

Overview of Trips and Sets in the 2021-2023 Comparative Fishing Program in the Newfoundland and Labrador Region

Kayla Silver, Jenna Makrides, Samantha Trueman, and Laura Wheeland

Science Branch
Fisheries and Oceans Canada
Newfoundland & Labrador Region
Northwest Atlantic Fisheries Centre
80 E White Hills Rd.
St. John's, NL A1X 5X1

2024

**Canadian Data Report of
Fisheries and Aquatic Sciences 1406**

Canadian Data Report of Fisheries and Aquatic Sciences

Data reports provide a medium for filing and archiving data compilations where little or no analysis is included. Such compilations commonly will have been prepared in support of other journal publications or reports. The subject matter of the series reflects the broad interests and policies of Fisheries and Oceans Canada, namely, fisheries management, technology and development, ocean sciences, and aquatic environments relevant to Canada.

The correct citation appears above the abstract of each report. Each report is abstracted in the data base *Aquatic Sciences and Fisheries Abstracts*.

Data reports are produced regionally but are numbered nationally. Requests for individual reports will be filled by the issuing establishment listed on the front cover and title page.

Numbers 1-25 in this series were issued as Fisheries and Marine Service Data Records. Numbers 26-160 were issued as Department of Fisheries and Environment, Fisheries and Marine Service Data Reports. The current series name was changed with report number 161.

Rapport statistique canadien des sciences halieutiques et aquatiques

Les rapports statistiques servent de base à la compilation des données de classement et d'archives pour lesquelles il y a peu ou point d'analyse. Cette compilation aura d'ordinaire été préparée pour appuyer d'autres publications ou rapports. Les sujets des rapports statistiques reflètent la vaste gamme des intérêts et politiques de Pêches et Océans Canada, notamment la gestion des pêches, la technologie et le développement, les sciences océaniques et l'environnement aquatique, au Canada.

Le titre exact figure au haut du résumé de chaque rapport. Les rapports à l'industrie sont résumés dans la base de données *Résumés des sciences aquatiques et halieutiques*.

Les rapports statistiques sont produits à l'échelon régional, mais numérotés à l'échelon national. Les demandes de rapports seront satisfaites par l'établissement d'origine dont le nom figure sur la couverture et la page du titre.

Les numéros 1 à 25 de cette série ont été publiés à titre de Records statistiques, Service des pêches et de la mer. Les numéros 26-160 ont été publiés à titre de Rapports statistiques du Service des pêches et de la mer, ministère des Pêches et de l'Environnement. Le nom de la série a été modifié à partir du numéro 161.

Canadian Data Report of
Fisheries and Aquatic Sciences 1406

2024

Overview of Trips and Sets in the 2021-2023 Comparative Fishing Program in the Newfoundland and
Labrador Region

by

Kayla Silver, Jenna Makrides, Samantha Trueman, and Laura Wheeland

Science Branch
Fisheries and Oceans Canada
Newfoundland & Labrador Region
Northwest Atlantic Fisheries Centre
80 E White Hills Rd.
St. John's, NL A1X 5X1

© His Majesty the King in Right of Canada, as represented by the Minister of the Department of Fisheries and Oceans, 2024

Cat. No. Fs97-13/1406E-PDF

ISBN 978-0-660-73408-8

ISSN 1488-5395

Correct citation for this publication:

Silver, K., Makrides, J., Trueman, S., and Wheeland, L. 2024. Overview of Trips and Sets in the 2021-2023 Comparative Fishing Program in the Newfoundland and Labrador Region. Can. Data Rep. Fish. Aquat. Sci. 1406: viii + 97 p.

1. TABLE OF CONTENTS

LIST OF TABLES.....	IV
ABSTRACT.....	VIII
RÉSUMÉ	VIII
1. INTRODUCTION.....	1
1.1 MULTISPECIES SURVEY.....	1
2. METHODS	1
3. RESULTS	2
3.1 OVERVIEW OF EACH SEASON OF THE COMPARATIVE FISHING YEARS.....	3
3.1.1 FALL 2021.....	3
3.1.2 SPRING 2022.....	3
3.1.3 FALL 2022.....	3
3.1.4 SPRING 2023.....	4
3.1.5 FALL 2023.....	4
4. DISCUSSION.....	5
ACKNOWLEDGEMENTS	5
REFERENCES CITED.....	6
FIGURES.....	7
TABLES.....	8
APPENDIX 1: BRIDGE PROTOCOL	92
APPENDIX 2: SAMPLING PROTOCOL.....	97

2. LIST OF TABLES

Table 1. Summary of trips completed in fall 2021. Where “TEL” represents the CCGS Teleost, “CAR” represents the CCGS Capt Jacques Cartier, and “CAB” = CCGS John Cabot. Program(s) completed for each trip are indicated as sea trials, multi-species survey (MSS) and/or comparative fishing (CF).	8
Table 2. Summary of Trips completed in Fall and Spring 2022. Where “TEL” represents the CCGS Teleost, “CAR” represents the CCGS Jacques Cartier, and “CAB” = CCGS John Cabot. Program(s) completed for each trip are indicated as Multi-Species Survey (MSS) and/or comparative fishing (CF).	9
Table 3. Summary of Trips completed in Fall and Spring 2023. Where “TEL” represents the CCGS Teleost, “CAR” represents the CCGS Jacques Cartier, and “CAB” = CCGS John Cabot. Program(s) completed for each trip are indicated as calibration, Multi-Species Survey (MSS) and/or comparative fishing (CF).	11
Table 4. Summary of Trips completed in Fall 2023. Where “TEL” represents the CCGS Teleost, “CAR” represents the CCGS Jacques Cartier, and “CAB” = CCGS John Cabot. Program(s) completed for each trip are indicated as capelin survey, Multi-Species Survey (MSS) and/or comparative fishing (CF).	12
Table 5. Set by set details of the fall 2021 CCGS Teleost (TEL) trip 222, where “MSS” represents multispecies survey, and “CF” represents comparative fishing.	13
Table 6. Set by set details of the fall 2021 Teleost (TEL) trip 223, where “MSS” represents multispecies survey, and “CF” represents comparative fishing.	15
Table 7. Set by set details of the fall 2021 CCGS Teleost (TEL) trip 224. There were no comparative sets during this trip and all sets were completed under the multi-species survey (MSS) program.	16
Table 8. Set by set details of the fall 2021 CCGS Teleost (TEL) trip 225. There were no comparative sets during this trip and all sets were completed under the multi-species survey (MSS) program.	18
Table 9. Set by set details of the Fall 2021 CCGS Teleost (TEL) trip 226, where “MSS” represents multispecies survey, and “CF” represents comparative fishing.	19
Table 10. Set by set details of the fall 2021 CCGS Capt Jacques Cartier (CAR) trip 10, where “MSS” represents multispecies survey, and “CF” represents comparative fishing.	20
Table 11. Set by set details of the fall 2021 CCGS Capt Jacques Cartier Cartier (CAR) trip 11, where “MSS” represents multispecies survey, and “CF” represents comparative fishing.	21
Table 12. Set by set details of the fall 2021 CCGS Capt Jacques Cartier (CAR) trip 14, where “MSS” represents multispecies survey, and “CF” represents comparative fishing.	22
Table 13. Set by set details of the fall 2021 CCGS John Cabot (CAB) trip. There were no comparative sets during this trip and all sets were completed under the multi-species survey (MSS).	22
Table 14. Set by set details of the fall 2022 CCGS Teleost (TEL) trip 233. All sets were completed under the comparative fishing (CF) program.	23
Table 15. Set by set details of the fall 2022 CCGS Teleost (TEL) trip 234. All sets were completed under the comparative fishing (CF) program.	24

Table 16. Set by set details of the fall 2022 CCGS Teleost (TEL) trip 235. All sets were completed under the comparative fishing (CF) program.....	25
Table 17. Set by set details of the fall 2022 CCGS Teleost (TEL) trip 236. All sets were completed under the comparative fishing (CF) program.....	26
Table 18. Set by set details of the fall 2022 CCGS Teleost (TEL) trip 237. All sets were completed under the comparative fishing (CF) program.....	27
Table 19. Set by set details of the fall 2022 CCGS Alfred Needler (AN) trip 552. All sets were completed under the comparative fishing (CF) program.....	29
Table 20. Set by set details of the fall 2022 CCGS Alfred Needler (AN) trips 553. All sets were completed under the comparative fishing (CF) program.....	30
Table 21. Set by set details of the fall 2022 CCGS Alfred Needler (AN) trip 554. All sets were completed under the comparative fishing (CF) program.....	32
Table 22. Set by set details of the fall 2022 CCGS Alfred Needler (AN) trip 556. All sets were completed under the comparative fishing (CF) program.....	32
Table 23. Set by set details of the fall 2022 CCGS Capt Jacques Cartier (CAR) trip 26. All sets were completed under the comparative fishing (CF) program.	33
Table 24. Set by set details of the fall 2022 CCGS Capt Jacques Cartier (CAR) trip 27. All sets were completed under the comparative fishing (CF) program.	34
Table 25. Set by set details of the fall 2022 CCGS Capt Jacques Cartier (CAR) trip 28. All sets were completed under the comparative fishing (CF) program.	35
Table 26. Set by set details of the fall 2022 CCGS Capt Jacques Cartier (CAR) trip 29. All sets were completed under the comparative fishing (CF) program.	35
Table 27. Set by set details of the fall 2022 CCGS Capt Jacques Cartier (CAR) trip 30. All sets were completed under the comparative fishing (CF) program.	36
Table 28. Set by set details of the fall 2022 CCGS John Cabot (CAB) trip 27. All sets were completed under the comparative fishing (CF) program.....	38
Table 29. Set by set details of the Fall 2022 Cabot (CAB) trip 28. All sets were completed under the comparative fishing (CF) program.	39
Table 30. Set by set details of the fall 2022 CCGS John Cabot (CAB) trip 29. All sets were completed under the comparative fishing (CF) program.....	41
Table 31. Set by set details of the fall 2022 CCGS John Cabot (CAB) trip 30. All sets were completed under the multi-species survey (MSS) program with a target on Yellowtail flounder strata.....	43
Table 32. Set by set details of the fall 2022 CCGS John Cabot (CAB) trip 31. All sets were completed under the comparative fishing (CF) program.....	44
Table 33. Set by set details of the fall 2022 CCGS John Cabot (CAB) trip 32. All sets were completed under the comparative fishing (CF) program.....	44
Table 34. Set by set details of the spring 2022 CCGS John Cabot (CAB) trip 21. All sets were completed under the multi-species survey (MSS) program.	45
Table 35. Set by set details of the spring 2022 CCGS John Cabot (CAB) trip 22. All sets were completed under the multi-species survey (MSS) program.	46

Table 36. Set by set details of the spring 2022 CCGS John Cabot (CAB) trip 23, where “MSS” represents multispecies survey and “CF” represents comparative fishing.	48
Table 37. Set by set details of the spring 2022 CCGS John Cabot (CAB) trip 24. All sets were completed under the multi-species survey (MSS) program.	50
Table 38. Set by set details of the spring 2022 CCGS John Cabot (CAB) trip 25, where “MSS” represents multispecies survey and “CF” represents comparative fishing.	51
Table 39. Set by set details of the spring 2022 CCGS John Cabot (CAB) trip 26, where “MSS” represents multispecies survey and “CF” represents comparative fishing.	52
Table 40. Set by set details of the spring 2022 CCGS Alfred Needler (AN) trip 547. All sets were completed under the comparative fishing (CF) program.	54
Table 41. Set by set details of the spring 2022 CCGS Alfred Needler (AN) trips 549. All sets were completed under the comparative fishing (CF) program.	55
Table 42. Set by set details of the spring 2022 CCGS Alfred Needler (AN) trips 550. All sets were completed under the comparative fishing (CF) program.	55
Table 43. Set by set details of the fall 2023 CCGS Teleost (TEL) trip 244. All sets were completed under the multi-species survey (MSS) program.	56
Table 44. Set by set details of the fall 2023 CCGS Teleost (TEL) trip 245, where “MSS” represents multispecies survey and “CF” represents comparative fishing.	57
Table 45. Set by set details of the fall 2023 CCGS Teleost (TEL) trip 246, where “MSS” represents multispecies survey and “CF” represents comparative fishing.	59
Table 46. Set by set details of the fall 2023 CCGS Teleost (TEL) trip 247. All sets were completed under the multi-species survey (MSS) program.	60
Table 47. Set by set details of the fall 2023 CCGS Teleost (TEL) trip 248, where “MSS” represents multispecies survey and “CF” represents comparative fishing.	61
Table 48. Set by set details of the fall 2023 CCGS Teleost (TEL) trip 249, where “MSS” represents multispecies survey and “CF” represents comparative fishing.	62
Table 49. Set by set details of the fall 2023 CCGS Capt Jacques Cartier (CAR) trip 33. All sets were completed under the multi-species survey (MSS) program.	63
Table 50. Set by set details of the fall 2023 CCGS Capt Jacques Cartier (CAR) trip 34. All sets were completed under the multi-species survey (MSS) program.	65
Table 51. Set by set details of the fall 2023 Capt Jacques Cartier (CAR) trip 35. All sets were completed under the multi-species survey (MSS) program.	67
Table 52. Set by set details of the fall 2023 CCGS Capt Jacques Cartier (CAR) trip 36. All sets were completed under the multi-species survey (MSS) program.	68
Table 53. Set by set details of the fall 2023 CCGS John Cabot (CAB) trip 42. All sets were completed under the multi-species survey (MSS) program.	69
Table 54. Set by set details of the fall 2023 CCGS John Cabot (CAB) trip 43, where “MSS” represents multispecies survey and “CF” represents comparative fishing.	71
Table 55. Set by set details of the fall 2023 CCGS John Cabot (CAB) trip 4, where “MSS” represents multispecies survey and “CF” represents comparative fishing.	73

Table 56. Set by set details of the fall 2023 CCGS John Cabot (CAB) trip 45. All sets were completed under the multi-species survey (MSS) program.	74
Table 57. Set by set details of the fall 2023 CCGS John Cabot (CAB) trip 46, where “MSS” represents multispecies survey and “CF” represents comparative fishing.	75
Table 58. Set by set details of the fall 2023 CCGS John Cabot (CAB) trip 47, where “MSS” represents multispecies survey and “CF” represents comparative fishing.	76
Table 59. Set by set details of the spring 2023 CCGS Teleost (TEL) trip 239, where “MSS” represents multispecies survey and “CF” represents comparative fishing.	77
Table 60. Set by set details of the spring 2023 CCGS Teleost (TEL) trip 240, where “MSS” represents multispecies survey and “CF” represents comparative fishing.	79
Table 61. Set by set details of the spring 2023 CCGS Teleost (TEL) trip 241, where “MSS” represents multispecies survey and “CF” represents comparative fishing.	81
Table 62. Set by set details of the spring 2023 CCGS Teleost (TEL) trip 242. All sets were completed under the comparative fishing (CF) program.	83
Table 63. Set by set details of the spring 2023 CCGS John Cabot (CAB) trip 34. All sets were completed under the multi-species survey (MSS) program.	84
Table 64. Set by set details of the spring 2023 CCGS John Cabot (CAB) trip 35, where “MSS” represents multispecies survey and “CF” represents comparative fishing.	85
Table 65. Set by set details of the spring 2023 CCGS John Cabot (CAB) trip 36, where “MSS” represents multispecies survey and “CF” represents comparative fishing.	87
Table 66. Set by set details of the spring 2023 CCGS John Cabot “CAB” trip 37, where “MSS” represents multispecies survey and “CF” represents comparative fishing.	89
Table 67. Set by set details of the spring 2023 CCGS John Cabot (CAB) trip 38. All sets were completed under the comparative fishing (CF) program.	91

3. ABSTRACT

Silver, K., Makrides, J., Trueman, S., and Wheeland, L. 2024. Overview of Trips and Sets in the 2021-2023 Comparative Fishing Program in the Newfoundland and Labrador Region. Can. Data Rep. Fish. Aquat. Sci. 1406: viii + 97 p.

Multispecies trawl surveys are undertaken in the spring and fall of each year in the Newfoundland and Labrador (NL) Region. Data from these surveys are used to inform on stock assessments and fisheries management, ecosystem assessments, species at risk, marine conservation monitoring, and a variety of research programs. The Canadian Coast Guard Ships (CCGS), CCGS Teleost and CCGS Alfred Needler (hereafter, the “Teleost” and the “Needler”) are being replaced with the new Offshore Fishery Science Vessels (OFSVs) the CCGS Capt Jacques Cartier and the CCGS John Cabot (hereafter, the “Cartier” and the “Cabot”) for use for these surveys. To transition to full use of the new vessels, DFO Newfoundland undertook a comparative fishing program from 2021 to 2023 to determine catchability between the outgoing vessels and the new vessels using a modified version of the current Campelen 1800 trawl. This data report documents a detailed description of the trips and paired sets completed during the NL Region comparative fishing program between these vessels, which ran from the fall of 2021 through to the fall of 2023.

4. RÉSUMÉ

Silver, K., Makrides, J., Trueman, S., and Wheeland, L. 2024. Overview of Trips and Sets in the 2021-2023 Comparative Fishing Program in the Newfoundland and Labrador Region. Can. Data Rep. Fish. Aquat. Sci. 1406: viii + 97 p.

Des campagnes de chalutage multi-espèces sont menées au printemps et à l'automne de chaque année dans la région de Terre-Neuve-et-Labrador. Les données de ces relevés sont utilisées pour l'évaluation des stocks et la gestion des pêches, l'évaluation des écosystèmes, les espèces en péril, la surveillance de la conservation marine et une variété de programmes de recherche. Les navires de la Garde côtière canadienne (NGCC), le NGCC Teleost et le NGCC Alfred Needler (le « Teleost » et le « Needler ») sont en train d'être remplacés par les nouveaux navires hauturiers de sciences halieutiques (NHSH), le NGCC Capt Jacques Cartier et le NGCC John Cabot (le « Cartier » et le « Cabot »), qui seront utilisés pour ces relevés. Afin d'assurer la transition vers l'utilisation complète des nouveaux navires, le MPO Terre-Neuve-et-Labrador a entrepris un programme de pêche comparative de 2021 à 2023 pour déterminer la capturabilité entre les navires sortants et les nouveaux navires en utilisant une version modifiée du chalut Campelen 1800 actuel. Le présent rapport de données contient une description détaillée des sorties et des séries appariées effectuées dans le cadre du programme de pêche comparative de la Région de Terre-Neuve-et-Labrador entre ces navires, qui s'est déroulé de l'automne 2021 à l'automne 2023.

5. INTRODUCTION

1.1 MULTISPECIES SURVEY

Fisheries and Oceans Canada (DFO), Newfoundland and Labrador (NL) region conducts an annual Multispecies Survey (MSS) in the fall and spring. The fall survey typically runs from September to December and covers Northwest Atlantic Fisheries Organization (NAFO) Divisions 2HJ3KLNO, while the spring runs from April to June covering NAFO Div. 3LNOP (Figure 1). A full history of these surveys is provided in Rideout et al. 2022 and references therein. For much of the last three decades the fall survey has used the Canadian Coast Guard Ship (CCGS) *Teleost* (hereafter the “Teleost”) to sample Div. 2HJ3K, and the CCGS *Alfred Needler* (since 2009, preceded by its sister ship the CCGS *Wilfred Templeman*) to sample Div. 3KLNO. The CCGS *Alfred Needler* (hereafter the “Needler”), or its sistership the CCGS *Wilfred Templeman* (hereafter the “Templeman”), has been the primary survey vessel in the spring survey since the mid-1990s, sampling NAFO Div. 3LNOPs. Across both surveys there have been instances of vessels sampling outside of their normal area and/or season (e.g. the Teleost used for the spring survey when the Needler was unavailable). The Teleost and Needler are now being replaced by the new vessels, CCGS *Capt Jacques Cartier* and CCGS *John Cabot* (hereafter the “Cartier” and the “Cabot”, respectively). Comparative fishing was undertaken between the old and new vessels to quantify differences in catchability between the outgoing vessels with the standard Campelen trawl (with minor modifications) and the new vessels.

Since the surveys began in 1971, three different trawls have been used: 1971-1982 the Yankee 36, 1983-1995 Engel 145 otter trawl, and from 1995 onwards the Campelen 1800 shrimp trawl (a detailed description can be found in McCallum and Walsh, 1996). Minor modifications (see Wheeland et al. 2024) were made to the Campelen 1800 trawl for use with the Cabot and Cartier throughout the Comparative Fishing program and going forward.

6. METHODS

The comparative fishing program in the Atlantic Regions of DFO used a “paired tow” design, with old and new vessels fishing side by side (see Theiss et al. 2018). In NL a mixture of a “shadow survey” - paired tows across the normal survey allocation and stratified random design – and a targeted approach was implemented (DFO 2024, Trueman et al. *in press*).

DFO and Canadian Coast Guard staff were provided with guidance on how to complete paired tows (APPENDIX 1: BRIDGE PROTOCOL) with slight variation in protocol between year and season based on program and MSS requirements. Three types of paired tows were used throughout the comparative fishing program. The first, and most preferred method, was the “side by side” tow, where both vessels towed at the same time, parallel to one another, and at 0.5 nautical miles (nM) apart. If fishable bottom was limited, then one of two alternative approaches was conducted: a “single file/follow the leader” tow or a “one then the other” tow (for further details see Wheeland et al. 2024). To ensure paired tows were being conducted properly, tows were evaluated at-sea based on initial criteria for differences in time, distance and depth between the vessels, with additional checks onshore prior to data analysis. If a paired set fell outside the guidance of one or more criteria, the validity of the set was determined looking at parameters described in Wheeland et al 2024.

Five set types are used and listed in Table 1 - Table 67. “Paired” and “unpaired” are used when vessels were fishing together, with “paired” indicating a standard paired tow and “unpaired”

indicating the vessel was fishing nearby another allocated paired set but was not in a standard configuration. “Unpaired” sets were not used in conversion factor determination. “Survey” is used when the vessel completed the standard MSS and associated sampling, “unsuccessful” means there were issues (e.g. net tear up) with the tow during either a paired or survey set and the tow was not accepted. “No set” indicates this set number was not assigned on this vessel; this was done to maintain consistency in set numbers across vessels.

A “pair ID” was given to each successful paired set with consistent identifiers for both vessels within the pair. The first pair ID of every year and season starts with one and increases sequentially. following the format vesselvessel_number_year_season (e.g. telcar_7_2021_fall). These IDs identify the vessel set paired used for conversion factor estimation in DFO 2024.

During shadow survey comparative fishing sets (fall 2021, spring 2022, spring 2023 in Div. 3NLO, fall 2022 deep) one vessel completed the standard suite of biological sampling for the MSS, while the comparative vessel followed a reduced sampling protocol whereby:

- Catch was sorted and weighed following the standard survey protocol,
- Commercially important species, such as Atlantic cod (*Gadus morhua*) and Greenland halibut (*Reinhardtius hippoglossoides*) were individually measured using unsexed length frequencies (see APPENDIX 2: SAMPLING PROTOCOL for details),
- Commercial shrimp species, Northern shrimp (*Pandalus borealis*) and Striped shrimp (*Pandalus montagui*), and snow crab (*Chionoecetes opilio*) followed the standard survey sampling protocol of measuring carapace length, sexing, and weighing the sample (snow crab were weighed individually only if all 10 legs were attached),
- Cephalopods, non-commercial species, other invertebrates (corals, sponges, etc.) were sorted and sampled following the standard survey protocol.

During targeted comparative fishing (fall 2022, spring 2023 in 3Ps, fall 2022 <750m), both vessels followed the reduced sampling protocols.

Upon completion of each trip, the data file (SQLite) is sent to editors for quality assurance and quality control (QA/QC) analysis. Data editors run a series of scripts in R on tow details, species measurements and total catch weights for each set. These scripts check for a variety of factors such as tow durations and distance in relation to the start and end latitudes and longitudes, strata locations as well as environmental observations such as wind direction, sea states, etc. Modifications and/or deletions are made directly to the SQLite trip file into the Multi Species Data Logger program (MSDL). Queries are also run in DB Browser for SQLite for additional QA/QC analysis. After the initial QA/QC, further checks are conducted on specific species by experts in the associated sections (e.g. shrimp and crab data QA/QC through the shellfish section).

7. RESULTS

A total of 539 successful paired sets were completed over three years of comparative fishing (2021-2023) across spring and fall . A summary of the trips and details of the sets in each trip are provided in the TABLES section. Paired sets were completed in fall across NAFO divisions 2HJ3KL for the Teleost (n=261) and across Divs. 3KLNO for the Needler (n=100) (Figure 1). Of these sets, 78.7 % were completed side by side, 11.7% one then the other, and the remaining 9.5% were completed single file. Paired sets were also completed in spring across divisions 3LNOPs for the Teleost (n=141) and across Divs. 3NPs for the Needler (n=37). Of these sets, 72.8% were completed side by side, 19.4% one then the other, and the remaining 7.8% were

completed single file. Paired data detailed here have been used to estimate conversion factors for the spring and fall MSS in the NL Region (see DFO 2024, Trueman et al. *in press*).

3.1 OVERVIEW OF EACH SEASON OF THE COMPARATIVE FISHING YEARS

3.1.1 FALL 2021

In fall of 2021, a shadow survey at a 70% allocation of the standard MSS was planned for comparative fishing between the Teleost and Cartier, and the Needler and Cabot (planned 472 paired tows combined). The Needler was unavailable due to significant vessel issues, and the Cabot only sailed for a gear trial before dealing with mechanical failure; no comparative sets were completed between these two vessels. As a result, Div. 3LNO was not surveyed or sampled for comparative purposes.

Due to availability of the Cartier, the Cartier and Teleost only completed three partial comparative trips in NAFO Div. 2HJ3K, completing a total of 40 paired sets. Strata >750m were not sampled for survey or comparative due to a combination of winch restrictions on the Cartier (precluded fishing deeper than 1000 m) and time limitations given the absence of the Needler. For all paired sets, the Cartier was the “comparative vessel” that shadowed the Teleost; i.e. the Cartier had reduced sampling, while Teleost collected full survey data.

The standard MSS was completed in Div. 2HJ3K by the Teleost (Rideout et al. 2022).

3.1.2 SPRING 2022

In spring 2022, a shadow survey at a 70% allocation of the standard MSS was planned for comparative fishing between the Needler and Cabot. The Cabot was the survey vessel, and the Needler the comparative vessel. The Needler continued to have mechanical issues, and paired tows were only completed on a portion of three trips in Div. 3NP. The comparative program was incomplete this season, with 37 of 335 planned paired tows completed. A total of six trips completed by the Cabot attempted to cover the standard MSS sets but was not completed; approximately 80% of subDiv.3Ps and all of Div. 3NO were sampled, but only a portion of Div. 3L was covered.

3.1.3 FALL 2022

In fall 2022, the planned shadow survey approach was switched to a targeted approach in order to increase efficiency and maximize the potential for sufficient data to be collected so that derived conversion factors could be useful for at least some aspects of the survey region. This shift meant abandoning the typical survey design, and therefore there was no fall 2022 MSS.

Limitations on the winches on the Cabot and Cartier precluded fishing below 1000 m in the fall of 2022. Not all planned targeted comparative areas were reached. The Teleost and Cartier completed targeted areas in Div. 2HJ3K. The planned northern 2J area was removed from the allocation due to weather delays. The Needler was out of service for a large portion of the survey, but paired sets were completed with the Cabot in Div. 3K and on a portion of the southern Grand Bank. Div. 3KL targeted areas were not sampled and there was very limited sampling along the shelf edge. For all paired sets, the Cartier or Cabot was the comparative vessel that shadowed the Teleost and Needler respectively, which collected full survey data.

For one trip, while the Needler was out of service, the Cabot was paired with the Teleost and Cartier to attempt three-vessel comparative fishing. However, this proved logistically challenging

– including issues finding suitable swaths of bottom appropriate for trawling three vessels across – and was abandoned after a few days of trials.

In Fall 2022, 100 paired sets were completed with the Needler, and 157 with the Teleost (140 with the Cartier, and 17 with the Cabot).

3.1.4 SPRING 2023

The Needler was retired from service prior to the start of the spring 2023 survey. The comparative fishing program for this vessel was never completed.

A shadow survey at a 70% allocation (125 paired sets in subDiv. 3Ps, 210 across Div. 3LNO) was planned across the spring survey area in 2023. An extended refit period for the Teleost and winch trials on the Cabot led to a delayed start to the survey season, resulting in a decision to skip the standard MSS in subDiv. 3Ps, prioritizing the Grand Bank (Div. 3LNO).

In Div. 3NO the Cabot and Teleost worked together to complete paired sets, and fishing separately for the standard MSS. In Div. 3L these two vessels were then split up, each completing survey sets. Ninety successful paired sets were completed between the Cabot and Teleost across Div. 3LNO in spring 2023. For a portion of 3L, the Cabot was paired with the FV Calvert for a separate program (the Calvert trip and sets are not detailed here as they are not directly relevant to the transition from the Needler and Teleost).

After Div. 3L, the Teleost and Cabot completed comparative fishing in subDiv. 3Ps (Halibut Channel and Placentia Bay), targeting for Atlantic cod and snow crab. Further work was planned in western subDiv. 3Ps but could not be completed due to weather conditions and time limitations. Fifty one successful paired tows were completed in subDiv. 3Ps.

3.1.5 FALL 2023

In fall 2023, the Teleost, Cabot and Cartier were all used to complete the standard MSS (80% allocation). Limited comparative fishing was also completed during this season in order to fill data gaps (see DFO 2024) in the paired tow coverage for deep strata (>750 m) and shallow areas. The Teleost worked in Div. 2HJ3K+3L deep, Cabot in 2HJ3KLN, and the Cartier in Div. 3KLNO.

All comparative work this season was between the Teleost and Cabot, with the vessels following a shadow survey in deep (>750m) strata in Div 2J3L, and targeting areas in Div. 3K where small snow crab have been caught in the past, with a particular focus on shallow strata. For all paired sets, the Teleost was the comparative vessel that shadowed the Cabot; the Teleost had reduced sampling, while Cabot collected full survey data. Paired set sample size was increased in Div. 2J deep by completing one of the allocated alternates in each strata, with both vessels doing the reduced sampling during these extra sets. Twenty eight successful pairs were completed in Div. 2J, 14 in Div. 3L, and 22 in Div. 3K this season.

In the final trip of the season for each vessel, the Teleost was used for the Groundfish tagging program for one week, while the Cartier was tasked to a Capelin/Arctic cod program for the Pelagics section for two weeks.

8. DISCUSSION

The NL region comparative fishing program was undertaken across multiple years and vessels. These paired data have been used to derive conversion factors for a number of species and taxa groups for the NL MSS (e.g. DFO 2024; Trueman et al, *in press*; Wheeland et al. 2024) as it transitions to the CCGS *John Cabot* and CCGS *Capt Jacques Cartier*, and will continue to inform ongoing use of survey data.

9. ACKNOWLEDGEMENTS

The Comparative Fishing program could not have been undertaken without the massive effort, sacrifice, and dedication from sea-going staff and shore support! Thanks also to all CCG crew aboard these vessels, without whom fishing operations would not be possible.

10. REFERENCES CITED

- DFO. 2024. Newfoundland & Labrador Comparative Fishing Analysis – Part 1. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2024/002.
- McCallum, B. R., and S. J. Walsh. 1996. Groundfish survey trawls used at the Northwest Atlantic Fisheries Centre, 1971-present. NAFO Sci. Coun. Studies, 29: 93-104.
- Rideout, R.M., Rogers, B., Wheeland, L., and Koen-Alonso, M. 2022. Temporal And Spatial Coverage Of Canadian (Newfoundland And Labrador Region) Spring And Autumn MultiSpecies RV Bottom Trawl Surveys, With An Emphasis On Surveys Conducted In 2021. Serial No. N7271. NAFO SCR Doc. No. 22/007. 46 p.
- Thiess, M.E., Benoit, H., Clark, D.S., Fong, K., Mello, L.G.S., Mowbray, F., Pepin, P., Cadigan, N.G., Miller, T., Thirkell, D., and Wheeland, L.J. 2018. Proceedings of the National Comparative Trawl Workshop, November 28-30, 2017, Nanaimo, BC. Can. Tech. Rep. Fish. Aquat. Sci. 3254: x + 40 p.
- Trueman, S., Benoît, H., Munro, H., Nguyen, T., Novaczek, E., Skanes, K., Wheeland, L, and Yin, Y. *in press*. Results of comparative fishing between the CCGS Teleost and CCGS Alfred Needler with the CCGS John Cabot and CCGS Capt Jacques Cartier in the Newfoundland and Labrador Region in 2021 and 2022. Can. Sci. Advis. Sec. Res. Doc.
- Wheeland, L., Skanes, K., and Trueman, S. 2024. Summary of Comparative Fishing Data Collected in Newfoundland & Labrador from 2021-2022. Can. Tech. Rep. Fish. Aquat. Sci. 3579: iv + 132 p.
- Wheeland, L., Perreault, A., Rideout, R., Skanes, K., Le Corre, N., Trueman, S., Regular, P., Simpson, M., Maddock Parsons, D., Hatefi, F., and Adamack, A.T. 2024. Application of Conversion Factors in the Canadian (Newfoundland And Labrador Region) Spring And Autumn Multi-Species RV Bottom Trawl Surveys. NAFO SCR Doc. 24/037. Serial No. N7543.

11. FIGURES

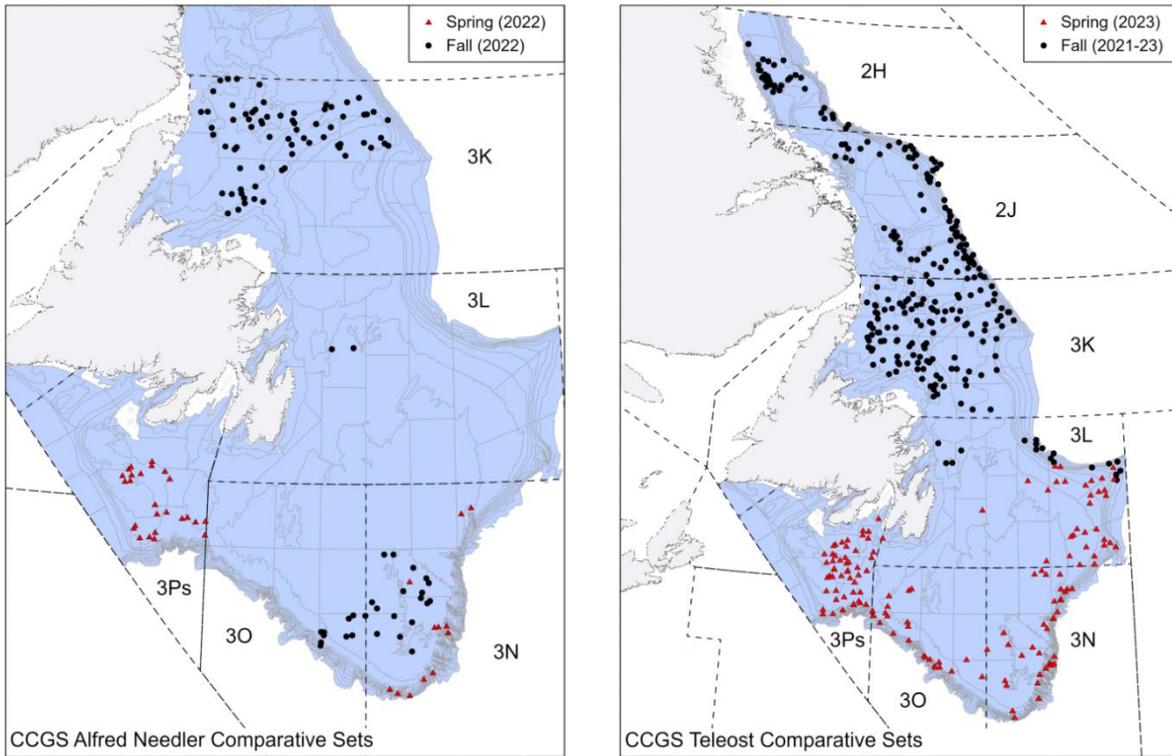


Figure 1. Map of paired sets completed by the CCGS Alfred Needler (left) and the CCGS Teleost (right) with the incoming Offshore Fishery Science Vessels (OFSVs) CCGS John Cabot (both vessels) and CCGS Capt Jacques Cartier (Teleost only) from 2021-2023. Spring sampling = red triangles, Fall = black circles. Blue shaded areas show the multispecies survey strata.

12. TABLES

Table 1. Summary of trips completed in fall 2021. Where “TEL” represents the CCGS Teleost, “CAR” represents the CCGS Capt Jacques Cartier, and “CAB” = CCGS John Cabot. Program(s) completed for each trip are indicated as sea trials, multi-species survey (MSS) and/or comparative fishing (CF).

year	season	vessel	trip	NAFO Div.	start date	end date	PIC	set type(s)	program(s)	comments
2021	FALL	TEL	222	2HJ	10/6/2021	10/19/2021	Will Coffey	survey + pairs	MSS	52 sets (44 successful), including 5 paired
2021	FALL	TEL	223	2HJ	10/20/2021	11/2/2021	Emilie Novaczek	survey + pairs	MSS & CF	37 sets (33 successful), including 27 paired
2021	FALL	TEL	224	2J3K	11/2/2021	11/16/2021	Julia Pantin	survey	MSS	65 sets (58 successful)
2021	FALL	TEL	225	3K	11/17/2021	11/29/2021	Elizabeth Coughlan	survey	MSS	48 sets (46 successful)
2021	FALL	TEL	226	3K	12/1/2021	12/17/2021	Luiz Mello	survey + pairs	MSS & CF	23 successful sets, including 8 paired. ~7 days lost due to weather/travel
2021	FALL	CAR	10	2H	10/13/2021	10/19/2021	Stephen Snook	survey + pairs	MSS & CF	6 sets (5 successful)
2021	FALL	CAR	11	2HJ	10/20/2021	11/2/2021	Peter Upward	paired	CF	34 sets (27 paired, 1 survey, 6 unsuccessful) ~ 5 days lost due to weather/travel
2021	FALL	CAR	13	-	11/17/2021	11/30/2021	Hilary Rockwood	-	CF	cancelled due to vessel issues
2021	FALL	CAR	14	3K	12/1/2021	12/17/2021	Will Coffey	paired	CF	11 sets (8 successful pairs)
2021	FALL	CAB	1	3O	9/25/2021	9/27/2021	N/A	N/A	sea trials	3 successful tows. Trip was only 2 days due to mechanical issues

Table 2. Summary of Trips completed in Fall and Spring 2022. Where “TEL” represents the CCGS Teleost, “CAR” represents the CCGS Jacques Cartier, and “CAB” = CCGS John Cabot. Program(s) completed for each trip are indicated as Multi-Species Survey (MSS) and/or comparative fishing (CF).

year	season	vessel	trip	NAFO Div.	start date	end date	PIC	set type(s)	program(s)	comments
2022	FALL	TEL	233	3K	10/9/2022	10/18/2022	Julia Pantin	paired	CF	38 sets (37 successful)
2022	FALL	TEL	234	3K	10/19/2022	11/1/2022	Will Coffey	paired	CF	44 sets (43 successful, 31 comparative, and did Capelin survey for 3 days - 2 successful tows)
2022	FALL	TEL	235	2H	11/2/2022	11/14/2022	Katherine Skanes	paired	CF	22 sets (20 successful)
2022	FALL	TEL	236	3K	11/17/2022	11/28/2022	Julia Pantin	paired	CF	19 successful sets
2022	FALL	TEL	237	2J3K	11/30/2022	12/19/2022	Luiz Mello	paired	CF	54 sets (51 successful paired tows) - ~ 5 days lost to weather/travel
2022	FALL	CAR	26	3K	10/9/2022	10/18/2022	Gina Doyle	paired	CF	38 sets (35 successful)
2022	FALL	CAR	27	2J3K	10/19/2022	11/1/2022	Erika Parrill	paired	CF	35 sets (32 successful)
2022	FALL	CAR	28	2H	11/2/2022	11/15/2022	Victoria Neville	paired	CF	14 sets (12 successful)
2022	FALL	CAR	29	3K	11/17/2022	11/29/2022	Emilie Novaczek	paired	CF	7 successful sets - discontinued a week early due to mechanical issues
2022	FALL	CAR	30	2J3K	12/2/2022	12/19/2022	Ron Lewis	paired	CF	50 sets (49 successful)
2022	FALL	CAB	27	3K	9/22/2022	9/4/2022	Steve Snook	paired	CF	44 sets (37 successful)
2022	FALL	CAB	28	3K	10/5/2022	10/18/2022	Peter Upward	paired	CF	68 sets (66 successful)
2022	FALL	CAB	29	3NO	10/20/2022	10/29/2022	Vonda Hayes	paired	CF	50 sets (29 comparative, 19 survey) - Needler completed limited comparative due to mechanical issues.
2022	FALL	CAB	30	3LNO	11/2/2022	11/15/2022	Hilary Rockwood	survey	MSS	Needler was unavailable due to issues - 28 successful sets were completed. Survey are targeted yellowtail flounder strata.
2022	FALL	CAB	31	3KL	11/16/2022	11/29/2022	Peter Upward	paired	CF	18 sets (14 successful pairs, 3 unpaired, 1 unsuccessful) - lost ~6 days
2022	FALL	CAB	32	2J3KL	11/30/2022	12/16/2022	Victoria Neville	paired	CF	14 sets - Some sets were unpaired - did a capelin/arctic cod survey

year	season	vessel	trip	NAFO Div.	start date	end date	PIC	set type(s)	program(s)	comments
2022	FALL	AN	552	3K	9/20/2022	10/4/2022	Ron Lewis	paired	CF	27 sets (14 successful paired, 2 unpaired)
2022	FALL	AN	553	3K	10/4/2022	10/18/2022	Emilie Novaczek	paired	CF	68 sets (61 paired successful)
2022	FALL	AN	554	3NO	10/20/2022	10/28/2022	Ron Lewis	paired	CF	27 sets (26 paired successful)
2022	FALL	AN	556	3L	11/15/2022	11/28/2022	Will Coffey	paired	CF	2 successful sets - major mechanical issues - a lot of lost time
2022	FALL	AN	557	-	11/30/2022	12/16/2022	Katherine Skanes	-	CF	cancelled due to vessel issues
2022	SPRING	CAB	21	3OP	4/3/2022	4/18/2022	Gina Doyle	survey	MSS	43 sets (41 successful) - 50 hours of time away from surveying
2022	SPRING	CAB	22	3P	4/20/2022	5/3/2022	Ron Lewis	survey	MSS	57 sets (54 successful sets)
2022	SPRING	CAB	23	3OP	5/4/2022	5/17/2022	Vonda Hayes	survey + pairs	MSS & CF	70 sets (40 survey sets, 25 paired sets)
2022	SPRING	CAB	24	3OP	5/22/2022	5/31/2022	Peter Upward	survey	MSS & CF	21 sets (18 successful) - delayed 4 days
2022	SPRING	CAB	25	3NO	6/3/2022	6/14/2022	Katherine Skanes	survey + pairs	MSS & CF	39 sets (10 paired and 29 survey)
2022	SPRING	CAB	26	3LN	6/15/2022	6/26/2022	Gina Doyle	survey + pairs	MSS & CF	60 sets (3 paired and 53 survey)
2022	SPRING	AN	547	3P	5/12/2022	5/16/2022	Hilary Rockwood	paired	CF	27 sets (25 paired successful sets) - trip was 8 days late
2022	SPRING	AN	549	3N	6/1/2022	6/14/2022	Luiz Mello	paired	CF	10 successful paired sets - only 7 days fished (mechanical issues)
2022	SPRING	AN	550	3N	6/15/2022	6/28/2022	Emilie Novaczek	paired	CF	4 sets (3 successful paired) - COVID outbreak - trip lasted ~2 days

Table 3. Summary of Trips completed in Fall and Spring 2023. Where “TEL” represents the CCGS Teleost, “CAR” represents the CCGS Jacques Cartier, and “CAB” = CCGS John Cabot. Program(s) completed for each trip are indicated as calibration, Multi-Species Survey (MSS) and/or comparative fishing (CF).

year	season	vessel	trip	NAFO Div.	start date	end date	PIC	set type(s)	program(s)	comments
2023	SPRING	TEL	239	3O	4/27/2023	5/11/2022	Will Coffey	survey + pairs	MSS & CF	57 sets (35 paired, 11 survey, 4 unsuccessful, 2 no sets)
2023	SPRING	TEL	240	3LN	5/11/2023	5/31/2023	Erika Parrill	survey + pairs	MSS & CF	71 sets (1 unsuccessful, 1 no set, 4 unpaired, 56 paired, and 10 survey)
2023	SPRING	TEL	241	3P	5/31/2023	6/13/2023	Ron Lewis	survey + pairs	MSS & CF	51 sets (28 survey sets and 22 paired sets)
2023	SPRING	TEL	242	3P	6/14/2023	6/20/2023	Hilary Rockwood	paired	CF	34 sets (29 successful paired sets)
2023	SPRING	CAL	1	-	5/25/2023	6/12/2023	Emilie Novaczek	paired	CF	73 sets (36 paired, 27 survey, 6 unsuccessful, and 4 no set) - First time using the MV Calvert
2023	SPRING	CAB	34	3O	4/13/2023	4/17/2023	Julia Pantin	survey	MSS	17 sets (16 successful) - original date April 1st, delayed due to vessel preparedness/sea trials and a SAR called
2023	SPRING	CAB	35	3O	4/27/2023	5/11/2023	Ron Lewis	survey + pairs	MSS & CF	42 sets (35 pairs, 6 survey, 1 unsuccessful)
2023	SPRING	CAB	36	3LN	5/11/2023	5/31/2023	Ron Lewis/ Elizabeth Coughlan	survey + pairs	MSS & CF	72 sets (55 paired sets with TEL, 4 unsuccessful, 3 survey, and 10 calvert pairs)
2023	SPRING	CAB	37	3P	5/31/2023	6/13/2023	Peter Upward	paired	CF	52 sets (22 paired sets with TEL, 26 paired with Calvert, 2 unpaired, and 2 unsuccessful)
2023	SPRING	CAB	38	3P	6/14/2023	6/23/2023	Katherine Skanes	paired	CF	33 sets (29 successful paired tows and 4 unsuccessful) - vessel got called to a SAR call, DFO staff taken home by the CCGS Terry Fox)
2023	SPRING	CAR	31A	-	4/26/2023	5/1/2023	-	calibration	calibration	trip to calibrate sensors and set up wetlab/scanmar
2023	SPRING	CAR	32A/B	-	5/3/2023	5/6/2023	Christina Bourne	calibration/ capelin survey	calibration/capelin survey	32A was calibration and 32B was for a capelin survey

Table 4. Summary of Trips completed in Fall 2023. Where “TEL” represents the CCGS Teleost, “CAR” represents the CCGS Jacques Cartier, and “CAB” = CCGS John Cabot. Program(s) completed for each trip are indicated as capelin survey, Multi-Species Survey (MSS) and/or comparative fishing (CF).

year	season	vessel	trip	NAFO Div.	start date	end date	PIC	set type(s)	program(s)	comments
2023	FALL	TEL	244	2HJ	9/18/2023	10/3/2023	Ron Lewis	survey	MSS	47 sets (41 successful)
2023	FALL	TEL	245	2J3K	10/3/2023	10/16/2023	Will Coffey	survey + pairs	MSS & CF	74 sets (28 paired sets and 40 survey sets; 6 unsuccessful sets)
2023	FALL	TEL	246	3K	10/17/2023	10/17/2023	Will Coffey	survey + pairs	MSS & CF	56 sets (3 paired, 47 survey, 6 unsuccessful)
2023	FALL	TEL	247	3K	11/1/2023	11/14/2023	Elizabeth Coughlan	survey	MSS	21 sets (20 successful) - 7 days lost due to weather
2023	FALL	TEL	248	3L	11/15/2023	11/27/2023	Emilie Novaczek	survey + pairs	MSS & CF	25 sets (9 survey, 15 paired, and 1 unsuccessful)
2023	FALL	TEL	249	3K	11/30/2023	12/12/2023	Katherine Skanes	survey + pairs	MSS & CF	23 sets (19 paired, 2 survey, 2 unsuccessful) - 10 tagging sets were completed for cod and witch flounder
2023	FALL	CAB	42	3HJ	9/17/2023	10/2/2023	Emilie Novaczek	survey	MSS	69 sets (59 successful)
2023	FALL	CAB	43	2J3K	10/2/2023	10/16/2023	Julia Pantin	survey + pairs	MSS & CF	66 sets (28 paired, 35 survey, 3 unsuccessful)
2023	FALL	CAB	44	3KLN	10/17/2023	10/30/2023	Peter Upward	survey + pairs	MSS & CF	37 sets (3 paired, 33 survey, 1 unsuccessful) - only fished ~ 6 days due to weather, crew issues, and trawl gear pick up
2023	FALL	CAB	45	3L	11/1/2023	11/15/2023	Hilary Rockwood	survey	MSS & CF	35 sets (32 successful) - lost ~3 days to weather
2023	FALL	CAB	46	3L	11/14/2023	11/28/2023	Peter Upward	survey + pairs	MSS & CF	21 sets (15 paired, 5 survey, 1 unsuccessful) - lost 4 days to weather
2023	FALL	CAB	47	3K	11/30/2023	12/5/2023	Luiz Mello	survey + pairs	MSS & CF	21 sets (19 paired, 1 survey, 1 unsuccessful) - lost trawl and sensor gear
2023	FALL	CAR	33	3O	10/8/2023	10/17/2023	Ron Lewis	survey	MSS	52 sets (50 successful)
2023	FALL	CAR	34	3LNO	10/18/2023	10/29/2023	Kaitlyn Charmley	survey	MSS	56 sets (54 successful)
2023	FALL	CAR	35	3L	11/1/2023	11/14/2023	Katherine Skanes	survey	MSS	35 sets (34 successful) - lost ~ 6 days due to weather
2023	FALL	CAR	36	3KL	11/15/2023	11/27/2023	Erika Parrill	survey	MSS	30 sets (28 successful)
2023	FALL	CAR	37		11/29/2023	12/15/2023	Ron Lewis	survey	capelin survey	Sets are not detailed here.

Table 5. Set by set details of the fall 2021 CCGS Teleost (TEL) trip 222, where “MSS” represents multispecies survey, and “CF” represents comparative fishing.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2021	FALL	TEL	222	1	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	2	unsuccessful	MSS + CF	-	-	-
2021	FALL	TEL	222	3	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	4	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	5	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	6	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	7	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	8	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	9	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	10	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	11	unsuccessful	MSS + CF	-	-	-
2021	FALL	TEL	222	12	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	13	unsuccessful	MSS + CF	-	-	-
2021	FALL	TEL	222	14	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	15	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	16	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	17	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	18	unsuccessful	MSS + CF	-	-	-
2021	FALL	TEL	222	19	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	20	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	21	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	22	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	23	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	24	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	25	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	26	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	27	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	28	unsuccessful	MSS + CF	-	-	-
2021	FALL	TEL	222	29	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	30	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	31	unsuccessful	MSS + CF	-	-	-
2021	FALL	TEL	222	32	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	33	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	34	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	35	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	36	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	37	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	38	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	39	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	40	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	41	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	42	unsuccessful	MSS + CF	-	-	-
2021	FALL	TEL	222	43	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	44	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	45	survey	MSS + CF	-	-	-

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2021	FALL	TEL	222	46	survey	MSS + CF	-	-	-
2021	FALL	TEL	222	47	paired	MSS + CF	telcar_1_2021_fall	single file	front
2021	FALL	TEL	222	48	unsuccessful	MSS + CF	-	-	-
2021	FALL	TEL	222	49	paired	MSS + CF	telcar_2_2021_fall	side by side	port
2021	FALL	TEL	222	50	paired	MSS + CF	telcar_3_2021_fall	side by side	starboard
2021	FALL	TEL	222	51	paired	MSS + CF	telcar_4_2021_fall	side by side	port
2021	FALL	TEL	222	52	paired	MSS + CF	telcar_5_2021_fall	side by side	starboard

Table 6. Set by set details of the fall 2021 Teleost (TEL) trip 223, where “MSS” represents multispecies survey, and “CF” represents comparative fishing.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2021	FALL	TEL	223	1	paired	MSS + CF	telcar_6_2021_fall	side by side	port
2021	FALL	TEL	223	2	paired	MSS + CF	telcar_7_2021_fall	side by side	starboard
2021	FALL	TEL	223	3	unsuccessful	MSS + CF	-	-	-
2021	FALL	TEL	223	4	survey	MSS + CF	-	-	-
2021	FALL	TEL	223	5	paired	MSS + CF	telcar_8_2021_fall	single file	front
2021	FALL	TEL	223	6	paired	MSS + CF	telcar_9_2021_fall	side by side	port
2021	FALL	TEL	223	7	paired	MSS + CF	telcar_10_2021_fall	side by side	starboard
2021	FALL	TEL	223	8	paired	MSS + CF	telcar_11_2021_fall	one then the other	second
2021	FALL	TEL	223	9	paired	MSS + CF	telcar_12_2021_fall	one then the other	first
2021	FALL	TEL	223	10	survey	MSS + CF	-	-	-
2021	FALL	TEL	223	11	paired	MSS + CF	telcar_13_2021_fall	side by side	starboard
2021	FALL	TEL	223	12	paired	MSS + CF	telcar_14_2021_fall	side by side	port
2021	FALL	TEL	223	13	paired	MSS + CF	telcar_15_2021_fall	one then the other	first
2021	FALL	TEL	223	14	survey	MSS + CF	-	-	-
2021	FALL	TEL	223	15	paired	MSS + CF	telcar_16_2021_fall	one then the other	first
2021	FALL	TEL	223	16	paired	MSS + CF	telcar_17_2021_fall	side by side	starboard
2021	FALL	TEL	223	17	paired	MSS + CF	telcar_18_2021_fall	side by side	port
2021	FALL	TEL	223	18	paired	MSS + CF	telcar_19_2021_fall	side by side	starboard
2021	FALL	TEL	223	19	paired	MSS + CF	telcar_20_2021_fall	single file	first
2021	FALL	TEL	223	20	survey	MSS + CF	-	-	-
2021	FALL	TEL	223	21	survey	MSS + CF	-	-	-
2021	FALL	TEL	223	22	paired	MSS + CF	telcar_21_2021_fall	single file	second
2021	FALL	TEL	223	23	paired	MSS + CF	telcar_22_2021_fall	side by side	starboard
2021	FALL	TEL	223	24	paired	MSS + CF	telcar_23_2021_fall	side by side	port
2021	FALL	TEL	223	25	unsuccessful	MSS + CF	-	-	-
2021	FALL	TEL	223	26	paired	MSS + CF	telcar_24_2021_fall	one then the other	first
2021	FALL	TEL	223	27	paired	MSS + CF	telcar_25_2021_fall	single file	front
2021	FALL	TEL	223	28	unsuccessful	MSS + CF	-	-	-
2021	FALL	TEL	223	29	paired	MSS + CF	telcar_26_2021_fall	side by side	port
2021	FALL	TEL	223	30	paired	MSS + CF	telcar_27_2021_fall	side by side	starboard
2021	FALL	TEL	223	31	paired	MSS + CF	telcar_28_2021_fall	single file	front
2021	FALL	TEL	223	32	unsuccessful	MSS + CF	-	-	-
2021	FALL	TEL	223	33	survey	MSS + CF	-	-	-
2021	FALL	TEL	223	34	paired	MSS + CF	telcar_29_2021_fall	side by side	port
2021	FALL	TEL	223	35	paired	MSS + CF	telcar_30_2021_fall	one then the other	second
2021	FALL	TEL	223	36	paired	MSS + CF	telcar_31_2021_fall	side by side	starboard
2021	FALL	TEL	223	37	paired	MSS + CF	telcar_32_2021_fall	side by side	port

Table 7. Set by set details of the fall 2021 CCGS Teleost (TEL) trip 224. There were no comparative sets during this trip and all sets were completed under the multi-species survey (MSS) program.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2021	FALL	TEL	224	1	unsuccessful	MSS	-	-	-
2021	FALL	TEL	224	2	survey	MSS	-	-	-
2021	FALL	TEL	224	3	survey	MSS	-	-	-
2021	FALL	TEL	224	4	unsuccessful	MSS	-	-	-
2021	FALL	TEL	224	5	survey	MSS	-	-	-
2021	FALL	TEL	224	6	survey	MSS	-	-	-
2021	FALL	TEL	224	7	unsuccessful	MSS	-	-	-
2021	FALL	TEL	224	8	survey	MSS	-	-	-
2021	FALL	TEL	224	9	survey	MSS	-	-	-
2021	FALL	TEL	224	10	survey	MSS	-	-	-
2021	FALL	TEL	224	11	survey	MSS	-	-	-
2021	FALL	TEL	224	12	survey	MSS	-	-	-
2021	FALL	TEL	224	13	survey	MSS	-	-	-
2021	FALL	TEL	224	14	survey	MSS	-	-	-
2021	FALL	TEL	224	15	survey	MSS	-	-	-
2021	FALL	TEL	224	16	survey	MSS	-	-	-
2021	FALL	TEL	224	17	survey	MSS	-	-	-
2021	FALL	TEL	224	18	survey	MSS	-	-	-
2021	FALL	TEL	224	19	survey	MSS	-	-	-
2021	FALL	TEL	224	20	survey	MSS	-	-	-
2021	FALL	TEL	224	21	survey	MSS	-	-	-
2021	FALL	TEL	224	22	survey	MSS	-	-	-
2021	FALL	TEL	224	23	survey	MSS	-	-	-
2021	FALL	TEL	224	24	survey	MSS	-	-	-
2021	FALL	TEL	224	25	survey	MSS	-	-	-
2021	FALL	TEL	224	26	unsuccessful	MSS	-	-	-
2021	FALL	TEL	224	27	survey	MSS	-	-	-
2021	FALL	TEL	224	28	survey	MSS	-	-	-
2021	FALL	TEL	224	29	survey	MSS	-	-	-
2021	FALL	TEL	224	30	survey	MSS	-	-	-
2021	FALL	TEL	224	31	survey	MSS	-	-	-
2021	FALL	TEL	224	32	survey	MSS	-	-	-
2021	FALL	TEL	224	33	survey	MSS	-	-	-
2021	FALL	TEL	224	34	survey	MSS	-	-	-
2021	FALL	TEL	224	35	survey	MSS	-	-	-
2021	FALL	TEL	224	36	survey	MSS	-	-	-
2021	FALL	TEL	224	37	survey	MSS	-	-	-
2021	FALL	TEL	224	38	survey	MSS	-	-	-
2021	FALL	TEL	224	39	survey	MSS	-	-	-
2021	FALL	TEL	224	40	survey	MSS	-	-	-
2021	FALL	TEL	224	41	survey	MSS	-	-	-
2021	FALL	TEL	224	42	survey	MSS	-	-	-
2021	FALL	TEL	224	43	survey	MSS	-	-	-
2021	FALL	TEL	224	44	unsuccessful	MSS	-	-	-
2021	FALL	TEL	224	45	survey	MSS	-	-	-
2021	FALL	TEL	224	46	unsuccessful	MSS	-	-	-

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2021	FALL	TEL	224	47	survey	MSS	-	-	-
2021	FALL	TEL	224	48	survey	MSS	-	-	-
2021	FALL	TEL	224	49	survey	MSS	-	-	-
2021	FALL	TEL	224	50	survey	MSS	-	-	-
2021	FALL	TEL	224	51	survey	MSS	-	-	-
2021	FALL	TEL	224	52	survey	MSS	-	-	-
2021	FALL	TEL	224	53	survey	MSS	-	-	-
2021	FALL	TEL	224	54	survey	MSS	-	-	-
2021	FALL	TEL	224	55	survey	MSS	-	-	-
2021	FALL	TEL	224	56	survey	MSS	-	-	-
2021	FALL	TEL	224	57	survey	MSS	-	-	-
2021	FALL	TEL	224	58	survey	MSS	-	-	-
2021	FALL	TEL	224	59	survey	MSS	-	-	-
2021	FALL	TEL	224	60	survey	MSS	-	-	-
2021	FALL	TEL	224	61	unsuccessful	MSS	-	-	-
2021	FALL	TEL	224	62	survey	MSS	-	-	-
2021	FALL	TEL	224	63	survey	MSS	-	-	-
2021	FALL	TEL	224	64	survey	MSS	-	-	-
2021	FALL	TEL	224	65	survey	MSS	-	-	-

Table 8. Set by set details of the fall 2021 CCGS Teleost (TEL) trip 225. There were no comparative sets during this trip and all sets were completed under the multi-species survey (MSS) program.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2021	FALL	TEL	225	1	survey	MSS	-	-	-
2021	FALL	TEL	225	2	survey	MSS	-	-	-
2021	FALL	TEL	225	3	survey	MSS	-	-	-
2021	FALL	TEL	225	4	unsuccessful	MSS	-	-	-
2021	FALL	TEL	225	5	survey	MSS	-	-	-
2021	FALL	TEL	225	6	survey	MSS	-	-	-
2021	FALL	TEL	225	7	unsuccessful	MSS	-	-	-
2021	FALL	TEL	225	8	survey	MSS	-	-	-
2021	FALL	TEL	225	9	survey	MSS	-	-	-
2021	FALL	TEL	225	10	survey	MSS	-	-	-
2021	FALL	TEL	225	11	survey	MSS	-	-	-
2021	FALL	TEL	225	12	survey	MSS	-	-	-
2021	FALL	TEL	225	13	survey	MSS	-	-	-
2021	FALL	TEL	225	14	survey	MSS	-	-	-
2021	FALL	TEL	225	15	survey	MSS	-	-	-
2021	FALL	TEL	225	16	survey	MSS	-	-	-
2021	FALL	TEL	225	17	survey	MSS	-	-	-
2021	FALL	TEL	225	18	survey	MSS	-	-	-
2021	FALL	TEL	225	19	survey	MSS	-	-	-
2021	FALL	TEL	225	20	survey	MSS	-	-	-
2021	FALL	TEL	225	21	survey	MSS	-	-	-
2021	FALL	TEL	225	22	survey	MSS	-	-	-
2021	FALL	TEL	225	23	survey	MSS	-	-	-
2021	FALL	TEL	225	24	survey	MSS	-	-	-
2021	FALL	TEL	225	25	survey	MSS	-	-	-
2021	FALL	TEL	225	26	survey	MSS	-	-	-
2021	FALL	TEL	225	27	survey	MSS	-	-	-
2021	FALL	TEL	225	28	survey	MSS	-	-	-
2021	FALL	TEL	225	29	survey	MSS	-	-	-
2021	FALL	TEL	225	30	survey	MSS	-	-	-
2021	FALL	TEL	225	31	survey	MSS	-	-	-
2021	FALL	TEL	225	32	survey	MSS	-	-	-
2021	FALL	TEL	225	33	survey	MSS	-	-	-
2021	FALL	TEL	225	34	survey	MSS	-	-	-
2021	FALL	TEL	225	35	survey	MSS	-	-	-
2021	FALL	TEL	225	36	survey	MSS	-	-	-
2021	FALL	TEL	225	37	survey	MSS	-	-	-
2021	FALL	TEL	225	38	survey	MSS	-	-	-
2021	FALL	TEL	225	39	survey	MSS	-	-	-
2021	FALL	TEL	225	40	survey	MSS	-	-	-
2021	FALL	TEL	225	41	survey	MSS	-	-	-
2021	FALL	TEL	225	42	survey	MSS	-	-	-
2021	FALL	TEL	225	43	survey	MSS	-	-	-
2021	FALL	TEL	225	44	survey	MSS	-	-	-

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2021	FALL	TEL	225	45	survey	MSS	-	-	-
2021	FALL	TEL	225	46	survey	MSS	-	-	-
2021	FALL	TEL	225	47	survey	MSS	-	-	-
2021	FALL	TEL	225	48	survey	MSS	-	-	-

Table 9. Set by set details of the Fall 2021 CCGS Teleost (TEL) trip 226, where “MSS” represents multispecies survey, and “CF” represents comparative fishing.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2021	FALL	TEL	226	1	survey	MSS + CF	-	-	-
2021	FALL	TEL	226	2	paired	MSS + CF	telcar_33_2021_fall	side by side	starboard
2021	FALL	TEL	226	3	survey	MSS + CF	-	-	-
2021	FALL	TEL	226	4	survey	MSS + CF	-	-	-
2021	FALL	TEL	226	5	survey	MSS + CF	-	-	-
2021	FALL	TEL	226	6	paired	MSS + CF	telcar_34_2021_fall	single file	front
2021	FALL	TEL	226	7	paired	MSS + CF	telcar_35_2021_fall	side by side	port
2021	FALL	TEL	226	8	survey	MSS + CF	-	-	-
2021	FALL	TEL	226	9	survey	MSS + CF	-	-	-
2021	FALL	TEL	226	10	paired	MSS + CF	telcar_36_2021_fall	side by side	port
2021	FALL	TEL	226	11	paired	MSS + CF	telcar_37_2021_fall	side by side	starboard
2021	FALL	TEL	226	12	paired	MSS + CF	telcar_38_2021_fall	side by side	port
2021	FALL	TEL	226	13	survey	MSS + CF	-	-	-
2021	FALL	TEL	226	14	survey	MSS + CF	-	-	-
2021	FALL	TEL	226	15	survey	MSS + CF	-	-	-
2021	FALL	TEL	226	16	survey	MSS + CF	-	-	-
2021	FALL	TEL	226	17	survey	MSS + CF	-	-	-
2021	FALL	TEL	226	18	paired	MSS + CF	telcar_39_2021_fall	side by side	port
2021	FALL	TEL	226	19	survey	MSS + CF	-	-	-
2021	FALL	TEL	226	20	paired	MSS + CF	telcar_40_2021_fall	one then the other	second
2021	FALL	TEL	226	21	survey	MSS + CF	-	-	-
2021	FALL	TEL	226	22	survey	MSS + CF	-	-	-
2021	FALL	TEL	226	23	survey	MSS + CF	-	-	-

Table 10. Set by set details of the fall 2021 CCGS Capt Jacques Cartier (CAR) trip 10, where “MSS” represents multispecies survey, and “CF” represents comparative fishing.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2021	FALL	CAR	10	45	unsuccessful	CF	-	-	-
2021	FALL	CAR	10	47	paired	CF	telcar_1_2021_fall	single file	behind
2021	FALL	CAR	10	49	paired	CF	telcar_2_2021_fall	side by side	starboard
2021	FALL	CAR	10	50	paired	CF	telcar_3_2021_fall	side by side	port
2021	FALL	CAR	10	51	paired	CF	telcar_4_2021_fall	side by side	starboard
2021	FALL	CAR	10	52	paired	CF	telcar_5_2021_fall	side by side	port

Table 11. Set by set details of the fall 2021 CCGS Capt Jacques Cartier Cartier (CAR) trip 11, where “MSS” represents multispecies survey, and “CF” represents comparative fishing.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2021	FALL	CAR	11	1	paired	CF	telcar_6_2021_fall	side by side	starboard
2021	FALL	CAR	11	2	paired	CF	telcar_7_2021_fall	side by side	port
2021	FALL	CAR	11	3	unsuccessful	CF	-	-	-
2021	FALL	CAR	11	5	paired	CF	telcar_8_2021_fall	single file	behind
2021	FALL	CAR	11	6	paired	CF	telcar_9_2021_fall	side by side	starboard
2021	FALL	CAR	11	7	paired	CF	telcar_10_2021_fall	side by side	port
2021	FALL	CAR	11	8	paired	CF	telcar_11_2021_fall	one then the other	first
2021	FALL	CAR	11	9	paired	CF	telcar_12_2021_fall	one then the other	second
2021	FALL	CAR	11	10	unsuccessful	CF	-	-	-
2021	FALL	CAR	11	11	paired	CF	telcar_13_2021_fall	side by side	port
2021	FALL	CAR	11	12	paired	CF	telcar_14_2021_fall	side by side	starboard
2021	FALL	CAR	11	13	paired	CF	telcar_15_2021_fall	one then the other	second
2021	FALL	CAR	11	14	unsuccessful	CF	-	-	-
2021	FALL	CAR	11	15	paired	CF	telcar_16_2021_fall	one then the other	second
2021	FALL	CAR	11	16	paired	CF	telcar_17_2021_fall	side by side	port
2021	FALL	CAR	11	17	paired	CF	telcar_18_2021_fall	side by side	starboard
2021	FALL	CAR	11	18	paired	CF	telcar_19_2021_fall	side by side	port
2021	FALL	CAR	11	19	paired	CF	telcar_20_2021_fall	single file	second
2021	FALL	CAR	11	20	unsuccessful	CF	-	-	-
2021	FALL	CAR	11	21	unsuccessful	CF	-	-	-
2021	FALL	CAR	11	22	paired	CF	telcar_21_2021_fall	single file	first
2021	FALL	CAR	11	23	paired	CF	telcar_22_2021_fall	side by side	port
2021	FALL	CAR	11	24	paired	CF	telcar_23_2021_fall	side by side	starboard
2021	FALL	CAR	11	25	unsuccessful	CF	-	-	-
2021	FALL	CAR	11	26	paired	CF	telcar_24_2021_fall	one then the other	second
2021	FALL	CAR	11	27	paired	CF	telcar_25_2021_fall	single file	behind
2021	FALL	CAR	11	29	paired	CF	telcar_26_2021_fall	side by side	starboard
2021	FALL	CAR	11	30	paired	CF	telcar_27_2021_fall	side by side	port
2021	FALL	CAR	11	31	paired	CF	telcar_28_2021_fall	single file	behind
2021	FALL	CAR	11	32	survey	CF	-	-	-
2021	FALL	CAR	11	34	paired	CF	telcar_29_2021_fall	side by side	starboard
2021	FALL	CAR	11	35	paired	CF	telcar_30_2021_fall	one then the other	first
2021	FALL	CAR	11	36	paired	CF	telcar_31_2021_fall	side by side	port
2021	FALL	CAR	11	37	paired	CF	telcar_32_2021_fall	side by side	starboard

Table 12. Set by set details of the fall 2021 CCGS Capt Jacques Cartier (CAR) trip 14, where “MSS” represents multispecies survey, and “CF” represents comparative fishing.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2021	FALL	CAR	14	2	paired	CF	telcar_33_2021_fall	side by side	port
2021	FALL	CAR	14	4	unsuccessful	CF	-	-	-
2021	FALL	CAR	14	6	paired	CF	telcar_34_2021_fall	single file	behind
2021	FALL	CAR	14	7	paired	CF	telcar_35_2021_fall	side by side	starboard
2021	FALL	CAR	14	8	unsuccessful	CF	-	-	-
2021	FALL	CAR	14	9	unsuccessful	CF	-	-	-
2021	FALL	CAR	14	10	paired	CF	telcar_36_2021_fall	side by side	starboard
2021	FALL	CAR	14	11	paired	CF	telcar_37_2021_fall	side by side	port
2021	FALL	CAR	14	12	paired	CF	telcar_38_2021_fall	side by side	starboard
2021	FALL	CAR	14	18	paired	CF	telcar_39_2021_fall	side by side	starboard
2021	FALL	CAR	14	20	paired	CF	telcar_40_2021_fall	one then the other	first

Table 13. Set by set details of the fall 2021 CCGS John Cabot (CAB) trip. There were no comparative sets during this trip and all sets were completed under the multi-species survey (MSS).

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2021	FALL	CAB	1	1	survey	MSS	-	-	-
2021	FALL	CAB	1	2	survey	MSS	-	-	-
2021	FALL	CAB	1	3	survey	MSS	-	-	-

Table 14. Set by set details of the fall 2022 CCGS Teleost (TEL) trip 233. All sets were completed under the comparative fishing (CF) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	TEL	233	1	unsuccessful	CF	-	-	-
2022	FALL	TEL	233	2	paired	CF	telcar_1_2022_fall	side by side	starboard
2022	FALL	TEL	233	3	paired	CF	telcar_2_2022_fall	side by side	starboard
2022	FALL	TEL	233	4	survey	CF	-	-	-
2022	FALL	TEL	233	5	paired	CF	telcar_3_2022_fall	side by side	starboard
2022	FALL	TEL	233	6	paired	CF	telcar_4_2022_fall	side by side	port
2022	FALL	TEL	233	7	paired	CF	telcar_5_2022_fall	side by side	port
2022	FALL	TEL	233	8	paired	CF	telcar_6_2022_fall	side by side	port
2022	FALL	TEL	233	9	unpaired	CF	-	-	-
2022	FALL	TEL	233	10	paired	CF	telcar_7_2022_fall	single file	behind
2022	FALL	TEL	233	11	paired	CF	telcar_8_2022_fall	side by side	starboard
2022	FALL	TEL	233	12	unsuccessful	CF	-	-	-
2022	FALL	TEL	233	14	paired	CF	telcar_9_2022_fall	side by side	starboard
2022	FALL	TEL	233	15	paired	CF	telcar_10_2022_fall	side by side	port
2022	FALL	TEL	233	16	paired	CF	telcar_11_2022_fall	one then the other	first
2022	FALL	TEL	233	17	paired	CF	telcar_12_2022_fall	side by side	starboard
2022	FALL	TEL	233	18	paired	CF	telcar_13_2022_fall	side by side	port
2022	FALL	TEL	233	19	paired	CF	telcal_14_2022_fall	side by side	starboard
2022	FALL	TEL	233	20	unpaired	CF	-	-	-
2022	FALL	TEL	233	21	paired	CF	telcar_15_2022_fall	side by side	starboard
2022	FALL	TEL	233	22	paired	CF	telcar_16_2022_fall	single file	front
2022	FALL	TEL	233	23	paired	CF	telcar_17_2022_fall	side by side	port
2022	FALL	TEL	233	24	paired	CF	telcar_18_2022_fall	side by side	port
2022	FALL	TEL	233	25	paired	CF	telcar_19_2022_fall	side by side	starboard
2022	FALL	TEL	233	26	paired	CF	telcar_20_2022_fall	side by side	port
2022	FALL	TEL	233	27	paired	CF	telcar_21_2022_fall	side by side	starboard
2022	FALL	TEL	233	28	paired	CF	telcar_22_2022_fall	single file	behind
2022	FALL	TEL	233	29	paired	CF	telcar_23_2022_fall	side by side	port
2022	FALL	TEL	233	30	paired	CF	telcar_24_2022_fall	side by side	starboard
2022	FALL	TEL	233	31	paired	CF	telcar_25_2022_fall	side by side	port
2022	FALL	TEL	233	32	paired	CF	telcar_26_2022_fall	side by side	port
2022	FALL	TEL	233	33	paired	CF	telcar_27_2022_fall	side by side	starboard
2022	FALL	TEL	233	34	paired	CF	telcar_28_2022_fall	side by side	port
2022	FALL	TEL	233	35	paired	CF	telcar_29_2022_fall	side by side	port
2022	FALL	TEL	233	36	paired	CF	telcar_30_2022_fall	side by side	port
2022	FALL	TEL	233	37	paired	CF	telcar_31_2022_fall	side by side	starboard
2022	FALL	TEL	233	38	paired	CF	telcar_32_2022_fall	side by side	port
2022	FALL	TEL	233	39	paired	CF	telcar_33_2022_fall	side by side	starboard

Table 15. Set by set details of the fall 2022 CCGS Teleost (TEL) trip 234. All sets were completed under the comparative fishing (CF) program.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	TEL	234	1	unpaired	CF	-	-	-
2022	FALL	TEL	234	2	unpaired	CF	-	-	-
2022	FALL	TEL	234	3	paired	CF	telcar_34_2022_fall	side by side	starboard
2022	FALL	TEL	234	4	unpaired	CF	-	-	-
2022	FALL	TEL	234	5	paired	CF	telcar_35_2022_fall	side by side	starboard
2022	FALL	TEL	234	6	paired	CF	telcar_36_2022_fall	side by side	port
2022	FALL	TEL	234	7	paired	CF	telcar_37_2022_fall	side by side	starboard
2022	FALL	TEL	234	8	paired	CF	telcar_38_2022_fall	side by side	port
2022	FALL	TEL	234	9	unpaired	CF	-	-	-
2022	FALL	TEL	234	10	unpaired	CF	-	-	-
2022	FALL	TEL	234	11	unpaired	CF	-	-	-
2022	FALL	TEL	234	12	unpaired	CF	-	-	-
2022	FALL	TEL	234	13	unpaired	CF	-	-	-
2022	FALL	TEL	234	14	unpaired	CF	-	-	-
2022	FALL	TEL	234	15	unpaired	CF	-	-	-
2022	FALL	TEL	234	16	paired	CF	telcar_39_2022_fall	side by side	starboard
2022	FALL	TEL	234	17	paired	CF	telcar_40_2022_fall	side by side	port
2022	FALL	TEL	234	18	unpaired	CF	-	-	-
2022	FALL	TEL	234	19	paired	CF	telcar_41_2022_fall	side by side	port
2022	FALL	TEL	234	20	paired	CF	telcar_42_2022_fall	side by side	starboard
2022	FALL	TEL	234	21	paired	CF	telcar_43_2022_fall	side by side	port
2022	FALL	TEL	234	22	paired	CF	telcar_44_2022_fall	side by side	starboard
2022	FALL	TEL	234	23	paired	CF	telcar_45_2022_fall	side by side	port
2022	FALL	TEL	234	24	paired	CF	telcar_46_2022_fall	side by side	starboard
2022	FALL	TEL	234	25	paired	CF	telcar_47_2022_fall	side by side	port
2022	FALL	TEL	234	26	paired	CF	telcar_48_2022_fall	side by side	port
2022	FALL	TEL	234	27	paired	CF	telcar_49_2022_fall	side by side	starboard
2022	FALL	TEL	234	28	paired	CF	telcar_50_2022_fall	side by side	port
2022	FALL	TEL	234	29	paired	CF	telcar_51_2022_fall	one then the other	second
2022	FALL	TEL	234	30	unpaired	CF	-	-	-
2022	FALL	TEL	234	31	paired	CF	telcar_52_2022_fall	side by side	port
2022	FALL	TEL	234	32	paired	CF	telcar_53_2022_fall	side by side	starboard
2022	FALL	TEL	234	33	paired	CF	telcar_54_2022_fall	side by side	port
2022	FALL	TEL	234	34	paired	CF	telcar_55_2022_fall	side by side	port
2022	FALL	TEL	234	35	paired	CF	telcar_56_2022_fall	side by side	starboard
2022	FALL	TEL	234	36	paired	CF	telcar_57_2022_fall	side by side	port
2022	FALL	TEL	234	37	paired	CF	telcar_58_2022_fall	side by side	starboard
2022	FALL	TEL	234	38	paired	CF	telcar_59_2022_fall	side by side	port
2022	FALL	TEL	234	39	unsuccessful	CF	-	-	-
2022	FALL	TEL	234	40	paired	CF	telcar_60_2022_fall	side by side	port
2022	FALL	TEL	234	41	paired	CF	telcar_61_2022_fall	side by side	starboard
2022	FALL	TEL	234	42	paired	CF	telcar_62_2022_fall	side by side	port
2022	FALL	TEL	234	43	paired	CF	telcar_63_2022_fall	side by side	starboard
2022	FALL	TEL	234	44	paired	CF	telcar_64_2022_fall	side by side	starboard

Table 16. Set by set details of the fall 2022 CCGS Teleost (TEL) trip 235. All sets were completed under the comparative fishing (CF) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	TEL	235	1	paired	CF	telcar_65_2022_fall	side by side	starboard
2022	FALL	TEL	235	2	unsuccessful	CF	-	-	-
2022	FALL	TEL	235	3	paired	CF	telcar_66_2022_fall	single file	front
2022	FALL	TEL	235	4	paired	CF	telcar_67_2022_fall	side by side	starboard
2022	FALL	TEL	235	5	paired	CF	telcar_68_2022_fall	side by side	port
2022	FALL	TEL	235	6	paired	CF	telcar_69_2022_fall	side by side	starboard
2022	FALL	TEL	235	7	paired	CF	telcar_70_2022_fall	side by side	port
2022	FALL	TEL	235	8	paired	CF	telcar_71_2022_fall	side by side	starboard
2022	FALL	TEL	235	9	unsuccessful	CF	-	-	-
2022	FALL	TEL	235	10	paired	CF	telcar_72_2022_fall	side by side	starboard
2022	FALL	TEL	235	11	unsuccessful	CF	-	-	-
2022	FALL	TEL	235	12	unsuccessful	CF	-	-	-
2022	FALL	TEL	235	13	paired	CF	telcar_73_2022_fall	side by side	port
2022	FALL	TEL	235	14	paired	CF	telcar_74_2022_fall	side by side	port
2022	FALL	TEL	235	15	paired	CF	telcar_75_2022_fall	side by side	starboard
2022	FALL	TEL	235	16	paired	CF	telcar_76_2022_fall	side by side	starboard
2022	FALL	TEL	235	17	paired	CF	telcar_77_2022_fall	side by side	port
2022	FALL	TEL	235	18	paired	CF	telcar_78_2022_fall	side by side	starboard
2022	FALL	TEL	235	19	paired	CF	telcar_79_2022_fall	side by side	port
2022	FALL	TEL	235	20	paired	CF	telcar_80_2022_fall	side by side	starboard
2022	FALL	TEL	235	21	paired	CF	telcar_81_2022_fall	side by side	port
2022	FALL	TEL	235	22	paired	CF	telcar_82_2022_fall	side by side	starboard
2022	FALL	TEL	235	23	paired	CF	telcar_83_2022_fall	side by side	starboard
2022	FALL	TEL	235	24	paired	CF	telcar_84_2022_fall	side by side	port
2022	FALL	TEL	235	25	unpaired	CF	-	-	-

Table 17. Set by set details of the fall 2022 CCGS Teleost (TEL) trip 236. All sets were completed under the comparative fishing (CF) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	TEL	236	5	paired	CF	telcab_1_3vessel_2022_fall	side by side	port
2022	FALL	TEL	236	6	paired	CF	telcab_2_3vessel_2022_fall	side by side	starboard
2022	FALL	TEL	236	7	paired	CF	telcab_3_3vessel_2022_fall	side by side	port
2022	FALL	TEL	236	8	paired	CF	telcar_85_2022_fall	side by side	port
2022	FALL	TEL	236	9	paired	CF	telcar_86_2022_fall	side by side	starboard
2022	FALL	TEL	236	10	paired	CF	telcar_87_2022_fall	side by side	port
2022	FALL	TEL	236	11	paired	CF	telcar_88_2022_fall	side by side	starboard
2022	FALL	TEL	236	12	paired	CF	telcar_89_2022_fall	side by side	port
2022	FALL	TEL	236	13	paired	CF	telcar_90_2022_fall	side by side	starboard
2022	FALL	TEL	236	14	paired	CF	telcar_91_2022_fall	side by side	port
2022	FALL	TEL	236	15	unpaired	CF	-	-	-
2022	FALL	TEL	236	16	unpaired	CF	-	-	-
2022	FALL	TEL	236	17	paired	CF	telcab_6_3vessel_2022_fall	side by side	port
2022	FALL	TEL	236	18	paired	CF	telcab_7_3vessel_2022_fall	side by side	starboard
2022	FALL	TEL	236	19	paired	CF	telcab_8_3vessel_2022_fall	side by side	port
2022	FALL	TEL	236	20	paired	CF	telcab_9_3vessel_2022_fall	side by side	starboard
2022	FALL	TEL	236	21	paired	CF	telcab_10_3vessel_2022_fall	side by side	port
2022	FALL	TEL	236	22	paired	CF	telcab_11_3vessel_2022_fall	side by side	starboard
2022	FALL	TEL	236	23	paired	CF	telcab_12_3vessel_2022_fall	side by side	port

Table 18. Set by set details of the fall 2022 CCGS Teleost (TEL) trip 237. All sets were completed under the comparative fishing (CF) program.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	TEL	237	1	paired	CF	telcab_13_3vessel_2022_fall	single file	behind
2022	FALL	TEL	237	2	paired	CF	telcar_92_2022_fall	side by side	starboard
2022	FALL	TEL	237	3	paired	CF	telcar_93_2022_fall	side by side	port
2022	FALL	TEL	237	4	paired	CF	telcar_94_2022_fall	side by side	port
2022	FALL	TEL	237	5	paired	CF	telcar_95_2022_fall	side by side	starboard
2022	FALL	TEL	237	6	paired	CF	telcar_96_2022_fall	side by side	port
2022	FALL	TEL	237	7	paired	CF	telcar_97_2022_fall	side by side	starboard
2022	FALL	TEL	237	8	paired	CF	telcar_98_2022_fall	side by side	port
2022	FALL	TEL	237	9	paired	CF	telcar_99_2022_fall	side by side	starboard
2022	FALL	TEL	237	10	paired	CF	telcar_100_2022_fall	side by side	port
2022	FALL	TEL	237	11	paired	CF	telcar_101_2022_fall	side by side	starboard
2022	FALL	TEL	237	12	paired	CF	telcar_102_2022_fall	side by side	port
2022	FALL	TEL	237	13	paired	CF	telcar_103_2022_fall	side by side	starboard
2022	FALL	TEL	237	14	paired	CF	telcar_104_2022_fall	side by side	port
2022	FALL	TEL	237	15	paired	CF	telcar_105_2022_fall	side by side	starboard
2022	FALL	TEL	237	16	survey	CF	-	-	-
2022	FALL	TEL	237	17	paired	CF	telcar_106_2022_fall	one then the other	second
2022	FALL	TEL	237	18	paired	CF	telcar_107_2022_fall	one then the other	first
2022	FALL	TEL	237	19	paired	CF	telcar_108_2022_fall	one then the other	second
2022	FALL	TEL	237	20	paired	CF	telcar_109_2022_fall	one then the other	first
2022	FALL	TEL	237	21	paired	CF	telcar_110_2022_fall	one then the other	second
2022	FALL	TEL	237	22	paired	CF	telcar_111_2022_fall	one then the other	first
2022	FALL	TEL	237	23	paired	CF	telcar_112_2022_fall	one then the other	second
2022	FALL	TEL	237	24	paired	CF	telcar_113_2022_fall	one then the other	first
2022	FALL	TEL	237	25	paired	CF	telcar_114_2022_fall	one then the other	second
2022	FALL	TEL	237	26	paired	CF	telcar_115_2022_fall	side by side	port
2022	FALL	TEL	237	27	paired	CF	telcar_116_2022_fall	one then the other	second
2022	FALL	TEL	237	28	unsuccessful	CF	-	-	-
2022	FALL	TEL	237	29	unsuccessful	CF	-	-	-
2022	FALL	TEL	237	30	paired	CF	telcar_117_2022_fall	one then the other	second
2022	FALL	TEL	237	31	paired	CF	telcar_118_2022_fall	one then the other	first
2022	FALL	TEL	237	32	paired	CF	telcar_119_2022_fall	one then the other	second
2022	FALL	TEL	237	33	paired	CF	telcar_120_2022_fall	side by side	port
2022	FALL	TEL	237	34	paired	CF	telcar_121_2022_fall	one then the other	second
2022	FALL	TEL	237	35	paired	CF	telcar_122_2022_fall	side by side	port
2022	FALL	TEL	237	36	paired	CF	telcar_123_2022_fall	one then the other	second
2022	FALL	TEL	237	37	paired	CF	telcar_124_2022_fall	side by side	port
2022	FALL	TEL	237	38	paired	CF	telcar_125_2022_fall	side by side	starboard
2022	FALL	TEL	237	39	paired	CF	telcar_126_2022_fall	one then the other	first
2022	FALL	TEL	237	40	paired	CF	telcar_127_2022_fall	one then the other	second
2022	FALL	TEL	237	41	paired	CF	telcar_128_2022_fall	side by side	starboard
2022	FALL	TEL	237	42	paired	CF	telcar_129_2022_fall	side by side	port
2022	FALL	TEL	237	43	paired	CF	telcar_130_2022_fall	one then the other	second
2022	FALL	TEL	237	44	paired	CF	telcar_131_2022_fall	one then the other	first
2022	FALL	TEL	237	45	paired	CF	telcar_132_2022_fall	one then the other	second
2022	FALL	TEL	237	46	paired	CF	telcar_133_2022_fall	one then the other	first
2022	FALL	TEL	237	47	unsuccessful	CF	-	-	-

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	TEL	237	48	paired	CF	telcar_134_2022_fall	side by side	port
2022	FALL	TEL	237	49	paired	CF	telcar_135_2022_fall	side by side	port
2022	FALL	TEL	237	50	paired	CF	telcar_136_2022_fall	side by side	starboard
2022	FALL	TEL	237	51	paired	CF	telcar_137_2022_fall	side by side	starboard
2022	FALL	TEL	237	52	paired	CF	telcar_138_2022_fall	one then the other	second
2022	FALL	TEL	237	53	paired	CF	telcar_139_2022_fall	side by side	port
2022	FALL	TEL	237	54	paired	CF	telcar_140_2022_fall	side by side	starboard

Table 19. Set by set details of the fall 2022 CCGS Alfred Needler (AN) trip 552. All sets were completed under the comparative fishing (CF) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	AN	552	1	unsuccessful	CF	-	-	-
2022	FALL	AN	552	2	unpaired	CF	-	-	-
2022	FALL	AN	552	3	unpaired	CF	-	-	-
2022	FALL	AN	552	4	paired	CF	ancab_1_2022_fall	side by side	port
2022	FALL	AN	552	5	unsuccessful	CF	-	-	-
2022	FALL	AN	552	29	paired	CF	ancab_2_2022_fall	side by side	port
2022	FALL	AN	552	32	paired	CF	ancab_3_2022_fall	single file	front
2022	FALL	AN	552	33	paired	CF	ancab_4_2022_fall	side by side	starboard
2022	FALL	AN	552	34	paired	CF	ancab_5_2022_fall	side by side	port
2022	FALL	AN	552	35	paired	CF	ancab_6_2022_fall	side by side	starboard
2022	FALL	AN	552	37	paired	CF	ancab_7_2022_fall	side by side	starboard
2022	FALL	AN	552	38	paired	CF	ancab_8_2022_fall	single file	first
2022	FALL	AN	552	39	paired	CF	ancab_9_2022_fall	side by side	starboard
2022	FALL	AN	552	40	paired	CF	ancab_10_2022_fall	one then the other	first
2022	FALL	AN	552	41	paired	CF	ancab_11_2022_fall	one then the other	second
2022	FALL	AN	552	42	paired	CF	ancab_12_2022_fall	side by side	starboard
2022	FALL	AN	552	44	paired	CF	ancab_13_2022_fall	side by side	port
2022	FALL	AN	553	1	paired	CF	ancab_14_2022_fall	side by side	port
2022	FALL	AN	553	2	paired	CF	ancab_15_2022_fall	side by side	starboard
2022	FALL	AN	553	3	paired	CF	ancab_16_2022_fall	side by side	port
2022	FALL	AN	553	4	paired	CF	ancab_17_2022_fall	side by side	starboard

Table 20. Set by set details of the fall 2022 CCGS Alfred Needler (AN) trips 553. All sets were completed under the comparative fishing (CF) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	AN	553	1	paired	CF	ancab_14_2022_fall	side by side	port
2022	FALL	AN	553	2	paired	CF	ancab_15_2022_fall	side by side	starboard
2022	FALL	AN	553	3	paired	CF	ancab_16_2022_fall	side by side	port
2022	FALL	AN	553	4	paired	CF	ancab_17_2022_fall	side by side	starboard
2022	FALL	AN	553	5	paired	CF	ancab_18_2022_fall	side by side	port
2022	FALL	AN	553	6	unsuccessful	CF	-	-	-
2022	FALL	AN	553	7	paired	CF	ancab_19_2022_fall	side by side	port
2022	FALL	AN	553	8	paired	CF	ancab_20_2022_fall	side by side	starboard
2022	FALL	AN	553	9	unsuccessful	CF	-	-	-
2022	FALL	AN	553	10	paired	CF	ancab_21_2022_fall	side by side	starboard
2022	FALL	AN	553	11	unpaired	CF	-	-	-
2022	FALL	AN	553	12	unsuccessful	CF	-	-	-
2022	FALL	AN	553	13	paired	CF	ancab_22_2022_fall	single file	front
2022	FALL	AN	553	14	paired	CF	ancab_23_2022_fall	side by side	starboard
2022	FALL	AN	553	15	paired	CF	ancab_24_2022_fall	side by side	port
2022	FALL	AN	553	16	paired	CF	ancab_25_2022_fall	side by side	starboard
2022	FALL	AN	553	17	paired	CF	ancab_26_2022_fall	side by side	port
2022	FALL	AN	553	18	paired	CF	ancab_27_2022_fall	side by side	starboard
2022	FALL	AN	553	19	paired	CF	ancab_28_2022_fall	side by side	port
2022	FALL	AN	553	20	paired	CF	ancab_29_2022_fall	side by side	starboard
2022	FALL	AN	553	21	paired	CF	ancab_30_2022_fall	side by side	port
2022	FALL	AN	553	22	paired	CF	ancab_31_2022_fall	side by side	starboard
2022	FALL	AN	553	23	paired	CF	ancab_32_2022_fall	side by side	port
2022	FALL	AN	553	24	paired	CF	ancab_33_2022_fall	side by side	starboard
2022	FALL	AN	553	25	paired	CF	ancab_34_2022_fall	side by side	starboard
2022	FALL	AN	553	26	paired	CF	ancab_35_2022_fall	single file	front
2022	FALL	AN	553	27	paired	CF	ancab_36_2022_fall	side by side	starboard
2022	FALL	AN	553	28	unsuccessful	CF	-	-	-
2022	FALL	AN	553	29	paired	CF	ancab_37_2022_fall	single file	starboard
2022	FALL	AN	553	30	paired	CF	ancab_38_2022_fall	side by side	port
2022	FALL	AN	553	31	paired	CF	ancab_39_2022_fall	single file	front
2022	FALL	AN	553	32	paired	CF	ancab_40_2022_fall	side by side	port
2022	FALL	AN	553	33	paired	CF	ancab_41_2022_fall	side by side	starboard
2022	FALL	AN	553	34	paired	CF	ancab_42_2022_fall	side by side	port
2022	FALL	AN	553	35	paired	CF	ancab_43_2022_fall	side by side	starboard
2022	FALL	AN	553	36	paired	CF	ancab_44_2022_fall	side by side	port
2022	FALL	AN	553	37	paired	CF	ancab_45_2022_fall	one then the other	first
2022	FALL	AN	553	38	paired	CF	ancab_46_2022_fall	side by side	port
2022	FALL	AN	553	39	paired	CF	ancab_47_2022_fall	side by side	starboard
2022	FALL	AN	553	40	paired	CF	ancab_48_2022_fall	side by side	starboard
2022	FALL	AN	553	41	paired	CF	ancab_49_2022_fall	side by side	port
2022	FALL	AN	553	42	paired	CF	ancab_50_2022_fall	side by side	starboard
2022	FALL	AN	553	43	paired	CF	ancab_51_2022_fall	side by side	port
2022	FALL	AN	553	44	paired	CF	ancab_52_2022_fall	side by side	starboard
2022	FALL	AN	553	45	paired	CF	ancab_53_2022_fall	side by side	port
2022	FALL	AN	553	46	paired	CF	ancab_54_2022_fall	side by side	starboard

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	AN	553	47	paired	CF	ancab_55_2022_fall	side by side	port
2022	FALL	AN	553	48	paired	CF	ancab_56_2022_fall	side by side	starboard
2022	FALL	AN	553	49	unsuccessful	CF	-	-	-
2022	FALL	AN	553	50	paired	CF	ancab_57_2022_fall	single file	front
2022	FALL	AN	553	51	paired	CF	ancab_58_2022_fall	side by side	port
2022	FALL	AN	553	52	paired	CF	ancab_59_2022_fall	side by side	starboard
2022	FALL	AN	553	53	paired	CF	ancab_60_2022_fall	side by side	port
2022	FALL	AN	553	54	paired	CF	ancab_61_2022_fall	side by side	starboard
2022	FALL	AN	553	55	paired	CF	ancab_62_2022_fall	side by side	port
2022	FALL	AN	553	56	paired	CF	ancab_63_2022_fall	side by side	starboard
2022	FALL	AN	553	57	paired	CF	ancab_64_2022_fall	side by side	port
2022	FALL	AN	553	58	paired	CF	ancab_65_2022_fall	side by side	starboard
2022	FALL	AN	553	59	paired	CF	ancab_66_2022_fall	side by side	port
2022	FALL	AN	553	60	paired	CF	ancab_67_2022_fall	one then the other	first
2022	FALL	AN	553	61	unsuccessful	CF	-	-	-
2022	FALL	AN	553	62	paired	CF	ancab_68_2022_fall	side by side	starboard
2022	FALL	AN	553	63	paired	CF	ancab_69_2022_fall	side by side	port
2022	FALL	AN	553	64	paired	CF	ancab_70_2022_fall	side by side	starboard
2022	FALL	AN	553	65	paired	CF	ancab_71_2022_fall	side by side	port
2022	FALL	AN	553	66	paired	CF	ancab_72_2022_fall	side by side	starboard
2022	FALL	AN	553	67	unsuccessful	CF	-	-	-
2022	FALL	AN	553	68	paired	CF	ancab_73_2022_fall	side by side	starboard

Table 21. Set by set details of the fall 2022 CCGS Alfred Needler (AN) trip 554. All sets were completed under the comparative fishing (CF) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	AN	554	1	unpaired	CF	-	-	-
2022	FALL	AN	554	2	paired	CF	ancab_74_2022_fall	side by side	starboard
2022	FALL	AN	554	3	paired	CF	ancab_75_2022_fall	side by side	port
2022	FALL	AN	554	4	paired	CF	ancab_76_2022_fall	side by side	starboard
2022	FALL	AN	554	5	paired	CF	ancab_77_2022_fall	side by side	port
2022	FALL	AN	554	6	paired	CF	ancab_78_2022_fall	side by side	starboard
2022	FALL	AN	554	7	paired	CF	ancab_79_2022_fall	side by side	port
2022	FALL	AN	554	8	paired	CF	ancab_80_2022_fall	side by side	starboard
2022	FALL	AN	554	9	paired	CF	ancab_81_2022_fall	side by side	port
2022	FALL	AN	554	10	paired	CF	ancab_82_2022_fall	side by side	starboard
2022	FALL	AN	554	11	paired	CF	ancab_83_2022_fall	side by side	port
2022	FALL	AN	554	12	paired	CF	ancab_84_2022_fall	side by side	starboard
2022	FALL	AN	554	13	paired	CF	ancab_85_2022_fall	side by side	port
2022	FALL	AN	554	14	paired	CF	ancab_86_2022_fall	side by side	starboard
2022	FALL	AN	554	15	unsuccessful	CF	-	-	-
2022	FALL	AN	554	37	paired	CF	ancab_87_2022_fall	side by side	port
2022	FALL	AN	554	38	paired	CF	ancab_88_2022_fall	side by side	starboard
2022	FALL	AN	554	39	paired	CF	ancab_89_2022_fall	side by side	port
2022	FALL	AN	554	40	paired	CF	ancab_90_2022_fall	side by side	starboard
2022	FALL	AN	554	41	paired	CF	ancab_91_2022_fall	one then the other	first
2022	FALL	AN	554	42	paired	CF	ancab_92_2022_fall	side by side	starboard
2022	FALL	AN	554	43	paired	CF	ancab_93_2022_fall	side by side	port
2022	FALL	AN	554	44	paired	CF	ancab_94_2022_fall	side by side	starboard
2022	FALL	AN	554	45	paired	CF	ancab_95_2022_fall	side by side	port
2022	FALL	AN	554	46	paired	CF	ancab_96_2022_fall	side by side	starboard
2022	FALL	AN	554	47	paired	CF	ancab_97_2022_fall	side by side	port
2022	FALL	AN	554	48	paired	CF	ancab_98_2022_fall	side by side	starboard
2022	FALL	AN	554	49	paired	CF	ancab_99_2022_fall	side by side	port
2022	FALL	AN	554	50	paired	CF	ancab_100_2022_fall	side by side	starboard

Table 22. Set by set details of the fall 2022 CCGS Alfred Needler (AN) trip 556. All sets were completed under the comparative fishing (CF) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	AN	556	1	paired	CF	ancab_101_2022_fall	one then the other	first
2022	FALL	AN	556	2	-	-	-	-	-
2022	FALL	AN	556	3	paired	CF	ancab_102_2022_fall	side by side	starboard

Table 23. Set by set details of the fall 2022 CCGS Capt Jacques Cartier (CAR) trip 26. All sets were completed under the comparative fishing (CF) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	CAR	26	1	unpaired	CF	-	-	-
2022	FALL	CAR	26	2	paired	CF	telcar_1_2022_fall	side by side	port
2022	FALL	CAR	26	3	paired	CF	telcar_2_2022_fall	side by side	port
2022	FALL	CAR	26	4	unsuccessful	CF	-	-	-
2022	FALL	CAR	26	5	paired	CF	telcar_3_2022_fall	side by side	port
2022	FALL	CAR	26	6	paired	CF	telcar_4_2022_fall	side by side	starboard
2022	FALL	CAR	26	7	paired	CF	telcar_5_2022_fall	side by side	starboard
2022	FALL	CAR	26	8	paired	CF	telcar_6_2022_fall	side by side	starboard
2022	FALL	CAR	26	9	unsuccessful	CF	-	-	-
2022	FALL	CAR	26	10	paired	CF	telcar_7_2022_fall	single file	behind
2022	FALL	CAR	26	11	paired	CF	telcar_8_2022_fall	side by side	port
2022	FALL	CAR	26	12	unpaired	CF	-	-	-
2022	FALL	CAR	26	13	unpaired	CF	-	-	-
2022	FALL	CAR	26	14	paired	CF	telcar_9_2022_fall	side by side	port
2022	FALL	CAR	26	15	paired	CF	telcar_10_2022_fall	side by side	starboard
2022	FALL	CAR	26	16	paired	CF	telcar_11_2022_fall	one then the other	second
2022	FALL	CAR	26	17	paired	CF	telcar_12_2022_fall	side by side	port
2022	FALL	CAR	26	18	paired	CF	telcar_13_2022_fall	side by side	starboard
2022	FALL	CAR	26	19	paired	CF	telcar_14_2022_fall	side by side	port
2022	FALL	CAR	26	20	unsuccessful	CF	-	-	-
2022	FALL	CAR	26	21	paired	CF	telcar_15_2022_fall	side by side	port
2022	FALL	CAR	26	22	paired	CF	telcar_16_2022_fall	single file	behind
2022	FALL	CAR	26	23	paired	CF	telcar_17_2022_fall	side by side	starboard
2022	FALL	CAR	26	24	paired	CF	telcar_18_2022_fall	side by side	starboard
2022	FALL	CAR	26	25	paired	CF	telcar_19_2022_fall	side by side	port
2022	FALL	CAR	26	26	paired	CF	telcar_20_2022_fall	side by side	starboard
2022	FALL	CAR	26	27	paired	CF	telcar_21_2022_fall	side by side	port
2022	FALL	CAR	26	28	paired	CF	telcar_22_2022_fall	single file	front
2022	FALL	CAR	26	29	paired	CF	telcar_23_2022_fall	side by side	starboard
2022	FALL	CAR	26	30	paired	CF	telcar_24_2022_fall	side by side	port
2022	FALL	CAR	26	31	paired	CF	telcar_25_2022_fall	side by side	starboard
2022	FALL	CAR	26	32	paired	CF	telcar_26_2022_fall	side by side	starboard
2022	FALL	CAR	26	33	paired	CF	telcar_27_2022_fall	side by side	port
2022	FALL	CAR	26	34	paired	CF	telcar_28_2022_fall	side by side	starboard
2022	FALL	CAR	26	35	paired	CF	telcar_29_2022_fall	side by side	starboard
2022	FALL	CAR	26	36	paired	CF	telcar_30_2022_fall	side by side	starboard
2022	FALL	CAR	26	37	paired	CF	telcar_31_2022_fall	side by side	port
2022	FALL	CAR	26	38	paired	CF	telcar_32_2022_fall	side by side	starboard
2022	FALL	CAR	26	39	paired	CF	telcar_33_2022_fall	side by side	port

Table 24. Set by set details of the fall 2022 CCGS Capt Jacques Cartier (CAR) trip 27. All sets were completed under the comparative fishing (CF) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	CAR	27	3	paired	CF	telcar_34_2022_fall	side by side	port
2022	FALL	CAR	27	4	unsuccessful	CF	-	-	-
2022	FALL	CAR	27	5	paired	CF	telcar_35_2022_fall	side by side	port
2022	FALL	CAR	27	6	paired	CF	telcar_36_2022_fall	side by side	starboard
2022	FALL	CAR	27	7	paired	CF	telcar_37_2022_fall	side by side	port
2022	FALL	CAR	27	8	paired	CF	telcar_38_2022_fall	side by side	starboard
2022	FALL	CAR	27	16	paired	CF	telcar_39_2022_fall	side by side	port
2022	FALL	CAR	27	17	paired	CF	telcar_40_2022_fall	side by side	starboard
2022	FALL	CAR	27	18	unsuccessful	CF	-	-	-
2022	FALL	CAR	27	19	paired	CF	telcar_41_2022_fall	side by side	starboard
2022	FALL	CAR	27	20	paired	CF	telcar_42_2022_fall	side by side	port
2022	FALL	CAR	27	21	paired	CF	telcar_43_2022_fall	side by side	starboard
2022	FALL	CAR	27	22	paired	CF	telcar_44_2022_fall	side by side	port
2022	FALL	CAR	27	23	paired	CF	telcar_45_2022_fall	side by side	starboard
2022	FALL	CAR	27	24	paired	CF	telcar_46_2022_fall	side by side	port
2022	FALL	CAR	27	25	paired	CF	telcar_47_2022_fall	side by side	starboard
2022	FALL	CAR	27	26	paired	CF	telcar_48_2022_fall	side by side	starboard
2022	FALL	CAR	27	27	paired	CF	telcar_49_2022_fall	side by side	port
2022	FALL	CAR	27	28	paired	CF	telcar_50_2022_fall	side by side	starboard
2022	FALL	CAR	27	29	paired	CF	telcar_51_2022_fall	one then the other	first
2022	FALL	CAR	27	30	unsuccessful	CF	-	-	-
2022	FALL	CAR	27	31	paired	CF	telcar_52_2022_fall	side by side	starboard
2022	FALL	CAR	27	32	paired	CF	telcar_53_2022_fall	side by side	port
2022	FALL	CAR	27	33	paired	CF	telcar_54_2022_fall	side by side	starboard
2022	FALL	CAR	27	34	paired	CF	telcar_55_2022_fall	side by side	starboard
2022	FALL	CAR	27	35	paired	CF	telcar_56_2022_fall	side by side	port
2022	FALL	CAR	27	36	paired	CF	telcar_57_2022_fall	side by side	starboard
2022	FALL	CAR	27	37	paired	CF	telcar_58_2022_fall	side by side	port
2022	FALL	CAR	27	38	paired	CF	telcar_59_2022_fall	side by side	starboard
2022	FALL	CAR	27	39	unpaired	CF	-	-	-
2022	FALL	CAR	27	40	paired	CF	telcar_60_2022_fall	side by side	starboard
2022	FALL	CAR	27	41	paired	CF	telcar_61_2022_fall	side by side	port
2022	FALL	CAR	27	42	paired	CF	telcar_62_2022_fall	side by side	starboard
2022	FALL	CAR	27	43	paired	CF	telcar_63_2022_fall	side by side	port
2022	FALL	CAR	27	44	paired	CF	telcar_64_2022_fall	side by side	port

Table 25. Set by set details of the fall 2022 CCGS Capt Jacques Cartier (CAR) trip 28. All sets were completed under the comparative fishing (CF) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	CAR	28	1	paired	CF	telcar_65_2022_fall	side by side	port
2022	FALL	CAR	28	2	unpaired	CF	-	-	-
2022	FALL	CAR	28	3	paired	CF	telcar_66_2022_fall	single file	behind
2022	FALL	CAR	28	4	paired	CF	telcar_67_2022_fall	side by side	port
2022	FALL	CAR	28	5	paired	CF	telcar_68_2022_fall	side by side	starboard
2022	FALL	CAR	28	6	paired	CF	telcar_69_2022_fall	side by side	port
2022	FALL	CAR	28	7	paired	CF	telcar_70_2022_fall	side by side	starboard
2022	FALL	CAR	28	8	paired	CF	telcar_71_2022_fall	side by side	port
2022	FALL	CAR	28	9	unpaired	CF	-	-	-
2022	FALL	CAR	28	10	paired	CF	telcar_72_2022_fall	side by side	port
2022	FALL	CAR	28	11	unsuccessful	CF	-	-	-
2022	FALL	CAR	28	12	unpaired	CF	-	-	-
2022	FALL	CAR	28	13	paired	CF	telcar_73_2022_fall	side by side	starboard
2022	FALL	CAR	28	14	paired	CF	telcar_74_2022_fall	side by side	starboard
2022	FALL	CAR	28	15	paired	CF	telcar_75_2022_fall	side by side	port
2022	FALL	CAR	28	16	paired	CF	telcar_76_2022_fall	side by side	port
2022	FALL	CAR	28	17	paired	CF	telcar_77_2022_fall	side by side	starboard
2022	FALL	CAR	28	18	paired	CF	telcar_78_2022_fall	side by side	port
2022	FALL	CAR	28	19	paired	CF	telcar_79_2022_fall	side by side	starboard
2022	FALL	CAR	28	20	paired	CF	telcar_80_2022_fall	side by side	port
2022	FALL	CAR	28	21	paired	CF	telcar_81_2022_fall	side by side	starboard
2022	FALL	CAR	28	22	paired	CF	telcar_82_2022_fall	side by side	port
2022	FALL	CAR	28	23	paired	CF	telcar_83_2022_fall	side by side	port
2022	FALL	CAR	28	24	paired	CF	telcar_84_2022_fall	side by side	starboard
2022	FALL	CAR	28	25	unsuccessful	CF	-	-	-

Table 26. Set by set details of the fall 2022 CCGS Capt Jacques Cartier (CAR) trip 29. All sets were completed under the comparative fishing (CF) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	CAR	29	8	paired	CF	telcar_85_2022_fall	side by side	starboard
2022	FALL	CAR	29	9	paired	CF	telcar_86_2022_fall	side by side	port
2022	FALL	CAR	29	10	paired	CF	telcar_87_2022_fall	side by side	starboard
2022	FALL	CAR	29	11	paired	CF	telcar_88_2022_fall	side by side	port
2022	FALL	CAR	29	12	paired	CF	telcar_89_2022_fall	side by side	starboard
2022	FALL	CAR	29	13	paired	CF	telcar_90_2022_fall	side by side	port
2022	FALL	CAR	29	14	paired	CF	telcar_91_2022_fall	side by side	starboard

Table 27. Set by set details of the fall 2022 CCGS Capt Jacques Cartier (CAR) trip 30. All sets were completed under the comparative fishing (CF) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	CAR	30	2	paired	CF	telcar_92_2022_fall	side by side	port
2022	FALL	CAR	30	3	paired	CF	telcar_93_2022_fall	side by side	starboard
2022	FALL	CAR	30	4	paired	CF	telcar_94_2022_fall	side by side	starboard
2022	FALL	CAR	30	5	paired	CF	telcar_95_2022_fall	side by side	port
2022	FALL	CAR	30	6	paired	CF	telcar_96_2022_fall	side by side	starboard
2022	FALL	CAR	30	7	paired	CF	telcar_97_2022_fall	side by side	port
2022	FALL	CAR	30	8	paired	CF	telcar_98_2022_fall	side by side	starboard
2022	FALL	CAR	30	9	paired	CF	telcar_99_2022_fall	side by side	port
2022	FALL	CAR	30	10	paired	CF	telcar_100_2022_fall	side by side	starboard
2022	FALL	CAR	30	11	paired	CF	telcar_101_2022_fall	side by side	port
2022	FALL	CAR	30	12	paired	CF	telcar_102_2022_fall	side by side	starboard
2022	FALL	CAR	30	13	paired	CF	telcar_103_2022_fall	side by side	port
2022	FALL	CAR	30	14	paired	CF	telcar_104_2022_fall	side by side	starboard
2022	FALL	CAR	30	15	paired	CF	telcar_105_2022_fall	side by side	port
2022	FALL	CAR	30	16	unsuccessful	CF	-	-	-
2022	FALL	CAR	30	17	paired	CF	telcar_106_2022_fall	one then the other	first
2022	FALL	CAR	30	18	paired	CF	telcar_107_2022_fall	one then the other	second
2022	FALL	CAR	30	19	paired	CF	telcar_108_2022_fall	one then the other	first
2022	FALL	CAR	30	20	paired	CF	telcar_109_2022_fall	one then the other	second
2022	FALL	CAR	30	21	paired	CF	telcar_110_2022_fall	one then the other	first
2022	FALL	CAR	30	22	paired	CF	telcar_111_2022_fall	one then the other	second
2022	FALL	CAR	30	23	paired	CF	telcar_112_2022_fall	one then the other	first
2022	FALL	CAR	30	24	paired	CF	telcar_113_2022_fall	one then the other	second
2022	FALL	CAR	30	25	paired	CF	telcar_114_2022_fall	one then the other	first
2022	FALL	CAR	30	26	paired	CF	telcar_115_2022_fall	side by side	starboard
2022	FALL	CAR	30	27	paired	CF	telcar_116_2022_fall	one then the other	first
2022	FALL	CAR	30	28	unsuccessful	CF	-	-	-
2022	FALL	CAR	30	29	unpaired	CF	-	-	-
2022	FALL	CAR	30	30	paired	CF	telcar_117_2022_fall	one then the other	first
2022	FALL	CAR	30	31	paired	CF	telcar_118_2022_fall	one then the other	second
2022	FALL	CAR	30	32	paired	CF	telcar_119_2022_fall	one then the other	first
2022	FALL	CAR	30	33	paired	CF	telcar_120_2022_fall	side by side	starboard
2022	FALL	CAR	30	34	paired	CF	telcar_121_2022_fall	one then the other	first
2022	FALL	CAR	30	35	paired	CF	telcar_122_2022_fall	side by side	starboard
2022	FALL	CAR	30	36	paired	CF	telcar_123_2022_fall	one then the other	first
2022	FALL	CAR	30	37	paired	CF	telcar_124_2022_fall	side by side	starboard
2022	FALL	CAR	30	38	paired	CF	telcar_125_2022_fall	side by side	port
2022	FALL	CAR	30	39	paired	CF	telcar_126_2022_fall	one then the other	second
2022	FALL	CAR	30	40	paired	CF	telcar_127_2022_fall	one then the other	first
2022	FALL	CAR	30	41	paired	CF	telcar_128_2022_fall	side by side	port
2022	FALL	CAR	30	42	paired	CF	telcar_129_2022_fall	side by side	starboard
2022	FALL	CAR	30	43	paired	CF	telcar_130_2022_fall	one then the other	first
2022	FALL	CAR	30	44	paired	CF	telcar_131_2022_fall	one then the other	second
2022	FALL	CAR	30	45	paired	CF	telcar_132_2022_fall	one then the other	first
2022	FALL	CAR	30	46	paired	CF	telcar_133_2022_fall	one then the other	second
2022	FALL	CAR	30	47	unpaired	CF	-	-	-

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	CAR	30	48	paired	CF	telcar_134_2022_fall	side by side	starboard
2022	FALL	CAR	30	49	paired	CF	telcar_135_2022_fall	side by side	starboard
2022	FALL	CAR	30	50	paired	CF	telcar_136_2022_fall	side by side	port
2022	FALL	CAR	30	51	paired	CF	telcar_137_2022_fall	side by side	port
2022	FALL	CAR	30	52	paired	CF	telcar_138_2022_fall	one then the other	first
2022	FALL	CAR	30	53	paired	CF	telcar_139_2022_fall	side by side	starboard
2022	FALL	CAR	30	54	paired	CF	telcar_140_2022_fall	side by side	port

Table 28. Set by set details of the fall 2022 CCGS John Cabot (CAB) trip 27. All sets were completed under the comparative fishing (CF) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	CAB	27	1	unpaired	CF	-	-	-
2022	FALL	CAB	27	2	unpaired	CF	-	-	-
2022	FALL	CAB	27	4	paired	CF	ancab_1_2022_fall	side by side	starboard
2022	FALL	CAB	27	5	unpaired	CF	-	-	-
2022	FALL	CAB	27	6	unpaired	CF	-	-	-
2022	FALL	CAB	27	7	unpaired	CF	-	-	-
2022	FALL	CAB	27	8	unpaired	CF	-	-	-
2022	FALL	CAB	27	9	unpaired	CF	-	-	-
2022	FALL	CAB	27	10	unpaired	CF	-	-	-
2022	FALL	CAB	27	11	unpaired	CF	-	-	-
2022	FALL	CAB	27	12	unpaired	CF	-	-	-
2022	FALL	CAB	27	13	unpaired	CF	-	-	-
2022	FALL	CAB	27	14	unpaired	CF	-	-	-
2022	FALL	CAB	27	15	unpaired	CF	-	-	-
2022	FALL	CAB	27	16	unpaired	CF	-	-	-
2022	FALL	CAB	27	17	unsuccessful	CF	-	-	-
2022	FALL	CAB	27	18	unsuccessful	CF	-	-	-
2022	FALL	CAB	27	19	unpaired	CF	-	-	-
2022	FALL	CAB	27	20	unpaired	CF	-	-	-
2022	FALL	CAB	27	21	unpaired	CF	-	-	-
2022	FALL	CAB	27	22	unpaired	CF	-	-	-
2022	FALL	CAB	27	23	unpaired	CF	-	-	-
2022	FALL	CAB	27	24	unpaired	CF	-	-	-
2022	FALL	CAB	27	25	unpaired	CF	-	-	-
2022	FALL	CAB	27	26	unpaired	CF	-	-	-
2022	FALL	CAB	27	27	unpaired	CF	-	-	-
2022	FALL	CAB	27	28	unpaired	CF	-	-	-
2022	FALL	CAB	27	29	paired	CF	ancab_2_2022_fall	side by side	starboard
2022	FALL	CAB	27	30	unpaired	CF	-	-	-
2022	FALL	CAB	27	31	unsuccessful	CF	-	-	-
2022	FALL	CAB	27	32	paired	CF	ancab_3_2022_fall	single file	behind
2022	FALL	CAB	27	33	paired	CF	ancab_4_2022_fall	side by side	port
2022	FALL	CAB	27	34	paired	CF	ancab_5_2022_fall	side by side	starboard
2022	FALL	CAB	27	35	paired	CF	ancab_6_2022_fall	side by side	port
2022	FALL	CAB	27	36	unsuccessful	CF	-	-	-
2022	FALL	CAB	27	37	paired	CF	ancab_7_2022_fall	side by side	port
2022	FALL	CAB	27	38	paired	CF	ancab_8_2022_fall	single file	second
2022	FALL	CAB	27	39	paired	CF	ancab_9_2022_fall	side by side	port
2022	FALL	CAB	27	40	paired	CF	ancab_10_2022_fall	one then the other	second
2022	FALL	CAB	27	41	paired	CF	ancab_11_2022_fall	one then the other	first
2022	FALL	CAB	27	42	paired	CF	ancab_12_2022_fall	side by side	port
2022	FALL	CAB	27	43	unsuccessful	CF	-	-	-

Table 29. Set by set details of the Fall 2022 Cabot (CAB) trip 28. All sets were completed under the comparative fishing (CF) program.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	CAB	28	1	paired	CF	ancab_14_2022_fall	side by side	starboard
2022	FALL	CAB	28	2	paired	CF	ancab_15_2022_fall	side by side	port
2022	FALL	CAB	28	3	paired	CF	ancab_16_2022_fall	side by side	starboard
2022	FALL	CAB	28	4	paired	CF	ancab_17_2022_fall	side by side	port
2022	FALL	CAB	28	5	paired	CF	ancab_18_2022_fall	side by side	starboard
2022	FALL	CAB	28	6	unpaired	CF	-	-	-
2022	FALL	CAB	28	7	paired	CF	ancab_19_2022_fall	side by side	starboard
2022	FALL	CAB	28	8	paired	CF	ancab_20_2022_fall	side by side	port
2022	FALL	CAB	28	9	unpaired	CF	-	-	-
2022	FALL	CAB	28	10	paired	CF	ancab_21_2022_fall	side by side	port
2022	FALL	CAB	28	11	unsuccessful	CF	-	-	-
2022	FALL	CAB	28	12	unsuccessful	CF	-	-	-
2022	FALL	CAB	28	13	paired	CF	ancab_22_2022_fall	single file	behind
2022	FALL	CAB	28	14	paired	CF	ancab_23_2022_fall	side by side	port
2022	FALL	CAB	28	15	paired	CF	ancab_24_2022_fall	side by side	starboard
2022	FALL	CAB	28	16	paired	CF	ancab_25_2022_fall	side by side	port
2022	FALL	CAB	28	17	paired	CF	ancab_26_2022_fall	side by side	starboard
2022	FALL	CAB	28	18	paired	CF	ancab_27_2022_fall	side by side	port
2022	FALL	CAB	28	19	paired	CF	ancab_28_2022_fall	side by side	starboard
2022	FALL	CAB	28	20	paired	CF	ancab_29_2022_fall	side by side	port
2022	FALL	CAB	28	21	paired	CF	ancab_30_2022_fall	side by side	starboard
2022	FALL	CAB	28	22	paired	CF	ancab_31_2022_fall	side by side	port
2022	FALL	CAB	28	23	paired	CF	ancab_32_2022_fall	side by side	starboard
2022	FALL	CAB	28	24	paired	CF	ancab_33_2022_fall	side by side	port
2022	FALL	CAB	28	25	paired	CF	ancab_34_2022_fall	side by side	port
2022	FALL	CAB	28	26	paired	CF	ancab_35_2022_fall	single file	behind
2022	FALL	CAB	28	27	paired	CF	ancab_36_2022_fall	side by side	port
2022	FALL	CAB	28	28	survey	CF	-	-	-
2022	FALL	CAB	28	29	paired	CF	ancab_37_2022_fall	single file	port
2022	FALL	CAB	28	30	paired	CF	ancab_38_2022_fall	side by side	starboard
2022	FALL	CAB	28	31	paired	CF	ancab_39_2022_fall	single file	second
2022	FALL	CAB	28	32	paired	CF	ancab_40_2022_fall	side by side	starboard
2022	FALL	CAB	28	33	paired	CF	ancab_41_2022_fall	side by side	port
2022	FALL	CAB	28	34	paired	CF	ancab_42_2022_fall	side by side	starboard
2022	FALL	CAB	28	35	paired	CF	ancab_43_2022_fall	side by side	port
2022	FALL	CAB	28	36	paired	CF	ancab_44_2022_fall	side by side	starboard
2022	FALL	CAB	28	37	paired	CF	ancab_45_2022_fall	one then the other	second
2022	FALL	CAB	28	38	paired	CF	ancab_46_2022_fall	side by side	starboard
2022	FALL	CAB	28	39	paired	CF	ancab_47_2022_fall	side by side	port
2022	FALL	CAB	28	40	paired	CF	ancab_48_2022_fall	side by side	port
2022	FALL	CAB	28	41	paired	CF	ancab_49_2022_fall	side by side	starboard
2022	FALL	CAB	28	42	paired	CF	ancab_50_2022_fall	side by side	port
2022	FALL	CAB	28	43	paired	CF	ancab_51_2022_fall	side by side	starboard
2022	FALL	CAB	28	44	paired	CF	ancab_52_2022_fall	side by side	port
2022	FALL	CAB	28	45	paired	CF	ancab_53_2022_fall	side by side	starboard
2022	FALL	CAB	28	46	paired	CF	ancab_54_2022_fall	side by side	port
2022	FALL	CAB	28	47	paired	CF	ancab_55_2022_fall	side by side	starboard

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	CAB	28	48	paired	CF	ancab_56_2022_fall	side by side	port
2022	FALL	CAB	28	49	unpaired	CF	-	-	-
2022	FALL	CAB	28	50	paired	CF	ancab_57_2022_fall	single file	behind
2022	FALL	CAB	28	51	paired	CF	ancab_58_2022_fall	side by side	starboard
2022	FALL	CAB	28	52	paired	CF	ancab_59_2022_fall	side by side	port
2022	FALL	CAB	28	53	paired	CF	ancab_60_2022_fall	side by side	starboard
2022	FALL	CAB	28	54	paired	CF	ancab_61_2022_fall	side by side	port
2022	FALL	CAB	28	55	paired	CF	ancab_62_2022_fall	side by side	starboard
2022	FALL	CAB	28	56	paired	CF	ancab_63_2022_fall	side by side	port
2022	FALL	CAB	28	57	paired	CF	ancab_64_2022_fall	side by side	starboard
2022	FALL	CAB	28	58	paired	CF	ancab_65_2022_fall	side by side	port
2022	FALL	CAB	28	59	paired	CF	ancab_66_2022_fall	side by side	starboard
2022	FALL	CAB	28	60	paired	CF	ancab_67_2022_fall	one then the other	second
2022	FALL	CAB	28	61	unpaired	CF	-	-	--
2022	FALL	CAB	28	62	paired	CF	ancab_68_2022_fall	side by side	port
2022	FALL	CAB	28	63	paired	CF	ancab_69_2022_fall	side by side	starboard
2022	FALL	CAB	28	64	paired	CF	ancab_70_2022_fall	side by side	port
2022	FALL	CAB	28	65	paired	CF	ancab_71_2022_fall	side by side	starboard
2022	FALL	CAB	28	66	paired	CF	ancab_72_2022_fall	side by side	port
2022	FALL	CAB	28	67	unpaired	CF	-	-	-
2022	FALL	CAB	28	68	paired	CF	ancab_73_2022_fall	side by side	port

Table 30. Set by set details of the fall 2022 CCGS John Cabot (CAB) trip 29. All sets were completed under the comparative fishing (CF) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	CAB	29	1	unpaired	CF	-	-	-
2022	FALL	CAB	29	2	paired	CF	ancab_74_2022_fall	side by side	port
2022	FALL	CAB	29	3	paired	CF	ancab_75_2022_fall	side by side	starboard
2022	FALL	CAB	29	4	paired	CF	ancab_76_2022_fall	side by side	port
2022	FALL	CAB	29	5	paired	CF	ancab_77_2022_fall	side by side	starboard
2022	FALL	CAB	29	6	paired	CF	ancab_78_2022_fall	side by side	port
2022	FALL	CAB	29	7	paired	CF	ancab_79_2022_fall	side by side	starboard
2022	FALL	CAB	29	8	paired	CF	ancab_80_2022_fall	side by side	port
2022	FALL	CAB	29	9	paired	CF	ancab_81_2022_fall	side by side	starboard
2022	FALL	CAB	29	10	paired	CF	ancab_82_2022_fall	side by side	port
2022	FALL	CAB	29	11	paired	CF	ancab_83_2022_fall	side by side	starboard
2022	FALL	CAB	29	12	paired	CF	ancab_84_2022_fall	side by side	port
2022	FALL	CAB	29	13	paired	CF	ancab_85_2022_fall	side by side	starboard
2022	FALL	CAB	29	14	paired	CF	ancab_86_2022_fall	side by side	port
2022	FALL	CAB	29	15	unpaired	CF	-	-	-
2022	FALL	CAB	29	16	unpaired	CF	-	-	-
2022	FALL	CAB	29	17	unpaired	CF	-	-	-
2022	FALL	CAB	29	18	unpaired	CF	-	-	-
2022	FALL	CAB	29	-	unsuccessful	CF	-	-	-
2022	FALL	CAB	29	20	unpaired	CF	-	-	-
2022	FALL	CAB	29	21	unpaired	CF	-	-	-
2022	FALL	CAB	29	22	unpaired	CF	-	-	-
2022	FALL	CAB	29	23	unpaired	CF	-	-	-
2022	FALL	CAB	29	24	unpaired	CF	-	-	-
2022	FALL	CAB	29	25	unpaired	CF	-	-	-
2022	FALL	CAB	29	26	unpaired	CF	-	-	-
2022	FALL	CAB	29	27	unpaired	CF	-	-	-
2022	FALL	CAB	29	28	unpaired	CF	-	-	-
2022	FALL	CAB	29	29	unpaired	CF	-	-	-
2022	FALL	CAB	29	30	unpaired	CF	-	-	-
2022	FALL	CAB	29	31	unpaired	CF	-	-	-
2022	FALL	CAB	29	32	unpaired	CF	-	-	-
2022	FALL	CAB	29	33	unsuccessful	CF	-	-	-
2022	FALL	CAB	29	34	unpaired	CF	-	-	-
2022	FALL	CAB	29	35	unpaired	CF	-	-	-
2022	FALL	CAB	29	36	unpaired	CF	-	-	-
2022	FALL	CAB	29	37	paired	CF	ancab_87_2022_fall	side by side	starboard
2022	FALL	CAB	29	38	paired	CF	ancab_88_2022_fall	side by side	port
2022	FALL	CAB	29	39	paired	CF	ancab_89_2022_fall	side by side	starboard
2022	FALL	CAB	29	40	paired	CF	ancab_90_2022_fall	side by side	port
2022	FALL	CAB	29	41	paired	CF	ancab_91_2022_fall	one then the other	second
2022	FALL	CAB	29	42	paired	CF	ancab_92_2022_fall	side by side	port
2022	FALL	CAB	29	43	paired	CF	ancab_93_2022_fall	side by side	starboard
2022	FALL	CAB	29	44	paired	CF	ancab_94_2022_fall	side by side	port
2022	FALL	CAB	29	45	paired	CF	ancab_95_2022_fall	side by side	starboard
2022	FALL	CAB	29	46	paired	CF	ancab_96_2022_fall	side by side	port
2022	FALL	CAB	29	47	paired	CF	ancab_97_2022_fall	side by side	starboard

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	CAB	29	48	paired	CF	ancab_98_2022_fall	side by side	port
2022	FALL	CAB	29	49	paired	CF	ancab_99_2022_fall	side by side	starboard
2022	FALL	CAB	29	50	paired	CF	ancab_100_2022_fall	side by side	port

Table 31. Set by set details of the fall 2022 CCGS John Cabot (CAB) trip 30. All sets were completed under the multi-species survey (MSS) program with a target on Yellowtail flounder strata.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	CAB	30	1	survey	MSS	-	-	-
2022	FALL	CAB	30	2	survey	MSS	-	-	-
2022	FALL	CAB	30	3	survey	MSS	-	-	-
2022	FALL	CAB	30	4	survey	MSS	-	-	-
2022	FALL	CAB	30	5	survey	MSS	-	-	-
2022	FALL	CAB	30	6	survey	MSS	-	-	-
2022	FALL	CAB	30	7	survey	MSS	-	-	-
2022	FALL	CAB	30	8	survey	MSS	-	-	-
2022	FALL	CAB	30	9	survey	MSS	-	-	-
2022	FALL	CAB	30	10	survey	MSS	-	-	-
2022	FALL	CAB	30	11	survey	MSS	-	-	-
2022	FALL	CAB	30	12	survey	MSS	-	-	-
2022	FALL	CAB	30	13	survey	MSS	-	-	-
2022	FALL	CAB	30	14	survey	MSS	-	-	-
2022	FALL	CAB	30	15	survey	MSS	-	-	-
2022	FALL	CAB	30	16	survey	MSS	-	-	-
2022	FALL	CAB	30	17	survey	MSS	-	-	-
2022	FALL	CAB	30	18	survey	MSS	-	-	-
2022	FALL	CAB	30	19	survey	MSS	-	-	-
2022	FALL	CAB	30	20	survey	MSS	-	-	-
2022	FALL	CAB	30	21	survey	MSS	-	-	-
2022	FALL	CAB	30	22	survey	MSS	-	-	-
2022	FALL	CAB	30	23	survey	MSS	-	-	-
2022	FALL	CAB	30	24	survey	MSS	-	-	-
2022	FALL	CAB	30	25	survey	MSS	-	-	-
2022	FALL	CAB	30	26	survey	MSS	-	-	-
2022	FALL	CAB	30	27	survey	MSS	-	-	-
2022	FALL	CAB	30	28	survey	MSS	-	-	-

Table 32. Set by set details of the fall 2022 CCGS John Cabot (CAB) trip 31. All sets were completed under the comparative fishing (CF) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	CAB	31	1	paired	CF	ancab_101_2022_fall	one then the other	second
2022	FALL	CAB	31	2	unsuccessful	CF	-	-	-
2022	FALL	CAB	31	3	paired	CF	ancab_102_2022_fall	side by side	port
2022	FALL	CAB	31	4	survey	CF	-	-	-
2022	FALL	CAB	31	5	paired	CF	telcab_1_3vessel_2022_fall	side by side	starboard
2022	FALL	CAB	31	6	paired	CF	telcab_2_3vessel_2022_fall	side by side	port
2022	FALL	CAB	31	7	paired	CF	telcab_3_3vessel_2022_fall	side by side	starboard
2022	FALL	CAB	31	8	paired	CF	telcab_4_3vessel_2022_fall	single file	behind
2022	FALL	CAB	31	9	paired	CF	telcab_5_3vessel_2022_fall	single file	behind
2022	FALL	CAB	31	15	unpaired	CF	-	-	-
2022	FALL	CAB	31	16	unpaired	CF	-	-	-
2022	FALL	CAB	31	17	paired	CF	telcab_6_3vessel_2022_fall	side by side	starboard
2022	FALL	CAB	31	18	paired	CF	telcab_7_3vessel_2022_fall	side by side	port
2022	FALL	CAB	31	19	paired	CF	telcab_8_3vessel_2022_fall	side by side	starboard
2022	FALL	CAB	31	20	paired	CF	telcab_9_3vessel_2022_fall	side by side	port
2022	FALL	CAB	31	21	paired	CF	telcab_10_3vessel_2022_fall	side by side	starboard
2022	FALL	CAB	31	22	paired	CF	telcab_11_3vessel_2022_fall	side by side	port
2022	FALL	CAB	31	23	paired	CF	telcab_12_3vessel_2022_fall	side by side	starboard

Table 33. Set by set details of the fall 2022 CCGS John Cabot (CAB) trip 32. All sets were completed under the comparative fishing (CF) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	FALL	CAB	32	1	paired	CF	telcab_13_3vessel_2022_fall	single file	front
2022	FALL	CAB	32	2	unpaired	CF	-	-	-
2022	FALL	CAB	32	3	unpaired	CF	-	-	-
2022	FALL	CAB	32	4	paired	CF	telcab_14_3vessel_2022_fall	side by side	starboard
2022	FALL	CAB	32	5	unpaired	CF	-	-	-
2022	FALL	CAB	32	6	unpaired	CF	-	-	-
2022	FALL	CAB	32	7	paired	CF	telcab_15_3vessel_2022_fall	single file	behind
2022	FALL	CAB	32	8	unpaired	CF	-	-	-
2022	FALL	CAB	32	9	paired	CF	telcab_16_3vessel_2022_fall	side by side	port
2022	FALL	CAB	32	10	unpaired	CF	-	-	-
2022	FALL	CAB	32	11	paired	CF	telcab_17_3vessel_2022_fall	side by side	port
2022	FALL	CAB	32	12	paired	CF	telcab_18_3vessel_2022_fall	side by side	starboard
2022	FALL	CAB	32	13	unpaired	CF	-	-	-
2022	FALL	CAB	32	14	unpaired	CF	-	-	-

Table 34. Set by set details of the spring 2022 CCGS John Cabot (CAB) trip 21. All sets were completed under the multi-species survey (MSS) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	SPRING	CAB	21	1	survey	MSS	-	-	-
2022	SPRING	CAB	21	2	survey	MSS	-	-	-
2022	SPRING	CAB	21	3	survey	MSS	-	-	-
2022	SPRING	CAB	21	4	survey	MSS	-	-	-
2022	SPRING	CAB	21	5	survey	MSS	-	-	-
2022	SPRING	CAB	21	6	survey	MSS	-	-	-
2022	SPRING	CAB	21	7	survey	MSS	-	-	-
2022	SPRING	CAB	21	8	survey	MSS	-	-	-
2022	SPRING	CAB	21	9	survey	MSS	-	-	-
2022	SPRING	CAB	21	10	survey	MSS	-	-	-
2022	SPRING	CAB	21	11	survey	MSS	-	-	-
2022	SPRING	CAB	21	12	survey	MSS	-	-	-
2022	SPRING	CAB	21	13	survey	MSS	-	-	-
2022	SPRING	CAB	21	14	survey	MSS	-	-	-
2022	SPRING	CAB	21	15	survey	MSS	-	-	-
2022	SPRING	CAB	21	16	unsuccessful	MSS	-	-	-
2022	SPRING	CAB	21	17	survey	MSS	-	-	-
2022	SPRING	CAB	21	18	survey	MSS	-	-	-
2022	SPRING	CAB	21	19	survey	MSS	-	-	-
2022	SPRING	CAB	21	20	survey	MSS	-	-	-
2022	SPRING	CAB	21	21	survey	MSS	-	-	-
2022	SPRING	CAB	21	22	survey	MSS	-	-	-
2022	SPRING	CAB	21	23	survey	MSS	-	-	-
2022	SPRING	CAB	21	24	survey	MSS	-	-	-
2022	SPRING	CAB	21	25	survey	MSS	-	-	-
2022	SPRING	CAB	21	26	survey	MSS	-	-	-
2022	SPRING	CAB	21	27	survey	MSS	-	-	-
2022	SPRING	CAB	21	28	survey	MSS	-	-	-
2022	SPRING	CAB	21	29	survey	MSS	-	-	-
2022	SPRING	CAB	21	30	survey	MSS	-	-	-
2022	SPRING	CAB	21	31	survey	MSS	-	-	-
2022	SPRING	CAB	21	32	survey	MSS	-	-	-
2022	SPRING	CAB	21	33	survey	MSS	-	-	-
2022	SPRING	CAB	21	34	survey	MSS	-	-	-
2022	SPRING	CAB	21	35	survey	MSS	-	-	-
2022	SPRING	CAB	21	36	survey	MSS	-	-	-
2022	SPRING	CAB	21	37	survey	MSS	-	-	-
2022	SPRING	CAB	21	38	survey	MSS	-	-	-
2022	SPRING	CAB	21	39	survey	MSS	-	-	-
2022	SPRING	CAB	21	40	survey	MSS	-	-	-
2022	SPRING	CAB	21	41	survey	MSS	-	-	-
2022	SPRING	CAB	21	42	survey	MSS	-	-	-
2022	SPRING	CAB	21	43	survey	MSS	-	-	-

Table 35. Set by set details of the spring 2022 CCGS John Cabot (CAB) trip 22. All sets were completed under the multi-species survey (MSS) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	SPRING	CAB	22	1	survey	MSS	-	-	-
2022	SPRING	CAB	22	2	survey	MSS	-	-	-
2022	SPRING	CAB	22	3	survey	MSS	-	-	-
2022	SPRING	CAB	22	4	survey	MSS	-	-	-
2022	SPRING	CAB	22	5	survey	MSS	-	-	-
2022	SPRING	CAB	22	6	survey	MSS	-	-	-
2022	SPRING	CAB	22	7	survey	MSS	-	-	-
2022	SPRING	CAB	22	8	survey	MSS	-	-	-
2022	SPRING	CAB	22	9	survey	MSS	-	-	-
2022	SPRING	CAB	22	10	survey	MSS	-	-	-
2022	SPRING	CAB	22	11	survey	MSS	-	-	-
2022	SPRING	CAB	22	12	survey	MSS	-	-	-
2022	SPRING	CAB	22	13	survey	MSS	-	-	-
2022	SPRING	CAB	22	14	survey	MSS	-	-	-
2022	SPRING	CAB	22	15	survey	MSS	-	-	-
2022	SPRING	CAB	22	16	unsuccessful	MSS	-	-	-
2022	SPRING	CAB	22	17	survey	MSS	-	-	-
2022	SPRING	CAB	22	18	survey	MSS	-	-	-
2022	SPRING	CAB	22	19	survey	MSS	-	-	-
2022	SPRING	CAB	22	20	survey	MSS	-	-	-
2022	SPRING	CAB	22	21	survey	MSS	-	-	-
2022	SPRING	CAB	22	22	survey	MSS	-	-	-
2022	SPRING	CAB	22	23	survey	MSS	-	-	-
2022	SPRING	CAB	22	24	unsuccessful	MSS	-	-	-
2022	SPRING	CAB	22	25	survey	MSS	-	-	-
2022	SPRING	CAB	22	26	survey	MSS	-	-	-
2022	SPRING	CAB	22	27	survey	MSS	-	-	-
2022	SPRING	CAB	22	28	survey	MSS	-	-	-
2022	SPRING	CAB	22	29	survey	MSS	-	-	-
2022	SPRING	CAB	22	30	survey	MSS	-	-	-
2022	SPRING	CAB	22	31	survey	MSS	-	-	-
2022	SPRING	CAB	22	32	survey	MSS	-	-	-
2022	SPRING	CAB	22	33	survey	MSS	-	-	-
2022	SPRING	CAB	22	34	survey	MSS	-	-	-
2022	SPRING	CAB	22	35	survey	MSS	-	-	-
2022	SPRING	CAB	22	36	survey	MSS	-	-	-
2022	SPRING	CAB	22	37	survey	MSS	-	-	-
2022	SPRING	CAB	22	38	survey	MSS	-	-	-
2022	SPRING	CAB	22	39	survey	MSS	-	-	-
2022	SPRING	CAB	22	40	survey	MSS	-	-	-
2022	SPRING	CAB	22	41	survey	MSS	-	-	-
2022	SPRING	CAB	22	42	survey	MSS	-	-	-
2022	SPRING	CAB	22	43	survey	MSS	-	-	-
2022	SPRING	CAB	22	44	survey	MSS	-	-	-
2022	SPRING	CAB	22	45	survey	MSS	-	-	-
2022	SPRING	CAB	22	46	survey	MSS	-	-	-

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	SPRING	CAB	22	47	survey	MSS	-	-	-
2022	SPRING	CAB	22	48	survey	MSS	-	-	-
2022	SPRING	CAB	22	49	survey	MSS	-	-	-
2022	SPRING	CAB	22	50	survey	MSS	-	-	-
2022	SPRING	CAB	22	51	survey	MSS	-	-	-
2022	SPRING	CAB	22	52	survey	MSS	-	-	-
2022	SPRING	CAB	22	53	unsuccessful	MSS	-	-	-
2022	SPRING	CAB	22	54	survey	MSS	-	-	-
2022	SPRING	CAB	22	55	survey	MSS	-	-	-
2022	SPRING	CAB	22	56	survey	MSS	-	-	-
2022	SPRING	CAB	22	57	survey	MSS	-	-	-

Table 36. Set by set details of the spring 2022 CCGS John Cabot (CAB) trip 23, where “MSS” represents multispecies survey and “CF” represents comparative fishing.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	SPRING	CAB	23	1	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	2	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	3	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	4	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	5	unsuccessful	MSS + CF	-	-	-
2022	SPRING	CAB	23	6	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	7	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	8	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	9	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	10	unsuccessful	MSS + CF	-	-	-
2022	SPRING	CAB	23	11	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	12	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	13	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	14	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	15	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	16	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	17	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	18	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	19	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	20	unsuccessful	MSS + CF	-	-	-
2022	SPRING	CAB	23	21	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	22	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	23	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	24	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	25	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	26	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	27	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	28	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	29	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	30	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	31	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	32	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	33	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	34	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	35	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	36	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	37	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	38	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	39	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	40	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	41	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	42	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	43	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	44	paired	MSS + CF	ancab_1_2022_spring	side by side	port
2022	SPRING	CAB	23	45	paired	MSS + CF	ancab_2_2022_spring	side by side	starboard
2022	SPRING	CAB	23	46	paired	MSS + CF	ancab_3_2022_spring	side by side	port

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	SPRING	CAB	23	47	paired	MSS + CF	ancab_4_2022_spring	side by side	starboard
2022	SPRING	CAB	23	48	paired	MSS + CF	ancab_5_2022_spring	side by side	port
2022	SPRING	CAB	23	49	paired	MSS + CF	ancab_6_2022_spring	side by side	starboard
2022	SPRING	CAB	23	50	paired	MSS + CF	ancab_7_2022_spring	side by side	port
2022	SPRING	CAB	23	51	paired	MSS + CF	ancab_8_2022_spring	side by side	starboard
2022	SPRING	CAB	23	52	paired	MSS + CF	ancab_9_2022_spring	side by side	port
2022	SPRING	CAB	23	53	paired	MSS + CF	ancab_10_2022_spring	side by side	starboard
2022	SPRING	CAB	23	54	paired	MSS + CF	ancab_11_2022_spring	side by side	port
2022	SPRING	CAB	23	55	paired	MSS + CF	ancab_12_2022_spring	side by side	starboard
2022	SPRING	CAB	23	56	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	57	paired	MSS + CF	ancab_13_2022_spring	side by side	port
2022	SPRING	CAB	23	58	paired	MSS + CF	ancab_14_2022_spring	side by side	starboard
2022	SPRING	CAB	23	59	survey	MSS + CF	-	-	-
2022	SPRING	CAB	23	60	paired	MSS + CF	ancab_15_2022_spring	one then the other	first
2022	SPRING	CAB	23	61	paired	MSS + CF	ancab_16_2022_spring	side by side	starboard
2022	SPRING	CAB	23	62	paired	MSS + CF	ancab_17_2022_spring	side by side	port
2022	SPRING	CAB	23	63	paired	MSS + CF	ancab_18_2022_spring	side by side	starboard
2022	SPRING	CAB	23	64	paired	MSS + CF	ancab_19_2022_spring	side by side	port
2022	SPRING	CAB	23	65	paired	MSS + CF	ancab_20_2022_spring	side by side	starboard
2022	SPRING	CAB	23	66	paired	MSS + CF	ancab_21_2022_spring	side by side	starboard
2022	SPRING	CAB	23	67	paired	MSS + CF	ancab_22_2022_spring	side by side	port
2022	SPRING	CAB	23	68	paired	MSS + CF	ancab_23_2022_spring	single file	behind
2022	SPRING	CAB	23	69	paired	MSS + CF	ancab_24_2022_spring	side by side	starboard
2022	SPRING	CAB	23	70	paired	MSS + CF	ancab_25_2022_spring	side by side	port

Table 37. Set by set details of the spring 2022 CCGS John Cabot (CAB) trip 24. All sets were completed under the multi-species survey (MSS) program.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	SPRING	CAB	24	1	survey	MSS	-	-	-
2022	SPRING	CAB	24	2	survey	MSS	-	-	-
2022	SPRING	CAB	24	3	survey	MSS	-	-	-
2022	SPRING	CAB	24	4	survey	MSS	-	-	-
2022	SPRING	CAB	24	5	unsuccessful	MSS	-	-	-
2022	SPRING	CAB	24	6	survey	MSS	-	-	-
2022	SPRING	CAB	24	7	survey	MSS	-	-	-
2022	SPRING	CAB	24	8	survey	MSS	-	-	-
2022	SPRING	CAB	24	9	survey	MSS	-	-	-
2022	SPRING	CAB	24	10	survey	MSS	-	-	-
2022	SPRING	CAB	24	11	unsuccessful	MSS	-	-	-
2022	SPRING	CAB	24	12	survey	MSS	-	-	-
2022	SPRING	CAB	24	13	survey	MSS	-	-	-
2022	SPRING	CAB	24	14	survey	MSS	-	-	-
2022	SPRING	CAB	24	15	survey	MSS	-	-	-
2022	SPRING	CAB	24	16	survey	MSS	-	-	-
2022	SPRING	CAB	24	17	survey	MSS	-	-	-
2022	SPRING	CAB	24	18	survey	MSS	-	-	-
2022	SPRING	CAB	24	19	survey	MSS	-	-	-
2022	SPRING	CAB	24	20	unsuccessful	MSS	-	-	-
2022	SPRING	CAB	24	21	survey	MSS	-	-	-

Table 38. Set by set details of the spring 2022 CCGS John Cabot (CAB) trip 25, where “MSS” represents multispecies survey and “CF” represents comparative fishing.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	SPRING	CAB	25	1	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	2	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	3	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	4	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	5	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	6	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	7	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	8	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	9	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	10	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	11	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	12	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	13	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	14	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	15	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	16	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	17	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	18	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	19	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	20	paired	MSS + CF	ancab_26_2022_spring	side by side	port
2022	SPRING	CAB	25	21	paired	MSS + CF	ancab_27_2022_spring	side by side	starboard
2022	SPRING	CAB	25	22	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	23	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	24	paired	MSS + CF	ancab_28_2022_spring	side by side	starboard
2022	SPRING	CAB	25	25	paired	MSS + CF	ancab_29_2022_spring	one then the other	second
2022	SPRING	CAB	25	26	paired	MSS + CF	ancab_30_2022_spring	single file	front
2022	SPRING	CAB	25	27	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	28	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	29	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	30	paired	MSS + CF	ancab_31_2022_spring	single file	front
2022	SPRING	CAB	25	31	paired	MSS + CF	ancab_32_2022_spring	one then the other	second
2022	SPRING	CAB	25	32	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	33	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	34	paired	MSS + CF	ancab_33_2022_spring	side by side	port
2022	SPRING	CAB	25	35	paired	MSS + CF	ancab_34_2022_spring	side by side	port
2022	SPRING	CAB	25	36	paired	MSS + CF	ancab_35_2022_spring	side by side	port
2022	SPRING	CAB	25	37	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	38	survey	MSS + CF	-	-	-
2022	SPRING	CAB	25	39	survey	MSS + CF	-	-	-

Table 39. Set by set details of the spring 2022 CCGS John Cabot (CAB) trip 26, where “MSS” represents multispecies survey and “CF” represents comparative fishing.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	SPRING	CAB	26	1	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	2	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	3	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	4	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	5	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	6	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	7	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	8	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	9	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	10	unsuccessful	MSS + CF	-	-	-
2022	SPRING	CAB	26	11	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	12	paired	MSS + CF	ancab_36_2022_spring	side by side	starboard
2022	SPRING	CAB	26	14	paired	MSS + CF	ancab_37_2022_spring	single file	behind
2022	SPRING	CAB	26	15	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	16	paired	MSS + CF	ancab_38_2022_spring	side by side	starboard
2022	SPRING	CAB	26	17	survey	MSS + CF	--	-	-
2022	SPRING	CAB	26	18	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	19	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	20	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	21	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	22	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	23	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	24	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	25	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	26	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	27	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	28	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	29	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	30	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	31	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	32	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	33	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	34	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	35	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	36	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	37	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	38	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	39	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	40	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	41	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	42	unsuccessful	MSS + CF	-	-	-
2022	SPRING	CAB	26	43	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	44	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	45	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	46	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	47	survey	MSS + CF	-	-	-

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	SPRING	CAB	26	48	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	49	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	50	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	51	unsuccessful	MSS + CF	-	-	-
2022	SPRING	CAB	26	52	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	53	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	54	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	55	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	56	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	57	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	58	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	59	survey	MSS + CF	-	-	-
2022	SPRING	CAB	26	60	unsuccessful	MSS + CF	-	-	-
2022	SPRING	CAB	26	61	survey	MSS + CF	-	-	-

Table 40. Set by set details of the spring 2022 CCGS Alfred Needler (AN) trip 547. All sets were completed under the comparative fishing (CF) program.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	SPRING	AN	547	44	paired	CF	ancab_1_2022_spring	side by side	starboard
2022	SPRING	AN	547	45	paired	CF	ancab_2_2022_spring	side by side	port
2022	SPRING	AN	547	46	paired	CF	ancab_3_2022_spring	side by side	starboard
2022	SPRING	AN	547	47	paired	CF	ancab_4_2022_spring	side by side	port
2022	SPRING	AN	547	48	paired	CF	ancab_5_2022_spring	side by side	starboard
2022	SPRING	AN	547	49	paired	CF	ancab_6_2022_spring	side by side	port
2022	SPRING	AN	547	50	paired	CF	ancab_7_2022_spring	side by side	starboard
2022	SPRING	AN	547	51	paired	CF	ancab_8_2022_spring	side by side	port
2022	SPRING	AN	547	52	paired	CF	ancab_9_2022_spring	side by side	starboard
2022	SPRING	AN	547	53	paired	CF	ancab_10_2022_spring	side by side	port
2022	SPRING	AN	547	54	paired	CF	ancab_11_2022_spring	side by side	starboard
2022	SPRING	AN	547	55	paired	CF	ancab_12_2022_spring	side by side	port
2022	SPRING	AN	547	56	unsuccessful	CF	-	-	-
2022	SPRING	AN	547	57	paired	CF	ancab_13_2022_spring	side by side	starboard
2022	SPRING	AN	547	58	paired	CF	ancab_14_2022_spring	side by side	port
2022	SPRING	AN	547	59	unsuccessful	CF	-	-	-
2022	SPRING	AN	547	60	paired	CF	ancab_15_2022_spring	one then the other	second
2022	SPRING	AN	547	61	paired	CF	ancab_16_2022_spring	side by side	port
2022	SPRING	AN	547	62	paired	CF	ancab_17_2022_spring	side by side	starboard
2022	SPRING	AN	547	63	paired	CF	ancab_18_2022_spring	side by side	port
2022	SPRING	AN	547	64	paired	CF	ancab_19_2022_spring	side by side	starboard
2022	SPRING	AN	547	65	paired	CF	ancab_20_2022_spring	side by side	port
2022	SPRING	AN	547	66	paired	CF	ancab_21_2022_spring	side by side	port
2022	SPRING	AN	547	67	paired	CF	ancab_22_2022_spring	side by side	starboard
2022	SPRING	AN	547	68	paired	CF	ancab_23_2022_spring	single file	front
2022	SPRING	AN	547	69	paired	CF	ancab_24_2022_spring	side by side	port
2022	SPRING	AN	547	70	paired	CF	ancab_25_2022_spring	side by side	starboard

Table 41. Set by set details of the spring 2022 CCGS Alfred Needler (AN) trips 549. All sets were completed under the comparative fishing (CF) program.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	SPRING	AN	549	20	paired	CF	ancab_26_2022_spring	side by side	starboard
2022	SPRING	AN	549	21	paired	CF	ancab_27_2022_spring	side by side	port
2022	SPRING	AN	549	24	paired	CF	ancab_28_2022_spring	side by side	port
2022	SPRING	AN	549	25	paired	CF	ancab_29_2022_spring	one then the other	first
2022	SPRING	AN	549	26	paired	CF	ancab_30_2022_spring	single file	behind
2022	SPRING	AN	549	30	paired	CF	ancab_31_2022_spring	single file	behind
2022	SPRING	AN	549	31	paired	CF	ancab_32_2022_spring	one then the other	first
2022	SPRING	AN	549	34	paired	CF	ancab_33_2022_spring	side by side	starboard
2022	SPRING	AN	549	35	paired	CF	ancab_34_2022_spring	side by side	starboard
2022	SPRING	AN	549	36	paired	CF	ancab_35_2022_spring	side by side	starboard

Table 42. Set by set details of the spring 2022 CCGS Alfred Needler (AN) trips 550. All sets were completed under the comparative fishing (CF) program.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2022	SPRING	AN	550	12	paired	CF	ancab_36_2022_spring	side by side	port
2022	SPRING	AN	550	13	unsuccessful	CF	-	-	-
2022	SPRING	AN	550	14	paired	CF	ancab_37_2022_spring	single file	front
2022	SPRING	AN	550	16	paired	CF	ancab_38_2022_spring	side by side	port

Table 43. Set by set details of the fall 2023 CCGS Teleost (TEL) trip 244. All sets were completed under the multi-species survey (MSS) program.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	TEL	244	1	survey	MSS	-	-	-
2023	FALL	TEL	244	2	survey	MSS	-	-	-
2023	FALL	TEL	244	3	unsuccessful	MSS	-	-	-
2023	FALL	TEL	244	4	survey	MSS	-	-	-
2023	FALL	TEL	244	5	survey	MSS	-	-	-
2023	FALL	TEL	244	6	survey	MSS	-	-	-
2023	FALL	TEL	244	7	survey	MSS	-	-	-
2023	FALL	TEL	244	8	survey	MSS	-	-	-
2023	FALL	TEL	244	9	unsuccessful	MSS	-	-	-
2023	FALL	TEL	244	10	survey	MSS	-	-	-
2023	FALL	TEL	244	11	survey	MSS	-	-	-
2023	FALL	TEL	244	12	survey	MSS	-	-	-
2023	FALL	TEL	244	13	survey	MSS	-	-	-
2023	FALL	TEL	244	14	survey	MSS	-	-	-
2023	FALL	TEL	244	15	survey	MSS	-	-	-
2023	FALL	TEL	244	16	survey	MSS	-	-	-
2023	FALL	TEL	244	17	survey	MSS	-	-	-
2023	FALL	TEL	244	18	survey	MSS	-	-	-
2023	FALL	TEL	244	19	unsuccessful	MSS	-	-	-
2023	FALL	TEL	244	20	unsuccessful	MSS	-	-	-
2023	FALL	TEL	244	21	unsuccessful	MSS	-	-	-
2023	FALL	TEL	244	22	survey	MSS	-	-	-
2023	FALL	TEL	244	23	survey	MSS	-	-	-
2023	FALL	TEL	244	24	survey	MSS	-	-	-
2023	FALL	TEL	244	25	no set	MSS	-	-	-
2023	FALL	TEL	244	26	survey	MSS	-	-	-
2023	FALL	TEL	244	27	survey	MSS	-	-	-
2023	FALL	TEL	244	28	survey	MSS	-	-	-
2023	FALL	TEL	244	29	survey	MSS	-	-	-
2023	FALL	TEL	244	30	survey	MSS	-	-	-
2023	FALL	TEL	244	31	survey	MSS	-	-	-
2023	FALL	TEL	244	32	unsuccessful	MSS	-	-	-
2023	FALL	TEL	244	33	survey	MSS	-	-	-
2023	FALL	TEL	244	34	survey	MSS	-	-	-
2023	FALL	TEL	244	35	survey	MSS	-	-	-
2023	FALL	TEL	244	36	survey	MSS	-	-	-
2023	FALL	TEL	244	37	survey	MSS	-	-	-
2023	FALL	TEL	244	38	survey	MSS	-	-	-
2023	FALL	TEL	244	39	survey	MSS	-	-	-
2023	FALL	TEL	244	40	survey	MSS	-	-	-
2023	FALL	TEL	244	41	survey	MSS	-	-	-
2023	FALL	TEL	244	42	survey	MSS	-	-	-
2023	FALL	TEL	244	43	survey	MSS	-	-	-
2023	FALL	TEL	244	44	survey	MSS	-	-	-
2023	FALL	TEL	244	45	survey	MSS	-	-	-
2023	FALL	TEL	244	46	survey	MSS	-	-	-
2023	FALL	TEL	244	47	survey	MSS	-	-	-

Table 44. Set by set details of the fall 2023 CCGS Teleost (TEL) trip 245, where “MSS” represents multispecies survey and “CF” represents comparative fishing.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	TEL	245	1	unsuccessful	MSS + CF	-	-	-
2023	FALL	TEL	245	2	unsuccessful	MSS + CF	-	-	-
2023	FALL	TEL	245	3	paired	MSS + CF	telcab_1_2023_fall	one then the other	second
2023	FALL	TEL	245	4	paired	MSS + CF	telcab_2_2023_fall	single file	behind
2023	FALL	TEL	245	5	paired	MSS + CF	telcab_3_2023_fall	side by side	starboard
2023	FALL	TEL	245	6	paired	MSS + CF	telcab_4_2023_fall	one then the other	first
2023	FALL	TEL	245	7	paired	MSS + CF	telcab_5_2023_fall	single file	behind
2023	FALL	TEL	245	8	paired	MSS + CF	telcab_6_2023_fall	side by side	port
2023	FALL	TEL	245	9	unsuccessful	MSS + CF	-	-	-
2023	FALL	TEL	245	10	paired	MSS + CF	telcab_7_2023_fall	side by side	starboard
2023	FALL	TEL	245	11	paired	MSS + CF	telcab_8_2023_fall	side by side	port
2023	FALL	TEL	245	12	paired	MSS + CF	telcab_9_2023_fall	one then the other	second
2023	FALL	TEL	245	13	paired	MSS + CF	telcab_10_2023_fall	side by side	port
2023	FALL	TEL	245	14	paired	MSS + CF	telcab_11_2023_fall	side by side	starboard
2023	FALL	TEL	245	15	paired	MSS + CF	telcab_12_2023_fall	side by side	port
2023	FALL	TEL	245	16	paired	MSS + CF	telcab_13_2023_fall	side by side	starboard
2023	FALL	TEL	245	17	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	18	paired	MSS + CF	telcab_14_2023_fall	single file	behind
2023	FALL	TEL	245	19	paired	MSS + CF	telcab_15_2023_fall	side by side	port
2023	FALL	TEL	245	20	paired	MSS + CF	telcab_16_2023_fall	side by side	starboard
2023	FALL	TEL	245	21	paired	MSS + CF	telcab_17_2023_fall	side by side	port
2023	FALL	TEL	245	22	paired	MSS + CF	telcab_18_2023_fall	side by side	starboard
2023	FALL	TEL	245	23	paired	MSS + CF	telcab_19_2023_fall	side by side	port
2023	FALL	TEL	245	24	paired	MSS + CF	telcab_20_2023_fall	single file	behind
2023	FALL	TEL	245	25	paired	MSS + CF	telcab_21_2023_fall	side by side	port
2023	FALL	TEL	245	26	paired	MSS + CF	telcab_22_2023_fall	single file	behind
2023	FALL	TEL	245	27	paired	MSS + CF	telcab_23_2023_fall	single file	behind
2023	FALL	TEL	245	28	paired	MSS + CF	telcab_24_2023_fall	side by side	starboard
2023	FALL	TEL	245	29	paired	MSS + CF	telcab_25_2023_fall	side by side	port
2023	FALL	TEL	245	30	paired	MSS + CF	telcab_26_2023_fall	one then the other	second
2023	FALL	TEL	245	31	paired	MSS + CF	telcab_27_2023_fall	side by side	port
2023	FALL	TEL	245	32	paired	MSS + CF	telcab_28_2023_fall	single file	behind
2023	FALL	TEL	245	33	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	34	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	35	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	36	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	37	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	38	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	39	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	40	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	41	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	42	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	43	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	44	unsuccessful	MSS + CF	-	-	-
2023	FALL	TEL	245	45	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	46	unsuccessful	MSS + CF	-	-	-

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	TEL	245	47	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	48	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	49	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	50	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	51	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	52	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	53	unsuccessful	MSS + CF	-	-	-
2023	FALL	TEL	245	54	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	55	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	56	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	57	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	58	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	59	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	60	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	61	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	62	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	63	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	64	unsuccessful	MSS + CF	-	-	-
2023	FALL	TEL	245	65	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	66	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	67	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	68	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	69	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	70	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	71	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	72	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	73	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	74	survey	MSS + CF	-	-	-
2023	FALL	TEL	245	75	survey	MSS + CF	-	-	-

Table 45. Set by set details of the fall 2023 CCGS Teleost (TEL) trip 246, where “MSS” represents multispecies survey and “CF” represents comparative fishing.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	TEL	246	1	unsuccessful	MSS + CF	-	-	-
2023	FALL	TEL	246	2	paired	MSS + CF	telcab_29_2023_fall	side by side	starboard
2023	FALL	TEL	246	3	paired	MSS + CF	telcab_30_2023_fall	side by side	starboard
2023	FALL	TEL	246	4	paired	MSS + CF	telcab_31_2023_fall	single file	behind
2023	FALL	TEL	246	5	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	6	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	7	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	8	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	9	unsuccessful	MSS + CF	-	-	-
2023	FALL	TEL	246	10	unsuccessful	MSS + CF	-	-	-
2023	FALL	TEL	246	11	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	12	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	13	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	14	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	15	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	16	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	17	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	18	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	19	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	20	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	21	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	22	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	23	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	24	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	25	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	26	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	27	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	28	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	29	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	30	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	31	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	32	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	33	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	34	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	35	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	36	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	37	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	38	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	39	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	40	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	41	unsuccessful	MSS + CF	-	-	-
2023	FALL	TEL	246	42	unsuccessful	MSS + CF	-	-	-
2023	FALL	TEL	246	43	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	44	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	45	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	46	survey	MSS + CF	-	-	-

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	TEL	246	47	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	48	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	49	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	50	unsuccessful	MSS + CF	-	-	-
2023	FALL	TEL	246	51	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	52	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	53	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	54	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	55	survey	MSS + CF	-	-	-
2023	FALL	TEL	246	56	survey	MSS + CF	-	-	-

Table 46. Set by set details of the fall 2023 CCGS Teleost (TEL) trip 247. All sets were completed under the multi-species survey (MSS) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	TEL	247	1	survey	MSS	-	-	-
2023	FALL	TEL	247	2	survey	MSS	-	-	-
2023	FALL	TEL	247	3	survey	MSS	-	-	-
2023	FALL	TEL	247	4	survey	MSS	-	-	-
2023	FALL	TEL	247	5	survey	MSS	-	-	-
2023	FALL	TEL	247	6	survey	MSS	-	-	-
2023	FALL	TEL	247	7	survey	MSS	-	-	-
2023	FALL	TEL	247	8	survey	MSS	-	-	-
2023	FALL	TEL	247	9	unsuccessful	MSS	-	-	-
2023	FALL	TEL	247	10	survey	MSS	-	-	-
2023	FALL	TEL	247	11	survey	MSS	-	-	-
2023	FALL	TEL	247	12	survey	MSS	-	-	-
2023	FALL	TEL	247	13	survey	MSS	-	-	-
2023	FALL	TEL	247	14	survey	MSS	-	-	-
2023	FALL	TEL	247	15	survey	MSS	-	-	-
2023	FALL	TEL	247	16	survey	MSS	-	-	-
2023	FALL	TEL	247	17	survey	MSS	-	-	-
2023	FALL	TEL	247	18	survey	MSS	-	-	-
2023	FALL	TEL	247	19	survey	MSS	-	-	-
2023	FALL	TEL	247	20	survey	MSS	-	-	-
2023	FALL	TEL	247	21	survey	MSS	-	-	-

Table 47. Set by set details of the fall 2023 CCGS Teleost (TEL) trip 248, where “MSS” represents multispecies survey and “CF” represents comparative fishing.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	TEL	248	1	survey	MSS + CF	-	-	-
2023	FALL	TEL	248	2	survey	MSS + CF	-	-	-
2023	FALL	TEL	248	3	survey	MSS + CF	-	-	-
2023	FALL	TEL	248	4	paired	MSS + CF	telcab_32_2023_fall	side by side	port
2023	FALL	TEL	248	5	paired	MSS + CF	telcab_33_2023_fall	single file	front
2023	FALL	TEL	248	6	paired	MSS + CF	telcab_34_2023_fall	single file	front
2023	FALL	TEL	248	7	paired	MSS + CF	telcab_35_2023_fall	side by side	starboard
2023	FALL	TEL	248	8	paired	MSS + CF	telcab_36_2023_fall	single file	front
2023	FALL	TEL	248	9	paired	MSS + CF	telcab_37_2023_fall	side by side	starboard
2023	FALL	TEL	248	10	paired	MSS + CF	telcab_38_2023_fall	side by side	starboard
2023	FALL	TEL	248	11	survey	MSS + CF	-	-	-
2023	FALL	TEL	248	12	paired	MSS + CF	telcab_39_2023_fall	single file	front
2023	FALL	TEL	248	13	paired	MSS + CF	telcab_40_2023_fall	one then the other	first
2023	FALL	TEL	248	14	paired	MSS + CF	telcab_41_2023_fall	side by side	starboard
2023	FALL	TEL	248	15	unsuccessful	MSS + CF	-	-	-
2023	FALL	TEL	248	16	paired	MSS + CF	telcab_42_2023_fall	side by side	starboard
2023	FALL	TEL	248	17	paired	MSS + CF	telcab_43_2023_fall	side by side	port
2023	FALL	TEL	248	18	paired	MSS + CF	telcab_44_2023_fall	side by side	starboard
2023	FALL	TEL	248	19	paired	MSS + CF	telcab_45_2023_fall	side by side	port
2023	FALL	TEL	248	20	survey	MSS + CF	-	-	-
2023	FALL	TEL	248	21	survey	MSS + CF	-	-	-
2023	FALL	TEL	248	22	survey	MSS + CF	-	-	-
2023	FALL	TEL	248	23	survey	MSS + CF	-	-	-
2023	FALL	TEL	248	24	survey	MSS + CF	-	-	-
2023	FALL	TEL	248	25	survey	MSS + CF	-	-	-

Table 48. Set by set details of the fall 2023 CCGS Teleost (TEL) trip 249, where “MSS” represents multispecies survey and “CF” represents comparative fishing.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	TEL	249	1	unsuccessful	MSS + CF	-	-	-
2023	FALL	TEL	249	2	survey	MSS + CF	-	-	-
2023	FALL	TEL	249	3	unpaired	MSS + CF	-	-	-
2023	FALL	TEL	249	4	paired	MSS + CF	telcab_46_2023_fall	single file	behind
2023	FALL	TEL	249	5	survey	MSS + CF	-	-	-
2023	FALL	TEL	249	6	paired	MSS + CF	telcab_47_2023_fall	side by side	port
2023	FALL	TEL	249	7	paired	MSS + CF	telcab_48_2023_fall	side by side	starboard
2023	FALL	TEL	249	8	paired	MSS + CF	telcab_49_2023_fall	side by side	port
2023	FALL	TEL	249	9	paired	MSS + CF	telcab_50_2023_fall	single file	behind
2023	FALL	TEL	249	10	paired	MSS + CF	telcab_51_2023_fall	side by side	port
2023	FALL	TEL	249	11	paired	MSS + CF	telcab_52_2023_fall	single file	behind
2023	FALL	TEL	249	12	paired	MSS + CF	telcab_53_2023_fall	side by side	port
2023	FALL	TEL	249	13	paired	MSS + CF	telcab_54_2023_fall	side by side	starboard
2023	FALL	TEL	249	14	paired	MSS + CF	telcab_55_2023_fall	side by side	port
2023	FALL	TEL	249	15	paired	MSS + CF	telcab_56_2023_fall	side by side	starboard
2023	FALL	TEL	249	16	paired	MSS + CF	telcab_57_2023_fall	side by side	port
2023	FALL	TEL	249	17	paired	MSS + CF	telcab_58_2023_fall	side by side	starboard
2023	FALL	TEL	249	18	paired	MSS + CF	telcab_59_2023_fall	side by side	port
2023	FALL	TEL	249	19	paired	MSS + CF	telcab_60_2023_fall	side by side	starboard
2023	FALL	TEL	249	20	paired	MSS + CF	telcab_61_2023_fall	side by side	port
2023	FALL	TEL	249	21	paired	MSS + CF	telcab_62_2023_fall	side by side	starboard
2023	FALL	TEL	249	22	paired	MSS + CF	telcab_63_2023_fall	side by side	port
2023	FALL	TEL	249	23	paired	MSS + CF	telcab_64_2023_fall	side by side	starboard

Table 49. Set by set details of the fall 2023 CCGS Capt Jacques Cartier (CAR) trip 33. All sets were completed under the multi-species survey (MSS) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	CAR	33	1	survey	MSS	-	-	-
2023	FALL	CAR	33	2	survey	MSS	-	-	-
2023	FALL	CAR	33	3	survey	MSS	-	-	-
2023	FALL	CAR	33	4	survey	MSS	-	-	-
2023	FALL	CAR	33	5	survey	MSS	-	-	-
2023	FALL	CAR	33	6	survey	MSS	-	-	-
2023	FALL	CAR	33	7	survey	MSS	-	-	-
2023	FALL	CAR	33	8	survey	MSS	-	-	-
2023	FALL	CAR	33	9	survey	MSS	-	-	-
2023	FALL	CAR	33	10	survey	MSS	-	-	-
2023	FALL	CAR	33	11	survey	MSS	-	-	-
2023	FALL	CAR	33	12	survey	MSS	-	-	-
2023	FALL	CAR	33	13	survey	MSS	-	-	-
2023	FALL	CAR	33	14	survey	MSS	-	-	-
2023	FALL	CAR	33	15	survey	MSS	-	-	-
2023	FALL	CAR	33	16	survey	MSS	-	-	-
2023	FALL	CAR	33	17	survey	MSS	-	-	-
2023	FALL	CAR	33	18	unsuccessful	MSS	-	-	-
2023	FALL	CAR	33	19	survey	MSS	-	-	-
2023	FALL	CAR	33	20	survey	MSS	-	-	-
2023	FALL	CAR	33	21	unsuccessful	MSS	-	-	-
2023	FALL	CAR	33	22	survey	MSS	-	-	-
2023	FALL	CAR	33	23	survey	MSS	-	-	-
2023	FALL	CAR	33	24	survey	MSS	-	-	-
2023	FALL	CAR	33	25	survey	MSS	-	-	-
2023	FALL	CAR	33	26	survey	MSS	-	-	-
2023	FALL	CAR	33	27	survey	MSS	-	-	-
2023	FALL	CAR	33	28	survey	MSS	-	-	-
2023	FALL	CAR	33	29	survey	MSS	-	-	-
2023	FALL	CAR	33	30	survey	MSS	-	-	-
2023	FALL	CAR	33	31	survey	MSS	-	-	-
2023	FALL	CAR	33	32	survey	MSS	-	-	-
2023	FALL	CAR	33	33	survey	MSS	-	-	-
2023	FALL	CAR	33	34	survey	MSS	-	-	-
2023	FALL	CAR	33	35	survey	MSS	-	-	-
2023	FALL	CAR	33	36	survey	MSS	-	-	-
2023	FALL	CAR	33	37	survey	MSS	-	-	-
2023	FALL	CAR	33	38	survey	MSS	-	-	-
2023	FALL	CAR	33	39	survey	MSS	-	-	-
2023	FALL	CAR	33	40	survey	MSS	-	-	-
2023	FALL	CAR	33	41	survey	MSS	-	-	-
2023	FALL	CAR	33	42	survey	MSS	-	-	-
2023	FALL	CAR	33	43	survey	MSS	-	-	-
2023	FALL	CAR	33	44	survey	MSS	-	-	-
2023	FALL	CAR	33	45	survey	MSS	-	-	-
2023	FALL	CAR	33	46	survey	MSS	-	-	-

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	CAR	33	47	survey	MSS	-	-	-
2023	FALL	CAR	33	48	survey	MSS	-	-	-
2023	FALL	CAR	33	49	survey	MSS	-	-	-
2023	FALL	CAR	33	50	survey	MSS	-	-	-
2023	FALL	CAR	33	51	survey	MSS	-	-	-
2023	FALL	CAR	33	52	survey	MSS	-	-	-

Table 50. Set by set details of the fall 2023 CCGS Capt Jacques Cartier (CAR) trip 34. All sets were completed under the multi-species survey (MSS) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	CAR	34	1	unsuccessful	MSS	-	-	-
2023	FALL	CAR	34	2	survey	MSS	-	-	-
2023	FALL	CAR	34	3	survey	MSS	-	-	-
2023	FALL	CAR	34	4	survey	MSS	-	-	-
2023	FALL	CAR	34	5	survey	MSS	-	-	-
2023	FALL	CAR	34	6	survey	MSS	-	-	-
2023	FALL	CAR	34	7	survey	MSS	-	-	-
2023	FALL	CAR	34	8	survey	MSS	-	-	-
2023	FALL	CAR	34	9	survey	MSS	-	-	-
2023	FALL	CAR	34	10	survey	MSS	-	-	-
2023	FALL	CAR	34	11	survey	MSS	-	-	-
2023	FALL	CAR	34	12	survey	MSS	-	-	-
2023	FALL	CAR	34	13	survey	MSS	-	-	-
2023	FALL	CAR	34	14	survey	MSS	-	-	-
2023	FALL	CAR	34	15	survey	MSS	-	-	-
2023	FALL	CAR	34	16	survey	MSS	-	-	-
2023	FALL	CAR	34	17	survey	MSS	-	-	-
2023	FALL	CAR	34	18	survey	MSS	-	-	-
2023	FALL	CAR	34	19	survey	MSS	-	-	-
2023	FALL	CAR	34	20	survey	MSS	-	-	-
2023	FALL	CAR	34	21	survey	MSS	-	-	-
2023	FALL	CAR	34	22	survey	MSS	-	-	-
2023	FALL	CAR	34	23	survey	MSS	-	-	-
2023	FALL	CAR	34	24	survey	MSS	-	-	-
2023	FALL	CAR	34	25	survey	MSS	-	-	-
2023	FALL	CAR	34	26	survey	MSS	-	-	-
2023	FALL	CAR	34	27	survey	MSS	-	-	-
2023	FALL	CAR	34	28	survey	MSS	-	-	-
2023	FALL	CAR	34	29	survey	MSS	-	-	-
2023	FALL	CAR	34	30	survey	MSS	-	-	-
2023	FALL	CAR	34	31	survey	MSS	-	-	-
2023	FALL	CAR	34	32	survey	MSS	-	-	-
2023	FALL	CAR	34	33	survey	MSS	-	-	-
2023	FALL	CAR	34	34	survey	MSS	-	-	-
2023	FALL	CAR	34	35	survey	MSS	-	-	-
2023	FALL	CAR	34	36	survey	MSS	-	-	-
2023	FALL	CAR	34	37	survey	MSS	-	-	-
2023	FALL	CAR	34	38	survey	MSS	-	-	-
2023	FALL	CAR	34	39	survey	MSS	-	-	-
2023	FALL	CAR	34	40	survey	MSS	-	-	-
2023	FALL	CAR	34	41	survey	MSS	-	-	-
2023	FALL	CAR	34	42	survey	MSS	-	-	-
2023	FALL	CAR	34	43	survey	MSS	-	-	-
2023	FALL	CAR	34	44	survey	MSS	-	-	-
2023	FALL	CAR	34	45	survey	MSS	-	-	-
2023	FALL	CAR	34	46	survey	MSS	-	-	-

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	CAR	34	47	survey	MSS	-	-	-
2023	FALL	CAR	34	48	survey	MSS	-	-	-
2023	FALL	CAR	34	49	survey	MSS	-	-	-
2023	FALL	CAR	34	50	survey	MSS	-	-	-
2023	FALL	CAR	34	51	survey	MSS	-	-	-
2023	FALL	CAR	34	52	survey	MSS	-	-	-
2023	FALL	CAR	34	53	survey	MSS	-	-	-
2023	FALL	CAR	34	54	survey	MSS	-	-	-
2023	FALL	CAR	34	55	survey	MSS	-	-	-
2023	FALL	CAR	34	56	survey	MSS	-	-	-

Table 51. Set by set details of the fall 2023 Capt Jacques Cartier (CAR) trip 35. All sets were completed under the multi-species survey (MSS) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	CAR	35	1	survey	MSS	-	-	-
2023	FALL	CAR	35	2	survey	MSS	-	-	-
2023	FALL	CAR	35	3	survey	MSS	-	-	-
2023	FALL	CAR	35	4	unsuccessful	MSS	-	-	-
2023	FALL	CAR	35	5	survey	MSS	-	-	-
2023	FALL	CAR	35	6	survey	MSS	-	-	-
2023	FALL	CAR	35	7	survey	MSS	-	-	-
2023	FALL	CAR	35	8	survey	MSS	-	-	-
2023	FALL	CAR	35	9	survey	MSS	-	-	-
2023	FALL	CAR	35	10	survey	MSS	-	-	-
2023	FALL	CAR	35	11	survey	MSS	-	-	-
2023	FALL	CAR	35	12	survey	MSS	-	-	-
2023	FALL	CAR	35	13	survey	MSS	-	-	-
2023	FALL	CAR	35	14	survey	MSS	-	-	-
2023	FALL	CAR	35	15	survey	MSS	-	-	-
2023	FALL	CAR	35	16	survey	MSS	-	-	-
2023	FALL	CAR	35	17	survey	MSS	-	-	-
2023	FALL	CAR	35	18	survey	MSS	-	-	-
2023	FALL	CAR	35	19	survey	MSS	-	-	-
2023	FALL	CAR	35	20	survey	MSS	-	-	-
2023	FALL	CAR	35	21	survey	MSS	-	-	-
2023	FALL	CAR	35	22	survey	MSS	-	-	-
2023	FALL	CAR	35	23	survey	MSS	-	-	-
2023	FALL	CAR	35	24	survey	MSS	-	-	-
2023	FALL	CAR	35	25	survey	MSS	-	-	-
2023	FALL	CAR	35	26	survey	MSS	-	-	-
2023	FALL	CAR	35	27	survey	MSS	-	-	-
2023	FALL	CAR	35	28	survey	MSS	-	-	-
2023	FALL	CAR	35	29	survey	MSS	-	-	-
2023	FALL	CAR	35	30	survey	MSS	-	-	-
2023	FALL	CAR	35	31	survey	MSS	-	-	-
2023	FALL	CAR	35	32	survey	MSS	-	-	-
2023	FALL	CAR	35	33	survey	MSS	-	-	-
2023	FALL	CAR	35	34	survey	MSS	-	-	-
2023	FALL	CAR	35	35	survey	MSS	-	-	-

Table 52. Set by set details of the fall 2023 CCGS Capt Jacques Cartier (CAR) trip 36. All sets were completed under the multi-species survey (MSS) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	CAR	36	1	survey	MSS	-	-	-
2023	FALL	CAR	36	2	survey	MSS	-	-	-
2023	FALL	CAR	36	3	survey	MSS	-	-	-
2023	FALL	CAR	36	4	survey	MSS	-	-	-
2023	FALL	CAR	36	5	survey	MSS	-	-	-
2023	FALL	CAR	36	6	survey	MSS	-	-	-
2023	FALL	CAR	36	7	survey	MSS	-	-	-
2023	FALL	CAR	36	8	survey	MSS	-	-	-
2023	FALL	CAR	36	9	survey	MSS	-	-	-
2023	FALL	CAR	36	10	survey	MSS	-	-	-
2023	FALL	CAR	36	11	survey	MSS	-	-	-
2023	FALL	CAR	36	12	survey	MSS	-	-	-
2023	FALL	CAR	36	13	survey	MSS	-	-	-
2023	FALL	CAR	36	14	survey	MSS	-	-	-
2023	FALL	CAR	36	15	survey	MSS	-	-	-
2023	FALL	CAR	36	16	survey	MSS	-	-	-
2023	FALL	CAR	36	17	unsuccessful	MSS	-	-	-
2023	FALL	CAR	36	18	unsuccessful	MSS	-	-	-
2023	FALL	CAR	36	19	survey	MSS	-	-	-
2023	FALL	CAR	36	20	survey	MSS	-	-	-
2023	FALL	CAR	36	21	survey	MSS	-	-	-
2023	FALL	CAR	36	22	survey	MSS	-	-	-
2023	FALL	CAR	36	23	survey	MSS	-	-	-
2023	FALL	CAR	36	24	survey	MSS	-	-	-
2023	FALL	CAR	36	25	survey	MSS	-	-	-
2023	FALL	CAR	36	26	survey	MSS	-	-	-
2023	FALL	CAR	36	27	survey	MSS	-	-	-
2023	FALL	CAR	36	28	survey	MSS	-	-	-
2023	FALL	CAR	36	29	survey	MSS	-	-	-
2023	FALL	CAR	36	30	survey	MSS	-	-	-

Table 53. Set by set details of the fall 2023 CCGS John Cabot (CAB) trip 42. All sets were completed under the multi-species survey (MSS) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	CAB	42	1	survey	MSS	-	-	-
2023	FALL	CAB	42	2	survey	MSS	-	-	-
2023	FALL	CAB	42	3	survey	MSS	-	-	-
2023	FALL	CAB	42	4	survey	MSS	-	-	-
2023	FALL	CAB	42	5	survey	MSS	-	-	-
2023	FALL	CAB	42	6	survey	MSS	-	-	-
2023	FALL	CAB	42	7	unsuccessful	MSS	-	-	-
2023	FALL	CAB	42	8	unsuccessful	MSS	-	-	-
2023	FALL	CAB	42	9	survey	MSS	-	-	-
2023	FALL	CAB	42	10	unsuccessful	MSS	-	-	-
2023	FALL	CAB	42	11	survey	MSS	-	-	-
2023	FALL	CAB	42	12	survey	MSS	-	-	-
2023	FALL	CAB	42	13	survey	MSS	-	-	-
2023	FALL	CAB	42	14	unsuccessful	MSS	-	-	-
2023	FALL	CAB	42	15	survey	MSS	-	-	-
2023	FALL	CAB	42	16	survey	MSS	-	-	-
2023	FALL	CAB	42	17	survey	MSS	-	-	-
2023	FALL	CAB	42	18	survey	MSS	-	-	-
2023	FALL	CAB	42	19	survey	MSS	-	-	-
2023	FALL	CAB	42	20	survey	MSS	-	-	-
2023	FALL	CAB	42	21	survey	MSS	-	-	-
2023	FALL	CAB	42	22	survey	MSS	-	-	-
2023	FALL	CAB	42	23	survey	MSS	-	-	-
2023	FALL	CAB	42	24	survey	MSS	-	-	-
2023	FALL	CAB	42	25	survey	MSS	-	-	-
2023	FALL	CAB	42	26	survey	MSS	-	-	-
2023	FALL	CAB	42	27	survey	MSS	-	-	-
2023	FALL	CAB	42	28	survey	MSS	-	-	-
2023	FALL	CAB	42	29	survey	MSS	-	-	-
2023	FALL	CAB	42	30	survey	MSS	-	-	-
2023	FALL	CAB	42	31	survey	MSS	-	-	-
2023	FALL	CAB	42	32	survey	MSS	-	-	-
2023	FALL	CAB	42	33	survey	MSS	-	-	-
2023	FALL	CAB	42	34	survey	MSS	-	-	-
2023	FALL	CAB	42	35	unsuccessful	MSS	-	-	-
2023	FALL	CAB	42	36	survey	MSS	-	-	-
2023	FALL	CAB	42	37	survey	MSS	-	-	-
2023	FALL	CAB	42	38	survey	MSS	-	-	-
2023	FALL	CAB	42	39	survey	MSS	-	-	-
2023	FALL	CAB	42	40	survey	MSS	-	-	-
2023	FALL	CAB	42	41	survey	MSS	-	-	-
2023	FALL	CAB	42	42	survey	MSS	-	-	-
2023	FALL	CAB	42	43	survey	MSS	-	-	-
2023	FALL	CAB	42	44	unsuccessful	MSS	-	-	-
2023	FALL	CAB	42	45	survey	MSS	-	-	-
2023	FALL	CAB	42	46	unsuccessful	MSS	-	-	-

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	CAB	42	47	survey	MSS	-	-	-
2023	FALL	CAB	42	48	survey	MSS	-	-	-
2023	FALL	CAB	42	49	survey	MSS	-	-	-
2023	FALL	CAB	42	50	survey	MSS	-	-	-
2023	FALL	CAB	42	51	unsuccessful	MSS	-	-	-
2023	FALL	CAB	42	52	survey	MSS	-	-	-
2023	FALL	CAB	42	53	survey	MSS	-	-	-
2023	FALL	CAB	42	54	survey	MSS	-	-	-
2023	FALL	CAB	42	55	survey	MSS	-	-	-
2023	FALL	CAB	42	56	survey	MSS	-	-	-
2023	FALL	CAB	42	57	survey	MSS	-	-	-
2023	FALL	CAB	42	58	survey	MSS	-	-	-
2023	FALL	CAB	42	59	survey	MSS	-	-	-
2023	FALL	CAB	42	60	survey	MSS	-	-	-
2023	FALL	CAB	42	61	survey	MSS	-	-	-
2023	FALL	CAB	42	62	unsuccessful	MSS	-	-	-
2023	FALL	CAB	42	63	survey	MSS	-	-	-
2023	FALL	CAB	42	64	survey	MSS	-	-	-
2023	FALL	CAB	42	65	survey	MSS	-	-	-
2023	FALL	CAB	42	66	survey	MSS	-	-	-
2023	FALL	CAB	42	67	survey	MSS	-	-	-
2023	FALL	CAB	42	68	survey	MSS	-	-	-

Table 54. Set by set details of the fall 2023 CCGS John Cabot (CAB) trip 43, where “MSS” represents multispecies survey and “CF” represents comparative fishing.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	CAB	43	1	unsuccessful	MSS + CF	-	-	-
2023	FALL	CAB	43	2	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	3	paired	MSS + CF	telcab_1_2023_fall	one then the other	first
2023	FALL	CAB	43	4	paired	MSS + CF	telcab_2_2023_fall	single file	front
2023	FALL	CAB	43	5	paired	MSS + CF	telcab_3_2023_fall	side by side	port
2023	FALL	CAB	43	6	paired	MSS + CF	telcab_4_2023_fall	one then the other	second
2023	FALL	CAB	43	7	paired	MSS + CF	telcab_5_2023_fall	single file	front
2023	FALL	CAB	43	8	paired	MSS + CF	telcab_6_2023_fall	side by side	starboard
2023	FALL	CAB	43	9	unsuccessful	MSS + CF	-	-	-
2023	FALL	CAB	43	10	paired	MSS + CF	telcab_7_2023_fall	side by side	port
2023	FALL	CAB	43	11	paired	MSS + CF	telcab_8_2023_fall	side by side	starboard
2023	FALL	CAB	43	12	paired	MSS + CF	telcab_9_2023_fall	one then the other	first
2023	FALL	CAB	43	13	paired	MSS + CF	telcab_10_2023_fall	side by side	starboard
2023	FALL	CAB	43	14	paired	MSS + CF	telcab_11_2023_fall	side by side	port
2023	FALL	CAB	43	15	paired	MSS + CF	telcab_12_2023_fall	side by side	starboard
2023	FALL	CAB	43	16	paired	MSS + CF	telcab_13_2023_fall	side by side	port
2023	FALL	CAB	43	17	no set	MSS + CF	-	-	-
2023	FALL	CAB	43	18	paired	MSS + CF	telcab_14_2023_fall	single file	front
2023	FALL	CAB	43	19	paired	MSS + CF	telcab_15_2023_fall	side by side	starboard
2023	FALL	CAB	43	20	paired	MSS + CF	telcab_16_2023_fall	side by side	port
2023	FALL	CAB	43	21	paired	MSS + CF	telcab_17_2023_fall	side by side	starboard
2023	FALL	CAB	43	22	paired	MSS + CF	telcab_18_2023_fall	side by side	port
2023	FALL	CAB	43	23	paired	MSS + CF	telcab_19_2023_fall	side by side	starboard
2023	FALL	CAB	43	24	paired	MSS + CF	telcab_20_2023_fall	single file	front
2023	FALL	CAB	43	25	paired	MSS + CF	telcab_21_2023_fall	side by side	starboard
2023	FALL	CAB	43	26	paired	MSS + CF	telcab_22_2023_fall	single file	front
2023	FALL	CAB	43	27	paired	MSS + CF	telcab_23_2023_fall	single file	front
2023	FALL	CAB	43	28	paired	MSS + CF	telcab_24_2023_fall	side by side	port
2023	FALL	CAB	43	29	paired	MSS + CF	telcab_25_2023_fall	side by side	starboard
2023	FALL	CAB	43	30	paired	MSS + CF	telcab_26_2023_fall	one then the other	first
2023	FALL	CAB	43	31	paired	MSS + CF	telcab_27_2023_fall	side by side	starboard
2023	FALL	CAB	43	32	paired	MSS + CF	telcab_28_2023_fall	single file	front
2023	FALL	CAB	43	33	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	34	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	35	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	36	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	37	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	38	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	39	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	40	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	41	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	42	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	43	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	44	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	45	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	46	unsuccessful	MSS + CF	-	-	-

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	CAB	43	47	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	48	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	49	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	50	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	51	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	52	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	53	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	54	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	55	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	56	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	57	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	58	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	59	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	60	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	61	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	62	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	63	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	64	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	65	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	66	survey	MSS + CF	-	-	-
2023	FALL	CAB	43	67	survey	MSS + CF	-	-	-

Table 55. Set by set details of the fall 2023 CCGS John Cabot (CAB) trip 4, where “MSS” represents multispecies survey and “CF” represents comparative fishing.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	CAB	44	1	unsuccessful	MSS + CF	-	-	-
2023	FALL	CAB	44	2	paired	MSS + CF	telcab_29_2023_fall	side by side	port
2023	FALL	CAB	44	3	paired	MSS + CF	telcab_30_2023_fall	side by side	port
2023	FALL	CAB	44	4	paired	MSS + CF	telcab_31_2023_fall	single file	front
2023	FALL	CAB	44	5	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	6	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	7	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	8	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	9	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	10	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	11	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	12	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	13	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	14	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	15	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	16	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	17	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	18	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	19	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	20	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	21	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	22	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	23	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	24	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	25	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	26	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	27	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	28	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	29	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	30	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	31	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	32	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	33	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	34	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	35	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	36	survey	MSS + CF	-	-	-
2023	FALL	CAB	44	37	survey	MSS + CF	-	-	-

Table 56. Set by set details of the fall 2023 CCGS John Cabot (CAB) trip 45. All sets were completed under the multi-species survey (MSS) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	CAB	45	1	survey	MSS	-	-	-
2023	FALL	CAB	45	2	survey	MSS	-	-	-
2023	FALL	CAB	45	3	survey	MSS	-	-	-
2023	FALL	CAB	45	4	survey	MSS	-	-	-
2023	FALL	CAB	45	5	survey	MSS	-	-	-
2023	FALL	CAB	45	6	survey	MSS	-	-	-
2023	FALL	CAB	45	7	survey	MSS	-	-	-
2023	FALL	CAB	45	8	survey	MSS	-	-	-
2023	FALL	CAB	45	9	survey	MSS	-	-	-
2023	FALL	CAB	45	10	survey	MSS	-	-	-
2023	FALL	CAB	45	11	survey	MSS	-	-	-
2023	FALL	CAB	45	12	survey	MSS	-	-	-
2023	FALL	CAB	45	13	survey	MSS	-	-	-
2023	FALL	CAB	45	14	survey	MSS	-	-	-
2023	FALL	CAB	45	15	survey	MSS	-	-	-
2023	FALL	CAB	45	16	survey	MSS	-	-	-
2023	FALL	CAB	45	17	survey	MSS	-	-	-
2023	FALL	CAB	45	18	survey	MSS	-	-	-
2023	FALL	CAB	45	19	survey	MSS	-	-	-
2023	FALL	CAB	45	20	survey	MSS	-	-	-
2023	FALL	CAB	45	21	unsuccessful	MSS	-	-	-
2023	FALL	CAB	45	22	survey	MSS	-	-	-
2023	FALL	CAB	45	23	survey	MSS	-	-	-
2023	FALL	CAB	45	24	survey	MSS	-	-	-
2023	FALL	CAB	45	25	survey	MSS	-	-	-
2023	FALL	CAB	45	26	survey	MSS	-	-	-
2023	FALL	CAB	45	27	survey	MSS	-	-	-
2023	FALL	CAB	45	28	survey	MSS	-	-	-
2023	FALL	CAB	45	29	survey	MSS	-	-	-
2023	FALL	CAB	45	30	survey	MSS	-	-	-
2023	FALL	CAB	45	31	survey	MSS	-	-	-
2023	FALL	CAB	45	32	survey	MSS	-	-	-
2023	FALL	CAB	45	33	unsuccessful	MSS	-	-	-
2023	FALL	CAB	45	34	survey	MSS	-	-	-
2023	FALL	CAB	45	35	unsuccessful	MSS	-	-	-

Table 57. Set by set details of the fall 2023 CCGS John Cabot (CAB) trip 46, where “MSS” represents multispecies survey and “CF” represents comparative fishing.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	CAB	46	1	no set	MSS + CF	-	-	-
2023	FALL	CAB	46	2	no set	MSS + CF	-	-	-
2023	FALL	CAB	46	3	no set	MSS + CF	-	-	-
2023	FALL	CAB	46	4	paired	MSS + CF	telcab_32_2023_fall	side by side	starboard
2023	FALL	CAB	46	5	paired	MSS + CF	telcab_33_2023_fall	single file	behind
2023	FALL	CAB	46	6	paired	MSS + CF	telcab_34_2023_fall	single file	behind
2023	FALL	CAB	46	7	paired	MSS + CF	telcab_35_2023_fall	side by side	port
2023	FALL	CAB	46	8	paired	MSS + CF	telcab_36_2023_fall	single file	behind
2023	FALL	CAB	46	9	paired	MSS + CF	telcab_37_2023_fall	side by side	port
2023	FALL	CAB	46	10	paired	MSS + CF	telcab_38_2023_fall	side by side	port
2023	FALL	CAB	46	11	survey	MSS + CF	-	-	-
2023	FALL	CAB	46	12	paired	MSS + CF	telcab_39_2023_fall	single file	behind
2023	FALL	CAB	46	13	paired	MSS + CF	telcab_40_2023_fall	one then the other	second
2023	FALL	CAB	46	14	paired	MSS + CF	telcab_41_2023_fall	side by side	port
2023	FALL	CAB	46	15	survey	MSS + CF	-	-	-
2023	FALL	CAB	46	16	paired	MSS + CF	telcab_42_2023_fall	side by side	port
2023	FALL	CAB	46	17	paired	MSS + CF	telcab_43_2023_fall	side by side	starboard
2023	FALL	CAB	46	18	paired	MSS + CF	telcab_44_2023_fall	side by side	port
2023	FALL	CAB	46	19	paired	MSS + CF	telcab_45_2023_fall	side by side	starboard
2023	FALL	CAB	46	20	unsuccessful	MSS + CF	-	-	-
2023	FALL	CAB	46	21	survey	MSS + CF	-	-	-
2023	FALL	CAB	46	22	survey	MSS + CF	-	-	-
2023	FALL	CAB	46	23	survey	MSS + CF	-	-	-
2023	FALL	CAB	46	24	survey	MSS + CF	-	-	-

Table 58. Set by set details of the fall 2023 CCGS John Cabot (CAB) trip 47, where “MSS” represents multispecies survey and “CF” represents comparative fishing.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	FALL	CAB	47	1	survey	MSS + CF	-	-	-
2023	FALL	CAB	47	2	no set	MSS + CF	-	-	-
2023	FALL	CAB	47	3	unsuccessful	MSS + CF	-	-	-
2023	FALL	CAB	47	4	paired	MSS + CF	telcab_46_2023_fall	single file	front
2023	FALL	CAB	47	5	no set	MSS + CF	-	-	-
2023	FALL	CAB	47	6	paired	MSS + CF	telcab_47_2023_fall	side by side	starboard
2023	FALL	CAB	47	7	paired	MSS + CF	telcab_48_2023_fall	side by side	port
2023	FALL	CAB	47	8	paired	MSS + CF	telcab_49_2023_fall	side by side	starboard
2023	FALL	CAB	47	9	paired	MSS + CF	telcab_50_2023_fall	single file	front
2023	FALL	CAB	47	10	paired	MSS + CF	telcab_51_2023_fall	side by side	starboard
2023	FALL	CAB	47	11	paired	MSS + CF	telcab_52_2023_fall	single file	front
2023	FALL	CAB	47	12	paired	MSS + CF	telcab_53_2023_fall	side by side	starboard
2023	FALL	CAB	47	13	paired	MSS + CF	telcab_54_2023_fall	side by side	port
2023	FALL	CAB	47	14	paired	MSS + CF	telcab_55_2023_fall	side by side	starboard
2023	FALL	CAB	47	15	paired	MSS + CF	telcab_56_2023_fall	side by side	port
2023	FALL	CAB	47	16	paired	MSS + CF	telcab_57_2023_fall	side by side	starboard
2023	FALL	CAB	47	17	paired	MSS + CF	telcab_58_2023_fall	side by side	port
2023	FALL	CAB	47	18	paired	MSS + CF	telcab_59_2023_fall	side by side	starboard
2023	FALL	CAB	47	19	paired	MSS + CF	telcab_60_2023_fall	side by side	port
2023	FALL	CAB	47	20	paired	MSS + CF	telcab_61_2023_fall	side by side	starboard
2023	FALL	CAB	47	21	paired	MSS + CF	telcab_62_2023_fall	side by side	port
2023	FALL	CAB	47	22	paired	MSS + CF	telcab_63_2023_fall	side by side	starboard
2023	FALL	CAB	47	23	paired	MSS + CF	telcab_64_2023_fall	side by side	port

Table 59. Set by set details of the spring 2023 CCGS Teleost (TEL) trip 239, where “MSS” represents multispecies survey and “CF” represents comparative fishing.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	SPRING	TEL	239	1	unsuccessful	MSS + CF	-	-	-
2023	SPRING	TEL	239	2	paired	MSS + CF	telcab_1_2023_spring	side by side	port
2023	SPRING	TEL	239	3	paired	MSS + CF	telcab_2_2023_spring	one then the other	second
2023	SPRING	TEL	239	4	paired	MSS + CF	telcab_3_2023_spring	single file	front
2023	SPRING	TEL	239	5	paired	MSS + CF	telcab_4_2023_spring	one then the other	second
2023	SPRING	TEL	239	6	paired	MSS + CF	telcab_5_2023_spring	single file	behind
2023	SPRING	TEL	239	7	paired	MSS + CF	telcab_6_2023_spring	side by side	starboard
2023	SPRING	TEL	239	8	paired	MSS + CF	telcab_7_2023_spring	side by side	port
2023	SPRING	TEL	239	9	paired	MSS + CF	telcab_8_2023_spring	side by side	starboard
2023	SPRING	TEL	239	10	paired	MSS + CF	telcab_9_2023_spring	side by side	port
2023	SPRING	TEL	239	11	paired	MSS + CF	telcab_10_2023_spring	side by side	starboard
2023	SPRING	TEL	239	12	paired	MSS + CF	telcab_11_2023_spring	side by side	port
2023	SPRING	TEL	239	13	paired	MSS + CF	telcab_12_2023_spring	side by side	port
2023	SPRING	TEL	239	14	paired	MSS + CF	telcab_13_2023_spring	side by side	starboard
2023	SPRING	TEL	239	15	paired	MSS + CF	telcab_14_2023_spring	single file	behind
2023	SPRING	TEL	239	16	paired	MSS + CF	telcab_15_2023_spring	side by side	port
2023	SPRING	TEL	239	17	paired	MSS + CF	telcab_16_2023_spring	one then the other	first
2023	SPRING	TEL	239	18	paired	MSS + CF	telcab_17_2023_spring	one then the other	second
2023	SPRING	TEL	239	19	paired	MSS + CF	telcab_18_2023_spring	one then the other	first
2023	SPRING	TEL	239	20	paired	MSS + CF	telcab_19_2023_spring	one then the other	second
2023	SPRING	TEL	239	21	paired	MSS + CF	telcab_20_2023_spring	side by side	port
2023	SPRING	TEL	239	22	paired	MSS + CF	telcab_21_2023_spring	side by side	starboard
2023	SPRING	TEL	239	23	paired	MSS + CF	telcab_22_2023_spring	side by side	port
2023	SPRING	TEL	239	24	unsuccessful	MSS + CF	-	-	-
2023	SPRING	TEL	239	25	paired	MSS + CF	telcab_23_2023_spring	side by side	port
2023	SPRING	TEL	239	26	paired	MSS + CF	telcab_24_2023_spring	side by side	starboard
2023	SPRING	TEL	239	27	paired	MSS + CF	telcab_25_2023_spring	side by side	port
2023	SPRING	TEL	239	28	unsuccessful	MSS + CF	-	-	-
2023	SPRING	TEL	239	29	no set	MSS + CF	-	-	-
2023	SPRING	TEL	239	30	paired	MSS + CF	telcab_26_2023_spring	side by side	port
2023	SPRING	TEL	239	31	paired	MSS + CF	telcab_27_2023_spring	side by side	starboard
2023	SPRING	TEL	239	32	paired	MSS + CF	telcab_28_2023_spring	side by side	port
2023	SPRING	TEL	239	33	paired	MSS + CF	telcab_29_2023_spring	side by side	starboard
2023	SPRING	TEL	239	34	survey	MSS + CF	-	-	-
2023	SPRING	TEL	239	35	survey	MSS + CF	-	-	-
2023	SPRING	TEL	239	36	survey	MSS + CF	-	-	-
2023	SPRING	TEL	239	37	survey	MSS + CF	-	-	-
2023	SPRING	TEL	239	38	survey	MSS + CF	-	-	-
2023	SPRING	TEL	239	39	survey	MSS + CF	-	-	-
2023	SPRING	TEL	239	40	survey	MSS + CF	-	-	-
2023	SPRING	TEL	239	41	survey	MSS + CF	-	-	-
2023	SPRING	TEL	239	42	survey	MSS + CF	-	-	-
2023	SPRING	TEL	239	43	survey	MSS + CF	-	-	-
2023	SPRING	TEL	239	44	survey	MSS + CF	-	-	-
2023	SPRING	TEL	239	45	survey	MSS + CF	-	-	-
2023	SPRING	TEL	239	46	survey	MSS + CF	-	-	-

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	SPRING	TEL	239	47	survey	MSS + CF	-	-	-
2023	SPRING	TEL	239	48	survey	MSS + CF	-	-	-
2023	SPRING	TEL	239	49	survey	MSS + CF	-	-	-
2023	SPRING	TEL	239	50	survey	MSS + CF	-	-	-
2023	SPRING	TEL	239	51	paired	MSS + CF	telcab_30_2023_spring	side by side	port
2023	SPRING	TEL	239	52	paired	MSS + CF	telcab_31_2023_spring	side by side	starboard
2023	SPRING	TEL	239	53	unsuccessful	MSS + CF	-	-	-
2023	SPRING	TEL	239	54	paired	MSS + CF	telcab_32_2023_spring	single file	front
2023	SPRING	TEL	239	55	paired	MSS + CF	telcab_33_2023_spring	side by side	port
2023	SPRING	TEL	239	56	no set	MSS + CF	-	-	-
2023	SPRING	TEL	239	57	paired	MSS + CF	telcab_34_2023_spring	one then the other	first
2023	SPRING	TEL	239	58	paired	MSS + CF	telcab_35_2023_spring	single file	front
2023	SPRING	TEL	239	59	survey	MSS + CF	-	-	-

Table 60. Set by set details of the spring 2023 CCGS Teleost (TEL) trip 240, where “MSS” represents multispecies survey and “CF” represents comparative fishing.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	SPRING	TEL	240	1	unpaired	MSS + CF	-	-	-
2023	SPRING	TEL	240	2	unpaired	MSS + CF	-	-	-
2023	SPRING	TEL	240	3	unpaired	MSS + CF	-	-	-
2023	SPRING	TEL	240	4	unpaired	MSS + CF	-	-	-
2023	SPRING	TEL	240	5	no set	MSS + CF	-	-	-
2023	SPRING	TEL	240	6	paired	MSS + CF	telcab_36_2023_spring	side by side	starboard
2023	SPRING	TEL	240	7	paired	MSS + CF	telcab_37_2023_spring	side by side	port
2023	SPRING	TEL	240	8	paired	MSS + CF	telcab_38_2023_spring	side by side	starboard
2023	SPRING	TEL	240	9	paired	MSS + CF	telcab_39_2023_spring	side by side	port
2023	SPRING	TEL	240	10	unsuccessful	MSS + CF	-	-	-
2023	SPRING	TEL	240	11	paired	MSS + CF	telcab_40_2023_spring	one then the other	first
2023	SPRING	TEL	240	12	paired	MSS + CF	telcab_41_2023_spring	side by side	port
2023	SPRING	TEL	240	13	paired	MSS + CF	telcab_42_2023_spring	one then the other	second
2023	SPRING	TEL	240	14	paired	MSS + CF	telcab_43_2023_spring	one then the other	first
2023	SPRING	TEL	240	15	paired	MSS + CF	telcab_44_2023_spring	one then the other	second
2023	SPRING	TEL	240	16	paired	MSS + CF	telcab_45_2023_spring	one then the other	first
2023	SPRING	TEL	240	17	paired	MSS + CF	telcab_46_2023_spring	side by side	starboard
2023	SPRING	TEL	240	18	survey	MSS + CF	-	-	-
2023	SPRING	TEL	240	19	survey	MSS + CF	-	-	-
2023	SPRING	TEL	240	20	survey	MSS + CF	-	-	-
2023	SPRING	TEL	240	21	survey	MSS + CF	-	-	-
2023	SPRING	TEL	240	22	survey	MSS + CF	-	-	-
2023	SPRING	TEL	240	23	paired	MSS + CF	telcab_47_2023_spring	side by side	port
2023	SPRING	TEL	240	24	paired	MSS + CF	telcab_48_2023_spring	side by side	starboard
2023	SPRING	TEL	240	25	paired	MSS + CF	telcab_49_2023_spring	side by side	starboard
2023	SPRING	TEL	240	26	paired	MSS + CF	telcab_50_2023_spring	one then the other	first
2023	SPRING	TEL	240	27	paired	MSS + CF	telcab_51_2023_spring	one then the other	second
2023	SPRING	TEL	240	28	paired	MSS + CF	telcab_52_2023_spring	one then the other	first
2023	SPRING	TEL	240	29	paired	MSS + CF	telcab_53_2023_spring	one then the other	second
2023	SPRING	TEL	240	30	paired	MSS + CF	telcab_54_2023_spring	one then the other	first
2023	SPRING	TEL	240	31	paired	MSS + CF	telcab_55_2023_spring	side by side	port
2023	SPRING	TEL	240	32	paired	MSS + CF	telcab_56_2023_spring	side by side	starboard
2023	SPRING	TEL	240	33	paired	MSS + CF	telcab_57_2023_spring	one then the other	second
2023	SPRING	TEL	240	34	paired	MSS + CF	telcab_58_2023_spring	one then the other	first
2023	SPRING	TEL	240	35	paired	MSS + CF	telcab_59_2023_spring	one then the other	second
2023	SPRING	TEL	240	36	paired	MSS + CF	telcab_60_2023_spring	side by side	port
2023	SPRING	TEL	240	37	paired	MSS + CF	telcab_61_2023_spring	side by side	starboard
2023	SPRING	TEL	240	38	paired	MSS + CF	telcab_62_2023_spring	side by side	port
2023	SPRING	TEL	240	39	paired	MSS + CF	telcab_63_2023_spring	one then the other	second
2023	SPRING	TEL	240	40	paired	MSS + CF	telcab_64_2023_spring	side by side	port
2023	SPRING	TEL	240	41	paired	MSS + CF	telcab_65_2023_spring	side by side	starboard
2023	SPRING	TEL	240	42	paired	MSS + CF	telcab_66_2023_spring	side by side	port
2023	SPRING	TEL	240	43	paired	MSS + CF	telcab_67_2023_spring	one then the other	first
2023	SPRING	TEL	240	44	paired	MSS + CF	telcab_68_2023_spring	side by side	port
2023	SPRING	TEL	240	45	survey	MSS + CF	-	-	-
2023	SPRING	TEL	240	46	paired	MSS + CF	telcab_69_2023_spring	side by side	port

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	SPRING	TEL	240	47	paired	MSS + CF	telcab_70_2023_spring	side by side	starboard
2023	SPRING	TEL	240	48	paired	MSS + CF	telcab_71_2023_spring	side by side	port
2023	SPRING	TEL	240	49	paired	MSS + CF	telcab_72_2023_spring	side by side	starboard
2023	SPRING	TEL	240	50	paired	MSS + CF	telcab_73_2023_spring	side by side	port
2023	SPRING	TEL	240	51	paired	MSS + CF	telcab_74_2023_spring	side by side	starboard
2023	SPRING	TEL	240	52	paired	MSS + CF	telcab_75_2023_spring	side by side	port
2023	SPRING	TEL	240	53	paired	MSS + CF	telcab_76_2023_spring	side by side	starboard
2023	SPRING	TEL	240	54	paired	MSS + CF	telcab_77_2023_spring	side by side	port
2023	SPRING	TEL	240	55	paired	MSS + CF	telcab_78_2023_spring	one then the other	second
2023	SPRING	TEL	240	56	survey	MSS + CF	-	-	-
2023	SPRING	TEL	240	57	paired	MSS + CF	telcab_79_2023_spring	side by side	port
2023	SPRING	TEL	240	58	survey	MSS + CF	-	-	-
2023	SPRING	TEL	240	59	paired	MSS + CF	telcab_80_2023_spring	side by side	port
2023	SPRING	TEL	240	60	paired	MSS + CF	telcab_81_2023_spring	one then the other	second
2023	SPRING	TEL	240	61	paired	MSS + CF	telcab_82_2023_spring	side by side	port
2023	SPRING	TEL	240	62	paired	MSS + CF	telcab_83_2023_spring	side by side	starboard
2023	SPRING	TEL	240	63	paired	MSS + CF	telcab_84_2023_spring	side by side	port
2023	SPRING	TEL	240	64	paired	MSS + CF	telcab_85_2023_spring	one then the other	second
2023	SPRING	TEL	240	65	paired	MSS + CF	telcab_86_2023_spring	one then the other	second
2023	SPRING	TEL	240	66	paired	MSS + CF	telcab_87_2023_spring	side by side	starboard
2023	SPRING	TEL	240	67	paired	MSS + CF	telcab_88_2023_spring	side by side	port
2023	SPRING	TEL	240	68	paired	MSS + CF	telcab_89_2023_spring	side by side	starboard
2023	SPRING	TEL	240	69	paired	MSS + CF	telcab_90_2023_spring	side by side	port
2023	SPRING	TEL	240	70	paired	MSS + CF	telcab_91_2023_spring	side by side	starboard
2023	SPRING	TEL	240	71	survey	MSS + CF	-	-	-
2023	SPRING	TEL	240	72	survey	MSS + CF	-	-	-

Table 61. Set by set details of the spring 2023 CCGS Teleost (TEL) trip 241, where “MSS” represents multispecies survey and “CF” represents comparative fishing.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	SPRING	TEL	241	1	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	2	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	3	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	4	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	5	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	6	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	7	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	8	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	9	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	10	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	11	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	12	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	13	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	14	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	15	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	16	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	17	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	18	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	19	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	20	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	21	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	22	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	23	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	24	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	25	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	26	unsuccessful	MSS + CF	-	-	-
2023	SPRING	TEL	241	27	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	28	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	29	survey	MSS + CF	-	-	-
2023	SPRING	TEL	241	117	paired	MSS + CF	telcab_92_2023_spring	side by side	port
2023	SPRING	TEL	241	118	paired	MSS + CF	telcab_93_2023_spring	side by side	starboard
2023	SPRING	TEL	241	119	paired	MSS + CF	telcab_94_2023_spring	side by side	port
2023	SPRING	TEL	241	120	paired	MSS + CF	telcab_95_2023_spring	side by side	starboard
2023	SPRING	TEL	241	121	paired	MSS + CF	telcab_96_2023_spring	side by side	port
2023	SPRING	TEL	241	122	paired	MSS + CF	telcab_97_2023_spring	side by side	starboard
2023	SPRING	TEL	241	123	paired	MSS + CF	telcab_98_2023_spring	side by side	port
2023	SPRING	TEL	241	124	paired	MSS + CF	telcab_99_2023_spring	side by side	starboard
2023	SPRING	TEL	241	125	paired	MSS + CF	telcab_100_2023_spring	side by side	port
2023	SPRING	TEL	241	126	paired	MSS + CF	telcab_101_2023_spring	side by side	starboard
2023	SPRING	TEL	241	127	paired	MSS + CF	telcab_102_2023_spring	side by side	port
2023	SPRING	TEL	241	128	paired	MSS + CF	telcab_103_2023_spring	side by side	starboard
2023	SPRING	TEL	241	129	paired	MSS + CF	telcab_104_2023_spring	side by side	port
2023	SPRING	TEL	241	130	paired	MSS + CF	telcab_105_2023_spring	side by side	starboard
2023	SPRING	TEL	241	131	paired	MSS + CF	telcab_106_2023_spring	side by side	port
2023	SPRING	TEL	241	132	paired	MSS + CF	telcab_107_2023_spring	side by side	starboard
2023	SPRING	TEL	241	133	paired	MSS + CF	telcab_108_2023_spring	side by side	port

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	SPRING	TEL	241	134	paired	MSS + CF	telcab_109_2023_spring	side by side	starboard
2023	SPRING	TEL	241	135	paired	MSS + CF	telcab_110_2023_spring	side by side	port
2023	SPRING	TEL	241	136	paired	MSS + CF	telcab_111_2023_spring	side by side	starboard
2023	SPRING	TEL	241	137	paired	MSS + CF	telcab_112_2023_spring	side by side	port
2023	SPRING	TEL	241	138	paired	MSS + CF	telcab_113_2023_spring	side by side	starboard

Table 62. Set by set details of the spring 2023 CCGS Teleost (TEL) trip 242. All sets were completed under the comparative fishing (CF) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	SPRING	TEL	242	1	paired	CF	telcab_114_2023_spring	side by side	starboard
2023	SPRING	TEL	242	2	unsuccessful	CF	-	-	-
2023	SPRING	TEL	242	3	unsuccessful	CF	-	-	-
2023	SPRING	TEL	242	4	unsuccessful	CF	-	-	-
2023	SPRING	TEL	242	5	unsuccessful	CF	-	-	-
2023	SPRING	TEL	242	6	paired	CF	telcab_115_2023_spring	side by side	port
2023	SPRING	TEL	242	7	paired	CF	telcab_116_2023_spring	side by side	starboard
2023	SPRING	TEL	242	8	unsuccessful	CF	-	-	-
2023	SPRING	TEL	242	9	paired	CF	telcab_117_2023_spring	side by side	port
2023	SPRING	TEL	242	10	paired	CF	telcab_118_2023_spring	single file	behind
2023	SPRING	TEL	242	11	paired	CF	telcab_119_2023_spring	side by side	port
2023	SPRING	TEL	242	12	paired	CF	telcab_120_2023_spring	one then the other	second
2023	SPRING	TEL	242	13	paired	CF	telcab_121_2023_spring	side by side	port
2023	SPRING	TEL	242	14	paired	CF	telcab_122_2023_spring	side by side	starboard
2023	SPRING	TEL	242	15	paired	CF	telcab_123_2023_spring	side by side	port
2023	SPRING	TEL	242	16	paired	CF	telcab_124_2023_spring	side by side	starboard
2023	SPRING	TEL	242	17	paired	CF	telcab_125_2023_spring	one then the other	first
2023	SPRING	TEL	242	18	paired	CF	telcab_126_2023_spring	single file	behind
2023	SPRING	TEL	242	19	paired	CF	telcab_127_2023_spring	one then the other	first
2023	SPRING	TEL	242	20	paired	CF	telcab_128_2023_spring	side by side	starboard
2023	SPRING	TEL	242	21	paired	CF	telcab_129_2023_spring	side by side	port
2023	SPRING	TEL	242	22	paired	CF	telcab_130_2023_spring	one then the other	second
2023	SPRING	TEL	242	23	paired	CF	telcab_131_2023_spring	single file	front
2023	SPRING	TEL	242	24	paired	CF	telcab_132_2023_spring	single file	behind
2023	SPRING	TEL	242	25	paired	CF	telcab_133_2023_spring	side by side	port
2023	SPRING	TEL	242	26	paired	CF	telcab_134_2023_spring	side by side	starboard
2023	SPRING	TEL	242	27	paired	CF	telcab_135_2023_spring	side by side	port
2023	SPRING	TEL	242	28	paired	CF	telcab_136_2023_spring	side by side	starboard
2023	SPRING	TEL	242	29	paired	CF	telcab_137_2023_spring	one then the other	first
2023	SPRING	TEL	242	30	paired	CF	telcab_138_2023_spring	side by side	starboard
2023	SPRING	TEL	242	31	paired	CF	telcab_139_2023_spring	single file	front
2023	SPRING	TEL	242	32	paired	CF	telcab_140_2023_spring	side by side	starboard
2023	SPRING	TEL	242	33	paired	CF	telcab_141_2023_spring	one then the other	second
2023	SPRING	TEL	242	34	paired	CF	telcab_142_2023_spring	side by side	port

Table 63. Set by set details of the spring 2023 CCGS John Cabot (CAB) trip 34. All sets were completed under the multi-species survey (MSS) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	SPRING	CAB	34	1	survey	MSS	-	-	-
2023	SPRING	CAB	34	2	survey	MSS	-	-	-
2023	SPRING	CAB	34	3	survey	MSS	-	-	-
2023	SPRING	CAB	34	4	survey	MSS	-	-	-
2023	SPRING	CAB	34	5	survey	MSS	-	-	-
2023	SPRING	CAB	34	6	survey	MSS	-	-	-
2023	SPRING	CAB	34	7	survey	MSS	-	-	-
2023	SPRING	CAB	34	8	survey	MSS	-	-	-
2023	SPRING	CAB	34	9	survey	MSS	-	-	-
2023	SPRING	CAB	34	10	survey	MSS	-	-	-
2023	SPRING	CAB	34	11	survey	MSS	-	-	-
2023	SPRING	CAB	34	12	survey	MSS	-	-	-
2023	SPRING	CAB	34	13	survey	MSS	-	-	-
2023	SPRING	CAB	34	14	survey	MSS	-	-	-
2023	SPRING	CAB	34	15	survey	MSS	-	-	-
2023	SPRING	CAB	34	16	survey	MSS	-	-	-
2023	SPRING	CAB	34	17	unsuccessful	MSS	-	-	-

Table 64. Set by set details of the spring 2023 CCGS John Cabot (CAB) trip 35, where “MSS” represents multispecies survey and “CF” represents comparative fishing.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	SPRING	CAB	35	1	survey	MSS + CF	-	-	-
2023	SPRING	CAB	35	2	paired	MSS + CF	telcab_1_2023_spring	side by side	starboard
2023	SPRING	CAB	35	3	paired	MSS + CF	telcab_2_2023_spring	one then the other	first
2023	SPRING	CAB	35	4	paired	MSS + CF	telcab_3_2023_spring	single file	behind
2023	SPRING	CAB	35	5	paired	MSS + CF	telcab_4_2023_spring	one then the other	first
2023	SPRING	CAB	35	6	paired	MSS + CF	telcab_5_2023_spring	single file	front
2023	SPRING	CAB	35	7	paired	MSS + CF	telcab_6_2023_spring	side by side	port
2023	SPRING	CAB	35	8	paired	MSS + CF	telcab_7_2023_spring	side by side	starboard
2023	SPRING	CAB	35	9	paired	MSS + CF	telcab_8_2023_spring	side by side	port
2023	SPRING	CAB	35	10	paired	MSS + CF	telcab_9_2023_spring	side by side	starboard
2023	SPRING	CAB	35	11	paired	MSS + CF	telcab_10_2023_spring	side by side	port
2023	SPRING	CAB	35	12	paired	MSS + CF	telcab_11_2023_spring	side by side	starboard
2023	SPRING	CAB	35	13	paired	MSS + CF	telcab_12_2023_spring	side by side	starboard
2023	SPRING	CAB	35	14	paired	MSS + CF	telcab_13_2023_spring	side by side	port
2023	SPRING	CAB	35	15	paired	MSS + CF	telcab_14_2023_spring	single file	front
2023	SPRING	CAB	35	16	paired	MSS + CF	telcab_15_2023_spring	side by side	starboard
2023	SPRING	CAB	35	17	paired	MSS + CF	telcab_16_2023_spring	one then the other	second
2023	SPRING	CAB	35	18	paired	MSS + CF	telcab_17_2023_spring	one then the other	first
2023	SPRING	CAB	35	19	paired	MSS + CF	telcab_18_2023_spring	one then the other	second
2023	SPRING	CAB	35	20	paired	MSS + CF	telcab_19_2023_spring	one then the other	first
2023	SPRING	CAB	35	21	paired	MSS + CF	telcab_20_2023_spring	side by side	starboard
2023	SPRING	CAB	35	22	paired	MSS + CF	telcab_21_2023_spring	side by side	port
2023	SPRING	CAB	35	23	paired	MSS + CF	telcab_22_2023_spring	side by side	starboard
2023	SPRING	CAB	35	24	survey	MSS + CF	-	-	-
2023	SPRING	CAB	35	25	paired	MSS + CF	telcab_23_2023_spring	side by side	starboard
2023	SPRING	CAB	35	26	paired	MSS + CF	telcab_24_2023_spring	side by side	port
2023	SPRING	CAB	35	27	paired	MSS + CF	telcab_25_2023_spring	side by side	starboard
2023	SPRING	CAB	35	28	survey	MSS + CF	-	-	-
2023	SPRING	CAB	35	29	survey	MSS + CF	-	-	-
2023	SPRING	CAB	35	30	paired	MSS + CF	telcab_26_2023_spring	side by side	starboard
2023	SPRING	CAB	35	31	paired	MSS + CF	telcab_27_2023_spring	side by side	port
2023	SPRING	CAB	35	32	paired	MSS + CF	telcab_28_2023_spring	side by side	starboard
2023	SPRING	CAB	35	33	paired	MSS + CF	telcab_29_2023_spring	side by side	port
2023	SPRING	CAB	35	34	no set	MSS + CF	-	-	-
2023	SPRING	CAB	35	35	no set	MSS + CF	-	-	-
2023	SPRING	CAB	35	36	no set	MSS + CF	-	-	-
2023	SPRING	CAB	35	37	no set	MSS + CF	-	-	-
2023	SPRING	CAB	35	38	no set	MSS + CF	-	-	-
2023	SPRING	CAB	35	39	no set	MSS + CF	-	-	-
2023	SPRING	CAB	35	40	no set	MSS + CF	-	-	-
2023	SPRING	CAB	35	41	no set	MSS + CF	-	-	-
2023	SPRING	CAB	35	42	no set	MSS + CF	-	-	-
2023	SPRING	CAB	35	43	no set	MSS + CF	-	-	-
2023	SPRING	CAB	35	44	no set	MSS + CF	-	-	-
2023	SPRING	CAB	35	45	no set	MSS + CF	-	-	-
2023	SPRING	CAB	35	46	no set	MSS + CF	-	-	-

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	SPRING	CAB	35	47	no set	MSS + CF	-	-	-
2023	SPRING	CAB	35	48	no set	MSS + CF	-	-	-
2023	SPRING	CAB	35	49	no set	MSS + CF	-	-	-
2023	SPRING	CAB	35	50	no set	MSS + CF	-	-	-
2023	SPRING	CAB	35	51	paired	MSS + CF	telcab_30_2023_spring	side by side	starboard
2023	SPRING	CAB	35	52	paired	MSS + CF	telcab_31_2023_spring	side by side	port
2023	SPRING	CAB	35	53	survey	MSS + CF	-	-	-
2023	SPRING	CAB	35	54	paired	MSS + CF	telcab_32_2023_spring	single file	first
2023	SPRING	CAB	35	55	paired	MSS + CF	telcab_33_2023_spring	side by side	starboard
2023	SPRING	CAB	35	56	survey	MSS + CF	-	-	-
2023	SPRING	CAB	35	57	paired	MSS + CF	telcab_34_2023_spring	one then the other	second
2023	SPRING	CAB	35	58	paired	MSS + CF	telcab_35_2023_spring	single file	behind
2023	SPRING	CAB	35	59	unsuccessful	MSS + CF	-	-	-

Table 65. Set by set details of the spring 2023 CCGS John Cabot (CAB) trip 36, where “MSS” represents multispecies survey and “CF” represents comparative fishing.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	SPRING	CAB	36	1	no set	MSS + CF	-	-	-
2023	SPRING	CAB	36	2	no set	MSS + CF	-	-	-
2023	SPRING	CAB	36	3	no set	MSS + CF	-	-	-
2023	SPRING	CAB	36	4	no set	MSS + CF	-	-	-
2023	SPRING	CAB	36	5	survey	MSS + CF	-	-	-
2023	SPRING	CAB	36	6	paired	MSS + CF	telcab_36_2023_spring	side by side	port
2023	SPRING	CAB	36	7	paired	MSS + CF	telcab_37_2023_spring	side by side	starboard
2023	SPRING	CAB	36	8	paired	MSS + CF	telcab_38_2023_spring	side by side	port
2023	SPRING	CAB	36	9	paired	MSS + CF	telcab_39_2023_spring	side by side	starboard
2023	SPRING	CAB	36	10	survey	MSS + CF	-	-	-
2023	SPRING	CAB	36	11	paired	MSS + CF	telcab_40_2023_spring	one then the other	second
2023	SPRING	CAB	36	12	paired	MSS + CF	telcab_41_2023_spring	side by side	starboard
2023	SPRING	CAB	36	13	paired	MSS + CF	telcab_42_2023_spring	one then the other	first
2023	SPRING	CAB	36	14	paired	MSS + CF	telcab_43_2023_spring	one then the other	second
2023	SPRING	CAB	36	15	paired	MSS + CF	telcab_44_2023_spring	one then the other	first
2023	SPRING	CAB	36	16	paired	MSS + CF	telcab_45_2023_spring	one then the other	second
2023	SPRING	CAB	36	17	paired	MSS + CF	telcab_46_2023_spring	side by side	port
2023	SPRING	CAB	36	18	no set	MSS + CF	-	-	-
2023	SPRING	CAB	36	19	no set	MSS + CF	-	-	-
2023	SPRING	CAB	36	20	no set	MSS + CF	-	-	-
2023	SPRING	CAB	36	21	no set	MSS + CF	-	-	-
2023	SPRING	CAB	36	22	no set	MSS + CF	-	-	-
2023	SPRING	CAB	36	23	paired	MSS + CF	telcab_47_2023_spring	side by side	starboard
2023	SPRING	CAB	36	24	paired	MSS + CF	telcab_48_2023_spring	side by side	port
2023	SPRING	CAB	36	25	paired	MSS + CF	telcab_49_2023_spring	side by side	port
2023	SPRING	CAB	36	26	paired	MSS + CF	telcab_50_2023_spring	one then the other	second
2023	SPRING	CAB	36	27	paired	MSS + CF	telcab_51_2023_spring	one then the other	first
2023	SPRING	CAB	36	28	paired	MSS + CF	telcab_52_2023_spring	one then the other	second
2023	SPRING	CAB	36	29	paired	MSS + CF	telcab_53_2023_spring	one then the other	first
2023	SPRING	CAB	36	30	paired	MSS + CF	telcab_54_2023_spring	one then the other	second
2023	SPRING	CAB	36	31	paired	MSS + CF	telcab_55_2023_spring	side by side	starboard
2023	SPRING	CAB	36	32	paired	MSS + CF	telcab_56_2023_spring	side by side	port
2023	SPRING	CAB	36	33	paired	MSS + CF	telcab_57_2023_spring	one then the other	first
2023	SPRING	CAB	36	34	paired	MSS + CF	telcab_58_2023_spring	one then the other	second
2023	SPRING	CAB	36	35	paired	MSS + CF	telcab_59_2023_spring	one then the other	first
2023	SPRING	CAB	36	36	paired	MSS + CF	telcab_60_2023_spring	side by side	starboard
2023	SPRING	CAB	36	37	paired	MSS + CF	telcab_61_2023_spring	side by side	port
2023	SPRING	CAB	36	38	paired	MSS + CF	telcab_62_2023_spring	side by side	starboard
2023	SPRING	CAB	36	39	paired	MSS + CF	telcab_63_2023_spring	one then the other	first
2023	SPRING	CAB	36	40	paired	MSS + CF	telcab_64_2023_spring	side by side	starboard
2023	SPRING	CAB	36	41	paired	MSS + CF	telcab_65_2023_spring	side by side	port
2023	SPRING	CAB	36	42	paired	MSS + CF	telcab_66_2023_spring	side by side	starboard
2023	SPRING	CAB	36	43	paired	MSS + CF	telcab_67_2023_spring	one then the other	second
2023	SPRING	CAB	36	44	paired	MSS + CF	telcab_68_2023_spring	side by side	starboard
2023	SPRING	CAB	36	45	unsuccessful	MSS + CF	-	-	-
2023	SPRING	CAB	36	46	paired	MSS + CF	telcab_69_2023_spring	side by side	starboard

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	SPRING	CAB	36	47	paired	MSS + CF	telcab_70_2023_spring	side by side	port
2023	SPRING	CAB	36	48	paired	MSS + CF	telcab_71_2023_spring	side by side	starboard
2023	SPRING	CAB	36	49	paired	MSS + CF	telcab_72_2023_spring	side by side	port
2023	SPRING	CAB	36	50	paired	MSS + CF	telcab_73_2023_spring	side by side	starboard
2023	SPRING	CAB	36	51	paired	MSS + CF	telcab_74_2023_spring	side by side	port
2023	SPRING	CAB	36	52	paired	MSS + CF	telcab_75_2023_spring	side by side	starboard
2023	SPRING	CAB	36	53	paired	MSS + CF	telcab_76_2023_spring	side by side	port
2023	SPRING	CAB	36	54	paired	MSS + CF	telcab_77_2023_spring	side by side	starboard
2023	SPRING	CAB	36	55	paired	MSS + CF	telcab_78_2023_spring	one then the other	first
2023	SPRING	CAB	36	56	unsuccessful	MSS + CF	-	-	-
2023	SPRING	CAB	36	57	paired	MSS + CF	telcab_79_2023_spring	side by side	starboard
2023	SPRING	CAB	36	58	unsuccessful	MSS + CF	-	-	-
2023	SPRING	CAB	36	59	paired	MSS + CF	telcab_80_2023_spring	side by side	starboard
2023	SPRING	CAB	36	60	paired	MSS + CF	telcab_81_2023_spring	one then the other	first
2023	SPRING	CAB	36	61	paired	MSS + CF	telcab_82_2023_spring	side by side	starboard
2023	SPRING	CAB	36	62	paired	MSS + CF	telcab_83_2023_spring	side by side	port
2023	SPRING	CAB	36	63	paired	MSS + CF	telcab_84_2023_spring	side by side	starboard
2023	SPRING	CAB	36	64	paired	MSS + CF	telcab_85_2023_spring	one then the other	first
2023	SPRING	CAB	36	65	paired	MSS + CF	telcab_86_2023_spring	one then the other	first
2023	SPRING	CAB	36	66	paired	MSS + CF	telcab_87_2023_spring	side by side	port
2023	SPRING	CAB	36	67	paired	MSS + CF	telcab_88_2023_spring	side by side	starboard
2023	SPRING	CAB	36	68	paired	MSS + CF	telcab_89_2023_spring	side by side	port
2023	SPRING	CAB	36	69	paired	MSS + CF	telcab_90_2023_spring	side by side	starboard
2023	SPRING	CAB	36	70	paired	MSS + CF	telcab_91_2023_spring	side by side	port
2023	SPRING	CAB	36	71	survey	MSS + CF	-	-	-
2023	SPRING	CAB	36	72	no set	MSS + CF	-	-	-
2023	SPRING	CAB	36	73	no set	MSS + CF	-	-	-
2023	SPRING	CAB	36	74	survey	MSS + CF	-	-	-
2023	SPRING	CAB	36	75	survey	MSS + CF	-	-	-
2023	SPRING	CAB	36	76	survey	MSS + CF	-	-	-
2023	SPRING	CAB	36	77	survey	MSS + CF	-	-	-
2023	SPRING	CAB	36	78	unsuccessful	MSS + CF	-	-	-
2023	SPRING	CAB	36	79	survey	MSS + CF	-	-	-
2023	SPRING	CAB	36	80	survey	MSS + CF	-	-	-
2023	SPRING	CAB	36	81	survey	MSS + CF	-	-	-
2023	SPRING	CAB	36	82	survey	MSS + CF	-	-	-
2023	SPRING	CAB	36	83	survey	MSS + CF	-	-	-
2023	SPRING	CAB	36	84	survey	MSS + CF	-	-	-

Table 66. Set by set details of the spring 2023 CCGS John Cabot “CAB” trip 37, where “MSS” represents multispecies survey and “CF” represents comparative fishing.

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	SPRING	CAB	37	86	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	87	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	88	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	89	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	90	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	91	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	92	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	93	unpaired	MSS + CF	-	-	-
2023	SPRING	CAB	37	94	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	95	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	96	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	97	unsuccessful	MSS + CF	-	-	-
2023	SPRING	CAB	37	98	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	99	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	100	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	101	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	102	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	103	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	104	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	105	no set	MSS + CF	-	-	-
2023	SPRING	CAB	37	106	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	107	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	108	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	109	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	110	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	111	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	112	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	113	unsuccessful	MSS + CF	-	-	-
2023	SPRING	CAB	37	114	unpaired	MSS + CF	-	-	-
2023	SPRING	CAB	37	115	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	116	survey	MSS + CF	-	-	-
2023	SPRING	CAB	37	117	paired	MSS + CF	telcab_92_2023_spring	side by side	starboard
2023	SPRING	CAB	37	118	paired	MSS + CF	telcab_93_2023_spring	side by side	port
2023	SPRING	CAB	37	119	paired	MSS + CF	telcab_94_2023_spring	side by side	starboard
2023	SPRING	CAB	37	120	paired	MSS + CF	telcab_95_2023_spring	side by side	port
2023	SPRING	CAB	37	121	paired	MSS + CF	telcab_96_2023_spring	side by side	starboard
2023	SPRING	CAB	37	122	paired	MSS + CF	telcab_97_2023_spring	side by side	port
2023	SPRING	CAB	37	123	paired	MSS + CF	telcab_98_2023_spring	side by side	starboard
2023	SPRING	CAB	37	124	paired	MSS + CF	telcab_99_2023_spring	side by side	port
2023	SPRING	CAB	37	125	paired	MSS + CF	telcab_100_2023_spring	side by side	starboard
2023	SPRING	CAB	37	126	paired	MSS + CF	telcab_101_2023_spring	side by side	port
2023	SPRING	CAB	37	127	paired	MSS + CF	telcab_102_2023_spring	side by side	starboard
2023	SPRING	CAB	37	128	paired	MSS + CF	telcab_103_2023_spring	side by side	port
2023	SPRING	CAB	37	129	paired	MSS + CF	telcab_104_2023_spring	side by side	starboard
2023	SPRING	CAB	37	130	paired	MSS + CF	telcab_105_2023_spring	side by side	port
2023	SPRING	CAB	37	131	paired	MSS + CF	telcab_106_2023_spring	side by side	starboard

Year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	SPRING	CAB	37	132	paired	MSS + CF	telcab_107_2023_spring	side by side	port
2023	SPRING	CAB	37	133	paired	MSS + CF	telcab_108_2023_spring	side by side	starboard
2023	SPRING	CAB	37	134	paired	MSS + CF	telcab_109_2023_spring	side by side	port
2023	SPRING	CAB	37	135	paired	MSS + CF	telcab_110_2023_spring	side by side	starboard
2023	SPRING	CAB	37	136	paired	MSS + CF	telcab_111_2023_spring	side by side	port
2023	SPRING	CAB	37	137	paired	MSS + CF	telcab_112_2023_spring	side by side	starboard
2023	SPRING	CAB	37	138	paired	MSS + CF	telcab_113_2023_spring	side by side	port

Table 67. Set by set details of the spring 2023 CCGS John Cabot (CAB) trip 38. All sets were completed under the comparative fishing (CF) program.

year	season	vessel	trip	set	set type	program	pair ID	pair type	vessel position
2023	SPRING	CAB	38	1	paired	CF	telcab_114_2023_spring	side by side	port
2023	SPRING	CAB	38	2	unsuccessful	CF	-	-	-
2023	SPRING	CAB	38	3	unsuccessful	CF	-	-	-
2023	SPRING	CAB	38	4	unsuccessful	CF	-	-	-
2023	SPRING	CAB	38	5	unsuccessful	CF	-	-	-
2023	SPRING	CAB	38	6	paired	CF	telcab_115_2023_spring	side by side	starboard
2023	SPRING	CAB	38	7	paired	CF	telcab_116_2023_spring	side by side	port
2023	SPRING	CAB	38	8	no set	CF	-	-	-
2023	SPRING	CAB	38	9	paired	CF	telcab_117_2023_spring	side by side	starboard
2023	SPRING	CAB	38	10	paired	CF	telcab_118_2023_spring	single file	front
2023	SPRING	CAB	38	11	paired	CF	telcab_119_2023_spring	side by side	starboard
2023	SPRING	CAB	38	12	paired	CF	telcab_120_2023_spring	one then the other	first
2023	SPRING	CAB	38	13	paired	CF	telcab_121_2023_spring	side by side	starboard
2023	SPRING	CAB	38	14	paired	CF	telcab_122_2023_spring	side by side	port
2023	SPRING	CAB	38	15	paired	CF	telcab_123_2023_spring	side by side	starboard
2023	SPRING	CAB	38	16	paired	CF	telcab_124_2023_spring	side by side	port
2023	SPRING	CAB	38	17	paired	CF	telcab_125_2023_spring	one then the other	second
2023	SPRING	CAB	38	18	paired	CF	telcab_126_2023_spring	single file	front
2023	SPRING	CAB	38	19	paired	CF	telcab_127_2023_spring	one then the other	second
2023	SPRING	CAB	38	20	paired	CF	telcab_128_2023_spring	side by side	port
2023	SPRING	CAB	38	21	paired	CF	telcab_129_2023_spring	side by side	starboard
2023	SPRING	CAB	38	22	paired	CF	telcab_130_2023_spring	one then the other	first
2023	SPRING	CAB	38	23	paired	CF	telcab_131_2023_spring	single file	behind
2023	SPRING	CAB	38	24	paired	CF	telcab_132_2023_spring	single file	front
2023	SPRING	CAB	38	25	paired	CF	telcab_133_2023_spring	side by side	starboard
2023	SPRING	CAB	38	26	paired	CF	telcab_134_2023_spring	side by side	port
2023	SPRING	CAB	38	27	paired	CF	telcab_135_2023_spring	side by side	starboard
2023	SPRING	CAB	38	28	paired	CF	telcab_136_2023_spring	side by side	port
2023	SPRING	CAB	38	29	paired	CF	telcab_137_2023_spring	one then the other	second
2023	SPRING	CAB	38	30	paired	CF	telcab_138_2023_spring	side by side	port
2023	SPRING	CAB	38	31	paired	CF	telcab_139_2023_spring	single file	behind
2023	SPRING	CAB	38	32	paired	CF	telcab_140_2023_spring	side by side	port
2023	SPRING	CAB	38	33	paired	CF	telcab_141_2023_spring	one then the other	first
2023	SPRING	CAB	38	34	paired	CF	telcab_142_2023_spring	side by side	starboard

13. APPENDIX 1: BRIDGE PROTOCOL

Instructions for Comparative Fishing between CCGS *Teleost* and *Capt. Jacques Cartier* and CCGS *Alfred Needler* and the *John Cabot*. September-December, 2022.

1) Objectives of comparative fishing.

The main objective of the comparative fishing exercise is to determine if differences exist in catches between the CCGS *Teleost* and *Needler* (towing Campelen 1800) and the new OFSVs *Capt. Jacques Cartier* and *John Cabot* (towing a Campelen 1800 with minor modifications).

Data from paired tows will be collected to quantify potential differences. Ranges of catch sizes, community composition, fish sizes in the catch, tow depths and habitat are required, given the distributions of the species likely to be encountered and variables that may impact catchability differences.

2) Operational details of comparative fishing.

All vessels will be operating for a concentrated approach to comparative fishing. **Therefore, the standard fall survey indices will not be collected.**

The older vessel (*Teleost* or *Needler* within their respective pairs) will operate as the “lead vessel” and direct the trip route, set course, etc. Vessels should line up together for each set to complete tows simultaneously (or as close in time as operationally feasible, i.e. starting tows within minutes of each other). Consistency in timing will be most important at dawn and dusk as some species complete vertical movements where small differences in timing could lead to significant differences in catch.

- If both vessels are operational and the vessels do not reach station together, the first to arrive must wait for the partner vessel before putting the net in the water
- If one vessel has an unsuccessful set (or other operational issue that prevents simultaneous fishing), the successful vessel must process its catch following normal protocols. Both vessels should then move onto the next station, while issues are resolved in transit (ex. net repair), and an alternate set should be added to the sampling plan

Wherever safely and practically feasible (i.e. level bottom), the 2 vessels should tow **side by side at a distance of 0.5 nautical miles apart**, alternating port and starboard arrangement. PICs should note on the bridge sheet for each set whether the vessel is port or starboard. The vessels must tow on the same course (*Teleost/Needler* to relay course to *Cartier/Cabot*). Both vessels will tow the Campelen trawl at 3.0 knots for a duration of 15 minutes following the standard survey fishing protocol. Fishing sets should occur simultaneously (or as close to as operationally feasible).

On the slope edge, or in areas of limited towable bottom where side by side tows are not feasible due to depth differences, **vessels will tow “single file”**, alternating the which vessel is in front on a tow-by-tow basis. . PICs should note on the bridge sheet for each set whether the vessel is leading or following. This will be done in such a way that the end of the tow on the trailing vessel occurs at a position just before the start of the tow on the leading vessel, i.e. there must be no overlap in the area covered by the 2 tows. The same depth range for each paired tow should be maintained as close as possible between boats.

If only a single track of fishable bottom is identified in a particularly difficult area, vessels should fish **one then the other**, with one vessel completing its tow, and then the second vessel immediately fish along the same ground attempting to avoid the exact track of the previous vessel. This should only be done as a last resort; all effort should be made to find bottom suitable for side by side or “follow the leader” tows. If any sets are completed in this manner it should be noted by the PIC (or their designate) on the bridge sheet and reported in the trip report. For sets in areas of particularly bad bottom, tows can be shortened in length, but **must** achieve a minimum of 10 minutes on bottom, confirmed by the towplot. See *Appendix I: Comparative Fishing Tow Types for a diagram of side by side, single file, and single track tow types.*

Differences in depth between vessels should be as small as operationally feasible. Depth difference between vessels must be within 10m in sets <200m, within 20m for sets from 200-400m, and within 5% for sets 400m or greater (see table below). Sounder depth and/or Olex depths at the start of the tow should be checked between vessels to ensure they are in the intended range. If there is an unexpected change in depth during the tow (e.g. along a slope), average depths from the towplot must be compared between vessels to determine actual difference in depth fished. If the set falls outside the acceptable ranges (table below), the pair should move slightly and re-tow.

ACCEPTABLE DEPTH DIFFERENCES WITHIN COMPARATIVE SETS

Set Depth	Acceptable depth difference (m)	
0-199m	10	
200-399m	20	
400m	20	5%
450m	22.5	
500m	25	
550m	27.5	
600m	30	
650m	32.5	
700m	35	
750m	37.5	
800m	40	
850m	42.5	
900m	45	
950m	47.5	
1000m	50	

Frequent contact is required between vessels to ensure that tows are standardized as much as possible. This should include: discussing any gear issues or trawl geometry/performance notes, and comparing species composition between vessels for early identification of potential differences in species between boats that can be attributed to human error (e.g. coding difference or identification issues) rather than reflecting actual differences in composition . It is recommended that at the start of the trip (first day or two) these items be discussed between boats on a set by set basis, and then *at least* daily once it has been established that the vessels are operating and sampling in a consistent manner.

All sets must be coded as type 6, experimental. Set numbers must match between the two vessels within the pair. If either vessel is unsuccessful in its set, the other should process the catch as usual and the two vessels should continue with the next position and next set number. An exception to this is if a sensor issue is detected during trawl deployment; in this case the net can be hauled, the sensor addressed, and the net redeployed. An alternate station should

be added within that strata for any unsuccessful pair. Three alternate positions have been provided for each strata – if these have been exhausted, contact shore for direction.

In the case of a tear up, mechanical or other issue aboard any vessel that results in moderate downtime (expected to be 6-24 hours) for any vessel within the pair, the other vessel should continue fishing on its way to the next paired point, fishing approximately every 3-5 nautical miles on route and processing catch as normal until such a time that the other vessel is ready to rejoin fishing activity. If the downtime is expected to be <6 hours, the other vessel should transit to the next set point and await the arrival of the partner vessel before resuming fishing. If one vessel will be out of service for >24 hours, contact shore for instructions. See the **Comparative Fishing Decision Tree** to help guide your decisions at sea.

A full range of Scanmar sensors will be used on each vessel. Cartier has two additional sensors; flow/symmetry and bottom contact. Cartier also carries upgraded door sensors which provide depth and temperature information.

3) Sampling requirements.

Numbers and weights for all species should be collected as per the usual survey procedures. For commercial finfish, collect **unsexed length frequencies**; there will be no weight analysis, maturity sampling, etc. Shellfish, pelagics, and ERI should follow standard survey sampling. For more details see Summary of Sampling for Comparative Fishing, Fall 2022. Detailed sampling requests are provided in the sampling protocol binder on each vessel.

Trawl-mounted CTD systems, will be used on both vessels for the duration.

Station 27 will be sampled as per the usual survey procedures.

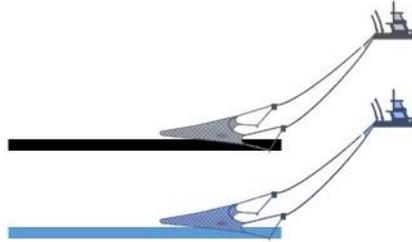
Questions on comparative fishing and/or sampling protocols should be directed to Laura Wheeland

(Laura.Wheeland@dfo-mpo.gc.ca), through the NL Fall Comparative Fishing MSTeam, and/or through the Multispecies support inbox:
DFO.NLMultiSpeciesSupportSupportmultiespeciesTNL.MPO@dfo-mpo.gc.ca

COMPARATIVE FISHING TOW TYPES

Side by side paired tow

Both vessels tow at the same time, 0.5nm apart or closer, and complete parallel tows. This is our standard set up for comparative sets.



If you're in an area with limited fishable bottom (e.g. steep slope), you may use one of the following methods:

Single file/ "follow the leader"

Both vessels tow at the same time with the trawl path of the rear vessel not overlapping that of the vessel in front.



One then the other

One vessel should complete its tow, and then the second vessel will immediately fish along same ground attempting to avoid the exact line of the previous vessel. This option should be a last resort.



14. APPENDIX 2: SAMPLING PROTOCOL

SUMMARY OF SAMPLING FOR COMPARATIVE FISHING, Spring 2023

This reduced sampling for Comparative Fishing should be followed by the TELEOST in the spring of 2022 during any paired sets. For solo survey sets, full survey sampling is required.

- Sort, identify, and weigh the catch following the standard survey protocol.
- For all **commercial finfish** (e.g. cod, witch, plaice, skate, lumpfish, etc.), we will only be taking unsexed length frequencies on the Teleost during paired tows. LFs should include **200 lengths** for each species in each set (or however many caught). Occasionally, two category sampling may be required; i.e. pick larger fish of a particular species from belt, smaller fish from sub-sample and measure separately, ensuring an adequate sample for each category.
- Include **Silver hake LFs (200/set) for comparative fishing**, similar to the commercial finfish above. **Measure silver hake in cm.**
- **Crab:** Snow crab and Toad (*Hyas*) crab sampling should be completed the same as the standard survey sampling. For other crab species, only total numbers and total weights are required
- **Shrimp:** *Pandalus borealis*, *P. montagui* – Follow the standard survey sampling (subsample can be reduced to 0.5 kg as required). For other shrimp species, only total numbers and total weights are required.
- **Cephalopods:** Follow the standard survey sampling protocol
- **Pelagics and ERI:** Follow the standard survey sampling protocol for these groups
- **Corals, sponges, and bryozoans:** Follow the standard protocol, freezing sampled in labelled bags
- For **rare species:** presence/absence conversions may be possible, so it is key that species present in numbers small enough that they are unlikely to appear in a representative subsample (e.g. a single or a few individuals present in the catch) be picked from the belt. Where species ID cannot be confidently determined these should be entered as unidentified fish (999), put in a bag labelled with Trip and Set, and frozen for identification in the lab.
- It is also important that subsampling amounts be large enough to include representative sample composition which include larger species of fish (e.g. scaled lancetfish, sea tadpole, etc.) that may not be picked from the belt.
- PICs and heads of watch on paired vessel should maintain frequent contact regarding catch composition and sampling (e.g. determine if there are any notable differences in species composition and ID) between vessels to ensure early identification and resolution of any inconsistencies which may have impacts on comparative fishing analyses.
- While it is considered best to have subsample proportions equal between vessels, previous trips indicated better bottom contact on the new vessels resulting in notably greater catch of “mix” in some tows, making it infeasible to have consistent proportions sampled between vessels. Proportions should be monitored by the PICs and consistency sought when practical.