1984	1984	1984
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
3K	620	2709/2545	300	19.6	184.0	5	5.8	91.0	3	4.1	54.0	3	3.1	20.4	10	0.1	1.4	9	2.7	10.4	10	0.1	0.4	13
3K	621	2859/2736	300	2.9	36.4	5	1.3	12.7	3	3.9	30.3	3	0.7	3.6	11	0.5	6.6	14	0.1	2.1	12	0.2	2.1	14
3K	624	668/1105	300	324.6	5998.5	4	49.0	825.0	2	6.5	28.0	2	6.1	66.0	2	2.4	14.2	4	1.1	25.5	4	7.5	47.5	4
3K	634	1618/1555	300	153.8	1218.2	4	11.5	81.0	2	59.7	404.0	2	14.8	80.4	7	60.0	206.4	11	4322.4	17406.0	5	25.7	108.3	7
3K	635	1274	300	244.6	3467.8	4	165.7	647.7	3	24.2	220.0	2	1592.4	4977.0	5	2.9	17.0	5	2.6	19.2	6	23.7	100.2	8
3K	636	1455	300	394.0	3511.0	4	46.1	381.0	2	2327.3	4239.5	2	18.3	122.8	6	20.1	66.2	10	77.2	164.8	6	7.2	54.8	8
3K	637	1132	300	219.3	1896.6	5	360.7	1805.0	3	67.3	604.0	2	399.4	1034.2	6	23.4	80.0	7	174.3	472.2	5	6.1	42.5	6
3K	617	593	400	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3K	623	1027/494	400	19.3	188.0	3	*	*	*	42.3	198.5	2	3.7	17.8	4	3.5	11.2	5	74.6	137.2	6	7.4	29.8	5
3K	625	850/888	400	57.0	370.0	3	23.5	164.5	2	54.7	137.0	2	283.3	484.2	4	6.1	35.5	2	227.6	436.3	3	11.6	40.4	5
3K	626	919/1113	400	67.7	269.0	3	17.2	68.5	2	26.7	70.0	2	86.1	239.6	5	41.8	236.0	5	3.9	21.8	4	3.5	22.5	6
3K	628	1085	400	49.2	107.5	2	46.6	57.3	3	7.9	9.5	2	18.6	59.8	6	3.6	11.3	6	11.0	21.0	6	6.8	12.1	7
3K	629	499/495	400	402.0	600.3	3	*	*	*	59.8	151.5	2	29.2	94.7	3	16.4	61.5	2	1223.5	3306.0	3	13.0	61.0	4
3K	630	544/332	400	213.1	431.5	2	62.6	182.0	2	27.7	81.0	2	9.8	46.5	2	*	*	*	60.2	236.0	2	131.7	320.0	3
3K	633	2179/2067	400	3271.3	11090.8	4	45.2	170.2	4	241.2	662.0	3	102.3	468.2	8	740.3	2511.3	7	447.7	1399.8	12	87.3	271.7	10
3K	638	2059	400	271.6	804.7	3	112.1	340.0	2	447.4	1516.3	3	62.9	247.8	8	44.7	158.1	15	83.4	279.1	11	94.0	288.8	10
3K	639	1463	400	472.5	1336.2	4	1170.5	3501.5	2	267.3	555.5	2	44.0	228.5	6	283.9	1087.5	10	3244.2	12649.0	7	439.5	1200.6	8
3K	622	632/691	500	29.9	402.0	2	5.3	26.7	3	9.5	40.5	2	17.6	44.5	2	14.0	27.7	3	14.1	33.0	2	5.4	13.0	4
3K	627	1184/1255	500	2.9	9.5	2	12.7	59.3	3	21.7	89.5	2	4.0	14.0	6	7.9	35.0	7	13.5	38.0	6	6.6	26.4	8
3K	631	1202/1321	500	6.8	19.5	2	15.0	57.0	3	26.4	96.3	3	9.4	38.2	5	4.7	17.5	2	29.2	81.0	5	223.7	781.0	5
3K	640	198/69	500	843.4	2499.5	2	*	*	*	678.8	1908.0	2	247.6	613.0	2	271.8	782.0	2	*	*	*	151.7	475.0	2
3K	645	204/216	500	1075.3	2622.5	2	*	*	*	739.6	2019.0	2	307.3	848.5	2	389.4	1184.7	3	942.3	2620.5	2	77.9	239.0	2
3K	650	134	500	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3K	641	584/230	750	463.6	918.0	2	95.3	220.0	2	273.0	512.5	2	124.7	287.0	2	115.2	266.8	4	37.9	71.7	3	65.9	129.7	3
3K	646	333/325	750	1675.9	3017.0	2	14.7	27.0	2	82.5	139.0	2	106.8	180.0	2	810.8	1510.5	2	632.2	1265.0	2	332.7	572.0	2
3K	651	359	750	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3K	642	931/418	1000	0.8	1.5	2	*	*	*	3.2	5.0	2	0.8	2.0	3	2.3	6.5	6	*	*	*	3.2	7.7	6
3K	647	409/360	1000	18.0	26.0	2	0.3	0.5	2	18.8	57.0	2	3.8	11.0	2	0.2	0.5	2	*	*	*	*	*	*
3K	652	516	1000	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3K	643	1266/733	1250	0.0	0.0	2	0.6	0.5	2	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3K	648	232/228	1250	0.0	0.0	2	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3K	653	531	1250	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3K	644	954/474	1500	1.1	1.5	2	0.9	1.0	2	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3K	649	263/212	1500	0.4	0.5	2	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3K	654	479	1500	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Table 9.18. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 3K. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area, with '/' indicating post-1993 changes. An '*' denotes no survey. Data shown for years 1985–91.

Div	Str	Area	Deep	1985	1985	1985	1986	1986	1986	1987	1987	1987	1988	1988	1988	1989	1989	1989	1990	1990	1990	1991	1991	1991
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
3K	620	2709/2545	300	0.2	4.7	14	0.0	0.0	9	0.2	1.4	14	0.1	3.2	12	0.3	4.5	15	0.0	0.0	9	0.1	1.4	14
3K	621	2859/2736	300	0.3	7.9	15	0.1	3.9	14	0.1	1.2	12	0.0	0.5	10	0.0	0.4	17	0.0	1.3	11	0.1	2.8	5
3K	624	668/1105	300	1.0	15.0	4	1.5	27.0	2	0.7	15.3	3	0.9	14.0	3	0.2	11.3	3	0.6	21.0	4	0.0	0.0	2
3K	634	1618/1555	300	14.5	59.6	9	23.5	88.0	5	6.5	27.5	11	5.2	22.0	6	6.2	37.1	7	1.3	6.9	7	1.2	9.4	25
3K	635	1274	300	6.7	34.1	7	1.9	30.5	6	2.0	16.5	6	1.0	17.2	5	20.0	45.1	7	1.2	2.7	6	0.1	5.5	4
3K	636	1455	300	4.9	20.8	8	6.1	43.0	4	2.4	16.9	7	3.0	24.8	6	1.2	18.2	5	0.3	2.0	7	0.3	0.3	3
3K	637	1132	300	35.2	114.4	7	4.8	41.8	4	1.7	18.5	6	3.5	37.5	8	1.6	12.0	5	0.4	2.2	5	0.5	6.8	6
3K	617	593	400	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3K	623	1027/494	400	3.2	12.3	6	1.2	11.8	4	0.6	3.2	5	2.0	46.8	5	1.1	21.3	6	0.3	1.2	5	0.9	6.5	6
3K	625	850/888	400	36.3	135.6	5	0.4	1.3	3	15.5	48.0	4	0.8	12.8	4	3.0	46.2	4	0.3	2.0	4	0.5	4.0	3
3K	626	919/1113	400	18.0	58.8	5	0.9	18.5	4	5.0	36.6	5	0.2	1.0	5	224.7	498.6	5	0.0	0.0	4	1.0	9.7	3
3K	628	1085	400	1.6	4.2	6	0.0	0.0	3	0.9	6.4	5	0.7	6.8	5	0.4	1.8	4	0.0	0.0	5	0.2	4.3	3
3K	629	499/495	400	10.4	45.2	4	6.8	45.7	3	11.2	28.7	3	5.7	27.5	2	2.1	7.3	3	1518.5	3132.5	2	1.4	9.5	4
3K	630	544/332	400	15.9	33.8	4	21.8	67.0	2	1.4	2.7	3	0.2	2.0	3	0.8	6.7	3	0.7	11.0	2	0.4	2.3	3
3K	633	2179/2067	400	516.2	1529.9	12	21.1	84.1	8	12.3	53.1	11	14.0	98.1	8	7.3	39.3	10	22.0	98.6	11	72.9	217.0	25
3K	638	2059	400	61.7	177.7	11	9.6	64.8	4	62.3	139.3	10	568.2	1106.1	8	19.1	57.7	11	133.5	296.4	9	3.4	17.4	25
3K	639	1463	400	381.4	1331.4	8	885.2	2096.2	6	98.2	311.3	7	97.3	447.0	6	13.8	36.9	8	196.2	647.9	7	9.2	69.7	3
3K	622	632/691	500	2.0	9.0	4	3.4	13.0	2	0.6	2.0	3	0.2	3.7	3	2.8	33.3	3	1.1	3.5	2	0.9	13.3	3
3K	627	1184/1255	500	1.9	8.6	7	1.1	6.8	5	1.0	4.5	6	0.5	2.0	5	17.5	53.7	6	5.5	31.8	5	0.1	1.0	3
3K	631	1202/1321	500	98.0	270.7	7	7.1	26.5	4	4.4	17.0	6	6.3	37.7	6	9.0	45.0	7	1.2	13.3	6	4.2	24.8	6
3K	640	198/69	500	334.8	817.0	3	94.1	457.5	2	141.1	491.0	2	196.1	804.0	2	24.1	112.5	2	49.0	229.5	2	17.9	109.0	3
3K	645	204/216	500	741.3	2159.7	3	*	*	*	258.4	625.5	2	319.5	1031.0	2	985.4	3771.0	2	101.3	413.0	2	28.4	142.0	3
3K	650	134	500	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3K	641	584/230	750	67.1	168.8	4	*	*	*	33.8	70.0	3	*	*	*	*	*	*	14.3	39.5	2	18.1	62.5	2
3K	646	333/325	750	183.0	353.7	3	*	*	*	248.2	390.5	2	*	*	*	*	*	*	8.0	23.0	2	78.8	345.0	3
3K	651	359	750	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3K	642	931/418	1000	6.5	19.0	5	*	*	*	1.1	2.2	5	*	*	*	*	*	*	1.5	4.3	3	0.0	0.0	2
3K	647	409/360	1000	150.0	234.7	3	*	*	*	*	*	*	*	*	*	*	*	*	7.1	13.5	2	15.1	37.0	3
3K	652	516	1000	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3K	643	1266/733	1250	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3K	648	232/228	1250	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3K	653	531	1250	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3K	644	954/474	1500	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3K	649	263/212	1500	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3K	654	479	1500	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Table 9.19. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 3K. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area, with '/' indicating post-1993 changes. An '*' denotes no survey. Data shown for years 1992–98.

Div	Str	Area	Deep	1992	1992	1992	1993	1993	1993	1994	1994	1994	1995	1995	1995	1996	1996	1996	1997	1997	1997	1998	1998	1998
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
3K	620	2709/2545	300	0.0	0.0	3	0.0	0.0	3	0.0	0.0	5	0.5	6.2	3	0.0	0.5	11	0.0	0.1	11	0.0	0.5	11
3K	621	2859/2736	300	0.0	0.0	3	0.0	0.0	3	0.0	0.0	3	0.1	0.3	6	0.0	0.0	11	0.0	1.7	11	0.0	0.0	11
3K	624	668/1105	300	0.1	2.7	3	0.3	9.9	7	0.0	0.0	3	1.3	21.8	4	1.1	34.4	5	1.1	48.2	5	2.1	53.8	5
3K	634	1618/1555	300	0.1	1.9	25	0.5	3.1	16	0.3	1.5	4	0.2	5.7	7	0.8	32.9	7	0.1	3.4	7	1.4	35.7	7
3K	635	1274	300	0.3	8.3	3	0.3	1.3	3	0.0	0.0	4	0.1	3.8	6	0.0	1.0	5	0.1	1.6	5	0.1	5.2	5
3K	636	1455	300	0.1	6.7	3	0.2	2.7	3	0.0	0.0	3	0.3	12.9	7	0.8	17.1	6	0.4	28.8	6	0.5	28.5	6
3K	637	1132	300	0.0	0.0	3	0.0	0.0	3	0.0	1.4	14	0.0	4.4	5	0.1	2.0	5	0.1	4.4	5	0.4	12.8	5
3K	617	593	400	*	*	*	0.1	0.7	3	0.2	0.5	4	0.5	8.5	2	1.4	17.0	3	0.3	5.7	3	2.3	23.6	3
3K	623	1027/494	400	1.6	19.7	3	0.2	1.2	4	0.0	0.0	3	1.8	21.5	2	0.1	11.4	2	0.2	6.5	2	0.0	0.0	2
3K	625	850/888	400	0.0	0.0	3	1.0	6.7	3	0.6	8.7	3	2.4	50.5	3	0.4	7.3	4	1.4	69.2	4	1.2	25.3	4
3K	626	919/1113	400	0.1	1.0	3	0.0	0.0	3	0.0	0.0	3	0.1	2.3	4	0.0	0.7	5	0.3	8.4	5	59.5	119.6	5
3K	628	1085	400	0.0	0.0	3	0.2	2.0	3	0.0	0.0	6	0.1	0.8	5	0.1	1.0	5	0.1	0.4	5	0.1	0.4	5
3K	629	499/495	400	0.6	5.0	3	0.2	4.0	3	0.6	2.5	4	0.0	0.9	2	0.3	2.0	2	0.5	5.0	2	0.0	0.5	2
3K	630	544/332	400	1.3	18.3	3	0.0	0.0	3	0.1	0.7	3	0.0	0.5	2	0.6	6.0	2	0.6	7.0	2	2.2	33.5	2
3K	633	2179/2067	400	1.5	12.3	25	1.4	14.8	18	0.8	3.4	5	2.7	41.4	8	10.9	122.0	9	2.6	32.4	9	8.8	114.0	9
3K	638	2059	400	0.4	3.1	25	0.4	2.5	20	0.2	4.2	21	1.0	21.0	9	1.4	36.4	9	1.0	42.4	9	1.2	21.3	9
3K	639	1463	400	0.6	5.5	25	0.9	8.0	15	1.3	12.6	8	0.6	24.2	7	2.4	53.1	6	3.5	58.7	6	4.0	60.8	6
3K	622	632/691	500	1.3	11.7	3	0.7	4.2	4	0.5	4.4	5	1.2	16.6	3	0.6	4.4	3	0.2	3.3	3	0.4	6.0	3
3K	627	1184/1255	500	0.7	3.0	3	0.4	5.3	3	0.4	2.8	8	1.0	7.2	5	0.1	1.1	5	0.9	7.8	5	0.3	3.8	5
3K	631	1202/1321	500	9.1	63.0	3	0.5	5.7	3	0.9	9.8	4	2.0	27.5	5	1.5	11.8	6	1.9	17.5	6	3.2	20.0	6
3K	640	198/69	500	3.2	21.3	3	8.7	74.0	3	10.1	100.3	3	4.7	61.5	2	134.6	961.8	2	41.1	267.0	2	107.3	737.5	2
3K	645	204/216	500	6.8	40.7	3	8.2	48.3	3	7.0	47.0	3	15.1	167.0	2	70.9	445.5	2	63.3	325.2	2	46.8	296.2	2
3K	650	134	500	*	*	*	5.8	33.0	3	4.5	34.2	4	2.2	22.0	2	9.9	80.5	2	20.1	138.0	2	48.1	269.0	2
3K	641	584/230	750	2.9	12.0	2	12.6	63.7	3	7.9	31.3	3	36.9	273.5	2	45.0	206.5	2	55.5	218.0	2	63.7	234.5	2
3K	646	333/325	750	24.9	116.3	3	11.2	46.0	3	20.1	89.0	3	28.2	196.5	2	66.7	222.0	2	138.5	525.5	2	107.0	360.5	2
3K	651	359	750	*	*	*	4.4	16.3	3	6.1	27.8	4	13.4	105.5	2	14.6	45.5	2	18.4	61.0	2	128.3	592.5	2
3K	642	931/418	1000	0.9	2.5	2	1.3	3.3	3	0.3	2.0	3	0.6	1.0	2	0.4	3.0	2	0.0	0.0	2	0.1	0.5	2
3K	647	409/360	1000	0.5	1.7	3	1.0	3.0	3	6.7	17.7	3	18.1	72.5	2	0.3	1.5	2	0.5	1.5	2	4.6	15.5	2
3K	652	516	1000	*	*	*	2.1	7.0	3	0.1	0.8	4	1.8	8.0	2	0.6	2.5	2	0.1	0.5	2	4.2	12.0	2
3K	643	1266/733	1250	*	*	*	*	*	*	*	*	*	0.0	0.0	3	0.0	0.0	3	0.0	0.0	3	0.0	0.0	3
3K	648	232/228	1250	*	*	*	*	*	*	*	*	*	*	*	*	2.0	8.1	2	0.5	0.5	2	0.0	0.0	2
3K	653	531	1250	*	*	*	0.3	0.7	3	*	*	*	0.0	0.0	2	0.4	0.5	2	0.0	0.0	2	0.0	0.0	2
3K	644	954/474	1500	*	*	*	*	*	*	*	*	*	0.0	0.0	2	0.0	0.0	2	0.5	1.0	2	0.0	0.0	2
3K	649	263/212	1500	*	*	*	*	*	*	*	*	*	*	*	*	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2
3K	654	479	1500	*	*	*	*	*	*	*	*	*	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2

Table 9.20. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 3K. From 1978–1994, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area, with '/' indicating post-1993 changes. An '*' denotes no survey. Data shown for years 1999–2005.

Div	Str	Area	Deep	1999	1999	1999	2000	2000	2000	2001	2001	2001	2002	2002	2002	2003	2003	2003	2004	2004	2004	2005	2005	2005
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
3K	620	2709/2545	300	0.0	0.7	11	0.0	0.6	11	0.0	2.2	11	0.0	8.1	11	0.5	46.2	11	0.9	40.2	8	0.2	7.4	11
3K	621	2859/2736	300	0.0	0.4	11	0.0	0.2	11	0.0	0.7	6	0.1	9.9	11	0.0	1.5	11	0.3	14.9	8	0.0	1.1	10
3K	624	668/1105	300	2.4	50.0	5	0.8	59.8	5	2.4	158.2	5	2.6	107.2	5	2.8	186.8	5	15.1	471.6	5	6.0	155.6	5
3K	634	1618/1555	300	1.1	28.0	7	1.4	92.1	7	2.5	219.9	7	0.7	42.9	7	0.7	48.2	5	0.0	1.5	2	89.3	601.5	7
3K	635	1274	300	0.3	4.8	5	0.3	7.7	5	0.2	13.3	5	0.1	4.8	5	0.1	10.2	5	0.0	0.0	2	0.6	12.7	3
3K	636	1455	300	1.6	47.8	6	0.9	36.7	6	2.7	166.7	6	0.5	40.6	6	0.8	50.6	6	2.5	122.0	3	1.0	24.3	5
3K	637	1132	300	0.4	12.0	5	*	*	*	0.7	52.7	5	0.2	10.0	5	0.6	48.8	5	1.5	57.8	5	1.3	28.8	5
3K	617	593	400	0.4	9.7	3	1.3	12.3	3	0.4	5.7	3	0.5	9.0	3	1.6	93.3	3	7.7	167.0	3	6.8	119.7	3
3K	623	1027/494	400	0.0	0.0	2	0.2	0.5	2	0.2	4.2	2	0.3	8.9	2	0.4	19.5	2	1.8	59.0	2	1.2	29.0	2
3K	625	850/888	400	2.3	37.2	4	1.4	26.8	4	0.3	12.6	4	1.5	36.1	4	4.0	128.8	4	3.4	72.2	4	5.5	108.2	4
3K	626	919/1113	400	0.1	0.8	5	0.1	1.9	5	0.3	3.2	4	0.1	15.2	5	0.0	3.8	5	0.5	12.5	4	0.6	17.7	5
3K	628	1085	400	0.1	0.8	5	0.1	1.4	5	0.6	3.0	3	0.0	1.3	5	0.2	2.0	5	0.1	3.7	5	0.4	4.0	5
3K	629	499/495	400	0.4	5.5	2	0.6	5.8	2	0.1	1.4	3	0.9	9.3	2	0.3	7.0	2	1.0	12.3	2	0.5	6.5	2
3K	630	544/332	400	0.0	0.0	2	0.8	6.6	2	0.6	8.0	3	0.0	0.5	2	0.6	24.5	2	0.1	4.0	2	1.2	15.4	2
3K	633	2179/2067	400	4.2	48.4	9	9.9	108.0	9	5.0	108.7	9	6.5	154.1	9	2.2	69.1	9	13.9	267.3	9	31.5	482.1	9
3K	638	2059	400	6.5	66.0	8	1.9	36.8	5	1.2	75.4	8	2.0	48.2	9	2.8	133.8	9	16.2	249.6	9	3.3	55.7	9
3K	639	1463	400	7.6	75.5	7	5.4	78.1	3	4.2	95.8	5	3.2	86.4	6	7.6	246.5	6	8.4	222.3	3	35.9	516.8	5
3K	622	632/691	500	0.8	12.8	3	0.9	10.3	3	1.1	12.0	3	0.4	7.3	3	3.9	66.7	3	1.7	23.3	3	5.0	80.3	3
3K	627	1184/1255	500	2.4	16.1	5	1.4	15.0	5	0.8	6.5	3	0.2	3.6	5	0.3	3.5	5	0.1	1.5	4	0.9	14.3	5
3K	631	1202/1321	500	1.1	11.1	6	0.5	5.6	6	1.0	8.0	10	2.1	21.7	6	8.1	154.8	6	1.6	20.8	4	4.7	73.4	5
3K	640	198/69	500	57.3	472.5	2	43.6	395.0	2	67.2	628.5	2	16.1	258.5	2	27.3	561.5	2	96.6	879.2	2	154.1	2220.5	2
3K	645	204/216	500	70.1	529.0	2	44.5	437.0	2	92.0	536.1	2	146.5	852.0	2	29.0	596.0	2	56.9	704.5	2	74.3	598.8	2
3K	650	134	500	22.5	153.5	2	*	*	*	21.2	139.5	2	244.7	1419.6	2	22.8	416.0	2	65.4	461.5	2	79.2	871.6	2
3K	641	584/230	750	12.3	38.7	2	*	*	*	67.7	319.5	2	23.4	154.8	2	141.5	896.0	2	91.8	361.0	2	35.7	378.2	2
3K	646	333/325	750	149.1	620.0	2	90.8	431.7	2	116.8	410.0	2	124.6	473.5	2	67.2	609.5	2	86.0	941.5	2	278.4	769.1	2
3K	651	359	750	58.0	176.0	2	*	*	*	83.9	366.9	2	27.7	127.4	2	35.4	340.0	2	137.9	500.5	2	11.6	35.0	2
3K	642	931/418	1000	0.0	0.0	2	0.2	0.5	2	0.3	0.5	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.4	1.0	2
3K	647	409/360	1000	0.6	1.0	2	0.0	0.0	2	6.0	13.0	2	0.5	1.5	2	5.8	18.0	2	140.0	368.3	2	7.4	17.0	2
3K	652	516	1000	1.3	6.0	2	0.9	5.0	2	0.0	0.0	2	0.0	0.0	2	0.5	2.5	2	0.0	0.0	2	0.4	0.5	2
3K	643	1266/733	1250	0.0	0.0	3	0.0	0.0	2	0.0	0.0	3	0.0	0.0	3	0.0	0.0	3	0.0	0.0	3	0.0	0.0	3
3K	648	232/228	1250	1.6	8.5	2	2.6	8.0	2	0.1	1.0	2	0.1	0.4	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2
3K	653	531	1250	0.0	0.0	2	0.2	1.1	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2
3K	644	954/474	1500	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2
3K	649	263/212	1500	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.1	0.6	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2
3K	654	479	1500	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2

Table 9.21. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 3K. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area, with '/' indicating post-1993 changes. An '*' denotes no survey. Data shown for years 2006–12.

Div	Str	Area	Deep	2006	2006	2006	2007	2007	2007	2008	2008	2008	2009	2009	2009	2010	2010	2010	2011	2011	2011	2012	2012	2012
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
3K	620	2709/2545	300	0.4	8.7	11	0.6	22.6	7	0.0	0.6	3	0.3	8.6	10	0.1	6.7	11	1.0	29.9	8	0.3	18.7	10
3K	621	2859/2736	300	0.1	2.9	11	0.1	3.1	7	0.2	5.4	9	0.1	2.4	8	0.0	0.3	11	0.1	8.0	6	0.6	12.2	8
3K	624	668/1105	300	2.8	71.0	5	7.4	242.6	5	7.8	412.1	3	4.5	135.7	4	3.3	82.0	5	22.0	622.0	4	19.6	413.4	5
3K	634	1618/1555	300	0.3	20.5	6	7.0	146.4	7	0.5	23.9	2	0.7	21.8	6	1.7	67.3	7	14.0	317.2	5	5.4	124.3	7
3K	635	1274	300	*	*	*	0.5	33.0	2	0.7	51.7	5	0.2	10.9	5	0.8	20.8	5	2.8	128.8	5	4.6	119.6	5
3K	636	1455	300	2.8	58.7	3	4.3	79.3	3	12.0	217.8	4	1.5	70.4	6	3.7	125.7	6	7.9	311.5	6	8.6	203.2	6
3K	637	1132	300	1.4	61.3	4	1.4	31.0	3	5.2	159.1	4	44.6	239.2	4	8.0	88.2	5	2452.5	6489.9	5	5.1	163.9	5
3K	617	593	400	21.7	208.4	3	16.4	148.0	2	1.1	20.5	2	22.3	127.0	2	3.9	28.7	3	9.9	132.1	2	5.0	78.3	3
3K	623	1027/494	400	0.5	22.5	2	1.7	29.0	2	10.0	108.0	2	1.3	16.2	2	3.8	36.5	2	54.5	490.4	2	2.6	46.5	2
3K	625	850/888	400	5.4	85.6	4	140.2	578.8	4	12.5	195.6	2	6.5	106.6	4	13.6	142.8	4	27.4	219.6	3	18.9	438.8	3
3K	626	919/1113	400	1.4	19.5	5	0.6	7.6	2	5.5	55.8	4	0.5	6.4	4	0.3	3.5	5	9.1	35.3	4	6.2	23.2	5
3K	628	1085	400	0.8	8.0	3	0.3	3.7	3	3.8	19.8	4	0.6	4.3	4	0.4	2.8	5	0.8	8.2	4	1.7	9.1	6
3K	629	499/495	400	1.3	22.5	2	3.3	28.4	2	4.7	30.9	2	0.6	8.8	2	5.2	52.2	2	5.8	38.0	2	4.9	42.5	2
3K	630	544/332	400	0.1	1.5	2	1.7	19.5	2	0.8	15.0	2	2.2	14.5	2	9.5	38.3	2	4.1	18.0	2	3.0	28.0	2
3K	633	2179/2067	400	24.0	343.7	8	58.8	461.4	9	29.8	474.7	5	30.7	432.1	8	222.6	1084.6	9	29.1	199.4	7	248.9	1131.9	8
3K	638	2059	400	56.9	333.4	5	34.2	244.8	9	125.1	733.7	7	5.3	91.3	8	21.0	197.9	9	9.1	88.3	9	515.8	1327.3	8
3K	639	1463	400	446.6	1745.7	3	102.4	734.7	6	92.2	450.5	3	203.6	874.3	6	8.8	127.0	6	11.7	140.7	6	22.2	144.9	6
3K	622	632/691	500	10.8	126.0	3	129.9	897.0	3	21.8	188.5	2	143.9	825.0	3	4.0	27.9	3	165.0	511.0	2	8.9	80.0	3
3K	627	1184/1255	500	1.3	17.4	4	2.0	17.2	4	9.1	79.8	5	16.6	108.3	5	1.9	16.5	5	9.2	28.8	4	176.4	360.8	5
3K	631	1202/1321	500	16.4	103.6	6	6.0	54.8	6	44.4	439.9	2	38.9	236.6	5	13.0	109.2	6	7.2	32.1	4	19.2	142.1	6
3K	640	198/69	500	195.3	944.5	2	469.3	2339.0	2	175.4	775.6	2	1322.0	6676.5	2	234.8	1263.3	2	461.6	2253.9	2	126.9	664.0	2
3K	645	204/216	500	116.2	633.0	2	249.2	1281.0	2	426.8	2487.6	2	340.1	1734.0	2	442.7	1435.3	2	470.5	2094.0	2	232.9	757.4	2
3K	650	134	500	145.4	665.0	2	83.2	410.2	2	106.7	417.2	2	733.7	3545.8	2	772.8	4592.5	2	499.2	2284.0	2	661.0	2458.8	2
3K	641	584/230	750	20.4	57.0	2	13.1	51.0	2	304.8	1244.8	2	21.0	69.0	2	5.9	19.7	2	14.8	47.8	2	38.3	123.0	2
3K	646	333/325	750	46.4	91.6	2	288.8	722.9	2	791.2	3998.8	2	194.2	671.3	2	194.5	392.0	2	196.4	579.0	2	196.6	660.0	2
3K	651	359	750	51.6	182.0	2	5.8	15.6	2	34.9	112.0	2	168.0	838.0	2	299.7	1209.0	2	30.5	99.0	2	72.6	303.1	2
3K	642	931/418	1000	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.4	2.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2
3K	647	409/360	1000	0.0	0.0	2	0.0	0.0	2	*	*	*	0.0	0.0	2	0.0	0.0	2	0.5	1.1	2	0.0	0.0	2
3K	652	516	1000	0.0	0.0	2	0.0	0.0	2	0.1	0.5	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2
3K	643	1266/733	1250	0.1	0.3	3	0.0	0.0	3	*	*	*	0.0	0.0	3	0.0	0.0	3	0.0	0.0	2	0.0	0.0	3
3K	648	232/228	1250	0.0	0.0	2	0.0	0.0	2	*	*	*	0.0	0.0	2	4.1	10.5	2	0.0	0.0	2	0.0	0.0	2
3K	653	531	1250	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2
3K	644	954/474	1500	0.0	0.0	2	0.0	0.0	2	*	*	*	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2
3K	649	263/212	1500	0.0	0.0	2	0.0	0.0	2	*	*	*	0.0	0.0	2	3.0	8.5	2	0.0	0.0	2	0.0	0.0	2
3K	654	479	1500	0.0	0.0	2	0.0	0.0	2	*	*	*	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2

Table 9.22. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 3K. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area, with '/' indicating post-1993 changes. An '*' denotes no survey. Data shown for years 2013–19.

Div	Str	Area	Deep	2013	2013	2013	2014	2014	2014	2015	2015	2015	2016	2016	2016	2017	2017	2017	2018	2018	2018	2019	2019	2019
		sqNM	m	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets	MWPT	MNPT	Sets
3K	620	2709/2545	300	4.0	66.5	10	0.6	139.8	11	1.0	163.2	11	0.3	35.4	11	0.4	21.3	11	0.6	37.6	7	1.3	299.6	5
3K	621	2859/2736	300	1.1	18.6	11	0.5	125.0	11	0.6	70.1	10	0.7	71.8	11	0.3	17.2	10	0.6	21.3	9	0.4	29.2	8
3K	624	668/1105	300	27.8	263.4	5	4.3	286.6	5	7.7	365.4	5	1.3	62.4	5	14.0	222.7	5	0.7	31.0	4	1.7	238.0	2
3K	634	1618/1555	300	1.6	77.1	4	5.3	502.4	7	7.8	183.0	7	4.5	45.6	6	3.4	74.5	7	3.4	95.1	5	0.0	1.5	2
3K	635	1274	300	3.2	101.6	4	4.5	401.5	5	4.8	578.4	3	1.4	97.6	4	2.7	72.8	5	3.1	61.2	5	0.3	15.2	2
3K	636	1455	300	9.6	160.2	4	6.6	725.6	6	5.4	561.0	7	6.1	174.1	5	2.4	110.9	6	11.4	212.2	4	5.7	127.0	2
3K	637	1132	300	6.4	107.9	4	4.9	566.1	5	1.4	158.4	5	5.5	280.6	5	3.3	96.2	5	2.7	154.0	4	2.4	115.4	4
3K	617	593	400	18.8	97.5	3	23.8	108.7	3	6.5	63.7	3	1.1	32.3	3	10.4	69.0	2	3.0	29.5	3	4.6	89.5	2
3K	623	1027/494	400	128.3	284.0	2	59.2	297.5	2	4.3	43.5	2	2.3	134.3	2	1.6	19.5	2	12.9	62.8	3	0.3	72.5	2
3K	625	850/888	400	20.3	207.6	3	20.3	386.0	4	14.3	417.0	4	2.0	66.8	4	7.4	174.8	5	3.8	66.4	2	3.8	125.0	2
3K	626	919/1113	400	8.5	48.7	5	6.7	75.4	5	1.9	82.4	4	0.8	23.6	5	4.3	65.5	5	11.1	70.2	4	0.8	20.9	4
3K	628	1085	400	2.9	14.4	5	1.7	125.6	5	0.9	102.8	5	0.8	32.7	5	1.2	20.6	5	5.9	45.8	5	2.9	27.1	4
3K	629	499/495	400	11.5	93.3	2	22.3	190.3	2	102.8	328.0	2	2.9	134.7	2	32.6	175.6	2	230.8	358.8	2	*	*	*
3K	630	544/332	400	4.0	25.5	2	7.3	63.5	2	9.8	50.0	2	2.3	114.9	2	3.1	60.0	2	1.4	20.5	2	0.8	15.0	2
3K	633	2179/2067	400	244.3	1006.7	5	106.1	887.4	9	35.6	198.1	9	46.3	253.3	6	8.0	185.4	7	9.2	101.7	6	8.3	210.4	2
3K	638	2059	400	166.9	424.6	6	28.5	1157.8	9	315.7	474.8	9	24.4	268.5	9	71.6	390.3	9	60.0	353.1	7	164.1	500.4	7
3K	639	1463	400	129.7	687.9	6	130.6	990.6	6	32.0	175.7	6	16.4	179.0	5	56.9	487.3	6	32.2	203.2	3	529.2	1449.9	3
3K	622	632/691	500	33.4	142.4	3	14.5	67.9	3	20.2	85.0	3	7.9	42.9	3	2.3	25.0	3	7.5	54.7	3	8.4	283.0	2
3K	627	1184/1255	500	33.4	88.8	5	8.6	71.8	5	7.4	56.4	5	0.8	12.5	5	6.3	58.5	5	2.8	24.3	5	3.0	20.7	2
3K	631	1202/1321	500	8.6	70.0	3	20.8	152.8	6	31.3	167.8	6	9.5	51.8	5	14.6	128.1	6	8.4	67.0	5	6.8	65.5	2
3K	640	198/69	500	386.2	1255.3	2	100.7	422.5	2	322.2	1216.0	2	100.5	698.0	2	437.0	1436.3	2	213.9	621.3	2	120.7	835.3	2
3K	645	204/216	500	166.1	742.7	2	185.5	954.5	2	257.6	948.7	2	271.7	1059.5	2	114.3	271.5	2	59.1	210.5	2	*	*	*
3K	650	134	500	641.5	2234.5	2	2925.1	10244.5	2	142.3	608.0	2	*	*	*	84.7	298.2	2	68.0	177.8	2	59.9	156.4	2
3K	641	584/230	750	3.2	9.0	2	6.1	14.0	2	5.6	13.0	2	207.3	645.0	2	1.1	3.5	2	63.5	102.1	2	9.8	65.3	2
3K	646	333/325	750	51.6	119.5	2	45.1	81.5	2	273.1	494.0	2	40.4	105.8	2	73.6	135.6	2	237.9	479.0	2	*	*	*
3K	651	359	750	1.7	4.6	2	134.3	485.0	2	544.2	1334.6	2	75.5	214.5	2	65.0	185.3	2	5685.5	10854.7	2	81.9	153.3	2
3K	642	931/418	1000	0.7	2.5	2	3.1	12.5	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	*	*	*	*	*	*
3K	647	409/360	1000	0.6	1.0	2	0.0	0.0	2	0.2	0.5	2	0.0	0.0	2	2.5	5.7	2	*	*	*	*	*	*
3K	652	516	1000	0.4	1.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	*	*	*	*	*	*
3K	643	1266/733	1250	0.0	0.0	3	0.0	0.0	3	0.0	0.0	3	0.0	0.0	2	0.0	0.0	3	*	*	*	*	*	*
3K	648	232/228	1250	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	*	*	*	*	*	*
3K	653	531	1250	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	*	*	*	*	*	*
3K	644	954/474	1500	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	*	*	*	*	*	*
3K	649	263/212	1500	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	*	*	*	*	*	*
3K	654	479	1500	0.0	0.0	2	0.0	0.0	2	0.0	0.0	2	*	*	*	0.0	0.0	2	*	*	*	*	*	*

Table 9.23. Strata-wise mean number per tow (MNPT) and mean weight per tow (MWPT) from Canadian autumn surveys in NAFO Div. 3K. From 1978–94, values are Campelen trawl equivalent units; from 1995 onward, they are empirical Campelen data. The stratification scheme was updated in 1993 using enhanced depth charts. The 'Area' column shows strata (str) area, with '/' indicating post-1993 changes. An '' denotes no survey. Data shown for years 2020.*

Div	Str	Area	Deep	2020	2020	2020
		sqNM	m	MWPT	MNPT	Sets
3K	620	2709/2545	300	9.5	709.5	6
3K	621	2859/2736	300	2.3	104.2	9
3K	624	668/1105	300	4.1	214.2	4
3K	634	1618/1555	300	3.3	131.5	6
3K	635	1274	300	7.8	277.4	4
3K	636	1455	300	20.2	329.4	4
3K	637	1132	300	156.7	922.3	4
3K	617	593	400	29.3	1713.0	2
3K	623	1027/494	400	22.5	1309.0	2
3K	625	850/888	400	15.3	781.5	3
3K	626	919/1113	400	9.4	285.2	4
3K	628	1085	400	9.7	157.3	4
3K	629	499/495	400	18.0	334.1	2
3K	630	544/332	400	3.3	226.4	2
3K	633	2179/2067	400	29.8	1131.3	7
3K	638	2059	400	55.5	541.7	7
3K	639	1463	400	197.9	1127.7	6
3K	622	632/691	500	9.1	207.7	2
3K	627	1184/1255	500	15.6	179.3	4
3K	631	1202/1321	500	9.1	412.7	5
3K	640	198/69	500	86.4	300.4	2
3K	645	204/216	500	213.5	725.5	2
3K	650	134	500	87.2	390.6	2
3K	641	584/230	750	38.7	99.6	2
3K	646	333/325	750	83.4	191.5	2
3K	651	359	750	0.4	0.5	2
3K	642	931/418	1000	0.0	0.0	2
3K	647	409/360	1000	0.0	0.0	2
3K	652	516	1000	0.0	0.0	2
3K	643	1266/733	1250	0.0	0.0	2
3K	648	232/228	1250	0.0	0.0	2
3K	653	531	1250	0.0	0.0	2
3K	644	954/474	1500	0.0	0.0	2
3K	649	263/212	1500	0.0	0.0	2
3K	654	479	1500	0.0	0.0	2