



2023 REPORT ON THE SALMON FISHERY IN GREENLAND

West Greenland Commission

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MINISTRY OF FISHERIES AND HUNTING



1. Introduction

According to the *Multi-Annual Regulatory Measure for fishing for salmon at West Greenland (WGC(22)10)* Denmark (in respect of the Faroe Islands and Greenland) agrees to, in a timely manner, inform NASCO and, as appropriate, ICES, of any significant changes in the monitoring, management, control and surveillance of the West Greenland Atlantic salmon fishery and to provide an annual report on the implementation of this measure and the outcome of the fishery.

This report outlines the outcome of the 2023 salmon fishery in Greenland, including East Greenland and, if any, the modifications that the Government of Greenland has made to the management and monitoring, control, and surveillance.

1.1 Subsistence Fishery

It is important to keep in mind that the salmon fishery in Greenland is a subsistence/internal-use fishery and not by any means a commercial fishery.

It is vital to Naalakkersuisut, the Government of Greenland, that all people have the right to provide for themselves and their families. This is an essential part of the life and culture in Greenland – and the Fisheries Act.

2. Implementation of the Regulatory Measure *WGC(22)10*

(1) For the 2023 salmon season, Greenland has maintained the management plan for Atlantic Salmon, as well as the already existing measures for monitoring, management, control and surveillance.

(a) As according to the management plan the fishing season is as follows:

- Southwest: 1/8 – 30/9
- Northwest: 1/9 – 31/10
- East: 15/8 – 15/10

(b) Legal requirement in the Executive Order to report every time the net is tended. Legal requirement to report 0-catch. An online reporting option was introduced in 2020 and has been used since then. Contact with the municipalities before and during the fishing season in relation to the importance of effective disclosure of salmon reports. Data collected in GFLKs¹ database for monitoring of quota-uptake. Continued radio campaign about reporting and text messages have again been sent to license holders.

(c) Since 2018 it has been a legal requirement to have a license to participate in the salmon fishery.

(d) Since 2018 it has been illegal to fish without a license.

¹ GFLK: Greenland's Fisheries License Control Authority



(e) According to the 1996 Fisheries Act only professional fishermen are allowed to sell their catch. The executive order only allows them to sell their catch at local markets and to institutions.

(2) Since 2015, it has been a condition of the license to allow samplers to sample their catch. This year, there was a collaboration with NASF and ASF to increase the samples received in the citizen sampling programme. A condition of the lottery to win prizes was to send in salmon samples to the Greenland Institute of Natural Resources as well as having reported their salmon catch. 40 samples were received from fishermen all along the Greenlandic coast. 5 winners were drawn, and the lottery was considered a success.

(3) (a) Since 1998, there has been an export ban on salmon in Greenland. (b) Since 2015, it has been prohibited to land salmon to the fish processing factories.

(4) The TAC for West Greenland was set at 27 tons in 2023. According to the management plan the 27 tonnes were divided into quota for the two management areas in West Greenland.

(5) Since 2022, Greenland has agreed to close the fishery at West Greenland, when the registered catch has reached no more than 49% of the overall TAC. GFLK collects and registers catch data daily, and based on numerous variables, decides when to close the fishery in the different management areas. These include previous years' uptake, the weather, days of delay in reporting, the oral reports from the local fisheries inspectors about the number of salmon they see coming in (*see section 4 for elaboration and evaluation of this measure*).

(6) GFLK collects and registers catch data daily. The quota uptake is published on GFLK's website every week. As mentioned above, there is continuous contact with the municipalities before and during the fishing season in relation to the importance of effective disclosure of salmon reports. Greenland is reporting back to the West Greenland Commission with this report.

(7) If fishers do not report to GFLK, they will not be issued a license for the following year's fishery. This is automatically ensured via the GFLK database. It is a legal requirement to report 0-catch within 14 days of closing the fishery.

(8) Greenland has continued to use initiatives to increase reporting of license holders.

(a) To have the newest contact information, license holders are permitted to state their phone number and/or email when applying for a salmon license. Extra personnel resources were used before the 2023 season, to ensure that license holders who are already in the system, still have the correct information.

(b) During the salmon season, radio campaigns were transmitted daily, reminding people to report their catches. An ad was made for both of the national newspapers with a link to the online reporting website (see example below) and a continuous ad on their website with direct links to the reporting site was showed throughout the season. Text-messages were sent to all license-holders both during the season with a reminder to report and when their area was closing with a reporting deadline. Around 3.800 text messages were sent during the 2023 season.



(c) License holders with the highest catches in the previous season, were sent a text message to remind them to report.

(d) To provide information about reporting during the fishing season, a national radio speak was aired daily to remind license holders to report. A poster was made and distributed to all municipalities with information about reporting. The poster was also hung on bus stops in Nuuk. A new initiative in 2023 was having an ad on the national newspaper *Sermitsiaq's* online website, with a link to the reporting website (see example in the photo below).

When an area is closed, a press release is issued on the government's official website and social media. The press releases also contain information about the reporting deadline.



(e) An article in the national fisheries magazine *Sineriassortoq* was published. The article informed about the winners of the competition with NASF and ASF, along with information about the migration routes of salmon, and why salmon samples contain important information.

(f) Phone interviews with non-reporters was conducted in October and November 2023, to review the reasons for non-reporting. *Results from these interviews are mentioned in section 3.3.*

(9) Greenland has not introduced any significant changes on monitoring, control or surveillance for the 2023 fishing season but has continued to fine tune the existing measures. This report outlines the implementation of the outcome of the fishery and the measures on monitoring, control, and surveillance to the West Greenland Commission.

Below an overview of the 2023 fishery is outlined.



3. The 2023 Fishing Season

In line with the *Multi-Annual Regulatory Measure*, the export ban continues to be in place and there were still no landings or sale of Atlantic salmon to fish processing factories allowed. An overview of opening and closure of the salmon fishery, the quota and quota uptake per management area and segment is summarized in table 1 and 2.

| Table 1. Opening, closure, quota and quota uptake per management area and segment 2023. Source: GFLK | | | | | | | | |
|--|---------|---------------------|-------|----------------------------|-------|----------------------------|-------|-----------------------------|
| Management Area | Opening | Closure pr. Segment | | Quota per segment (tonnes) | | Catch per segment (tonnes) | | Total quota uptake (tonnes) |
| Northwest | 1/9 | Professional | 02/10 | Professional | 7.56 | Professional | 11.93 | 14.30 |
| | | Recreational | 09/10 | Recreational | 3.24 | Recreational | 2.38 | |
| Southwest | 1/8 | Professional | 15/9 | Professional | 11.34 | Professional | 12.35 | 18.28 |
| | | Recreational | 15/9 | Recreational | 4.86 | Recreational | 5.92 | |
| East | 15/8 | Professional | 15/10 | Professional | 1.5 | Professional | 0.64 | 1.48 |
| | | Recreational | 15/10 | Recreational | 1.5 | Recreational | 0.84 | |

| Table 2. Total quota uptake West Greenland 2023. | |
|--|-----------------------|
| Management Area | Quota Uptake (tonnes) |
| Northwest | 14.30 |
| Southwest | 18.28 |
| Total quota uptake | 32.58 |

3.1 Catch reports during the fishing season.

In 2020, GFLK introduced an online reporting system through the public citizen website; Sullissivik.gl, to improve reporting access for fishermen. Unfortunately, the site experienced some technical issues during the fishing season in 2023, so that some reports were not loaded automatically into the database². This problem was not detected before the 16th of October and the reports were not added to the system before the 16th - 20th of October. This technical issue has been resolved and all these reports have been entered manually into the database and are part of the data for this report (see section 4 for elaboration of this issue).

² This was the case for around 230 out of 418 reports from Sullissivik



In the continuous effort to remind license holders to report their catch, numerous text messages have been sent out directly to license holders throughout the fishing season and additional ads have been brought through national newspapers.

Figure 1 illustrates the quota uptake of salmon over time, after the opening of the fishery on August 1st.

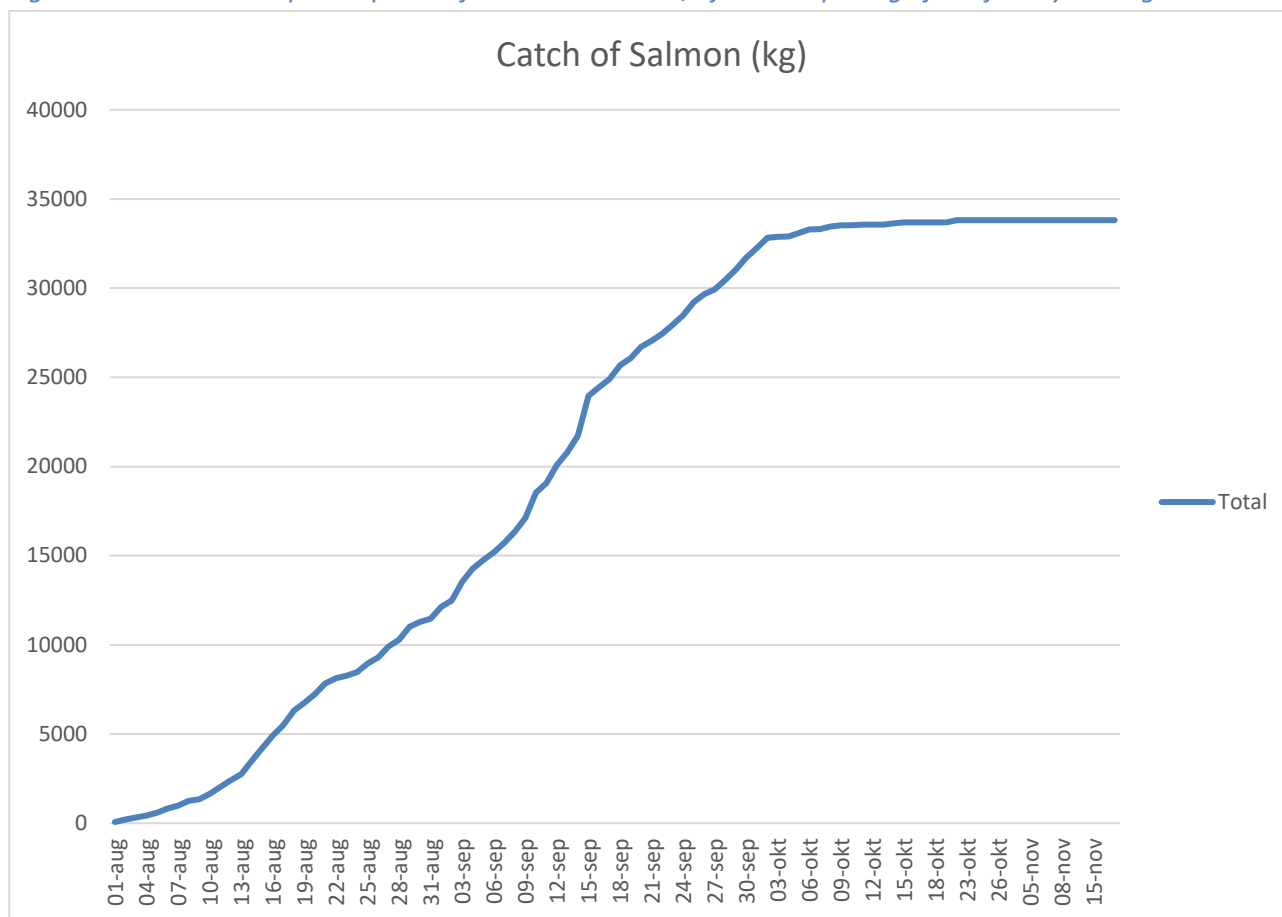


Figure 1. Catches of salmon (in kilograms) caught during the season. Dates from 2023. Source: GFLK

| Year | 2020 | 2021 | 2022 | 2023 |
|---------------------------|------|------|-------------------|------|
| Delay in reporting (days) | 8 | 12 | 11,5 ³ | 14 |

Average delay in reporting 2020-2023. Data: GFLK

The table above shows the average number of days between the license holder catching the fish and GFLK receiving the catch report. As the table shows, the delay has increased in 2023. This is partly due to the technical issue, we experienced with the online reporting system, Sullissivik. There is also a difference in delay between reports received through Sullissivik and reports received through the municipalities and by email (these two categories are both entered manually into the reporting system). Reporting via Sullissivik had a delay of 10 days and reporting through the municipalities and email had a delay of 15,5 days. This is a

³ Outliers were sorted out since they skewed the results. With outliers the number is 16 days. Reports received in 2023 were deemed to distort the overall picture, since the number is meant to help decide when to close the fishery during the season.



significant difference⁴. Reports received through Sullissivik before October 16th, and which were uploaded without issues, had a reporting delay of only 4 days. This indicates that Sullissivik is a more efficient way of reporting, than other methods. It also suggests that we need to be better at communicating the importance of municipalities sending in timely reports. It also suggests that promoting Sullissivik could bring down the delay in reporting. Greenland will continue our focus on improving timely reporting.

3.2 Licenses and catch reports.

In the following paragraph, a description of the reporting behavior of license holders and catch reports will be provided. To have an overview of the catch reports, the results in table 3 are divided into three groups; (1) catch reports received within season, (2) catch reports received between time of closure and last date of reporting, and (3) catch reports received after last date of reporting. The same grouping is used in table 4, which describes the results on the level of license holders rather than catch reports.

Highlights from table 3

A total of 1.616 catch reports have been received by the GFLK, and the number of catch reports have increased by 28 % compared to 2022. The number of reports received within the season is only 44,6% compared to 84% in 2022. For reports with >0 catches this number is 49,5% compared to 93% in 2022. There is therefore a large part of the reports that have been received after the fishery is closed, especially between the time of closure and the last of reporting, where 40,6% of catch reports were received in 2023 compared to 8% in 2022.

This tendency is more noticeable in the professional categories, where a lower percentage in 2023 have reported during the season than in 2022.

Highlights from table 4

The number of license holders have increased by 3,5% compared to 2022, and the distribution between professional and recreational license holders is almost the same. The number of license holders reporting have increased significantly in 2023, with 82,3% of license holders reporting compared to 68% in 2022.

As with the reports, the number of license holders reporting >0 catch during the fishing season has decreased in 2023 compared to 2022.

The tables represent the 6 different sub-groups; professional and private in Northwest (NAFO sub-area 1ABC), Southwest (NAFO sub-area 1DEF) and East with the individual fishing seasons, all calculated respectively and summarized.

⁴ Around 400 reports were received via sullissivik, and around 1200 reports were received through the municipalities or email.



| Table 3. Catch reports | Count | Percent age | 1ABC Private | 1ABC Professional | 1DEF Private | 1DEF Professional | East Private | East Professional |
|--|--------------|--------------------|---------------------|--------------------------|---------------------|--------------------------|---------------------|--------------------------|
| Overview | | | | | | | | |
| <i>Catch reports received within the season</i> | 720 | 44,6% | 23.5% | 18.3% | 31.3% | 23.9% | 2.9% | 0.1% |
| <i>Catch reports received between time of closure and last date of reporting</i> | 656 | 40.6% | 14.2% | 42.7% | 23% | 13.9% | 3.2% | 3% |
| <i>Catch reports received after last date of reporting</i> | 240 | 14.9% | 8.3% | 16,7% | 58.3% | 15.8% | 0% | 0.8% |
| <i>Total number of catch reports received (incl. 0-catch reports)</i> | 1616 | 100% | 17.5% | 28% | 31.9% | 18.6% | 2.6% | 1.4% |
| Catch reports with > 0 catches | | | | | | | | |
| <i>Catch reports received within the season</i> | 585 | 49.5% | 19.7% | 20.5% | 29,6% | 26.7% | 3.6% | 0% |
| <i>Catch reports received between time of closure and last date of reporting</i> | 500 | 42.3% | 10% | 49% | 16,6% | 16,8% | 3.6% | 4 % |
| <i>Catch reports received after last date of reporting</i> | 98 | 8.3% | 11.2% | 4.1% | 59.2% | 23.5% | 0% | 2% |
| <i>Total number of catch reports</i> | 1183 | 73.2% ¹ | 10.9% ¹ | 22.8% ¹ | 19.4% ¹ | 16.3% ¹ | 2.4% ¹ | 1.4% ¹ |
| Catch reports with 0-catches | | | | | | | | |
| <i>Catch reports received within the season</i> | 135 | 31.2% | 40% | 8.9% | 38.5% | 11.9% | 0% | 0.7% |
| <i>Catch reports received between time of closure and last date of reporting</i> | 176 | 40.6% | 24.4% | 31.3% | 38.6% | 4% | 1.7% | 0% |
| <i>Catch reports received after last date of reporting</i> | 122 | 28.2% | 7.4% | 13.1% | 67.2% | 12.3% | 0% | 0% |
| <i>Total of number of 0-catch reports</i> | 433 | 26.8% ¹ | 6.6% ¹ | 5.1% ¹ | 12.5% ¹ | 2.4% ¹ | 0.2% ¹ | 0.1% ¹ |

¹ percent of the total number of catch reports of 1616



| Table 4. Overview of licenses in the salmon fishery in 2023 | Count | Percentage | 1ABC Private | 1ABC Professional | 1DEF Private | 1DEF Professional | East Private | East Professional |
|--|--------------|-------------------|---------------------|--------------------------|---------------------|--------------------------|---------------------|--------------------------|
| Number of licenses issued in total | | | | | | | | |
| - Professional | 288 | 36.6% | | 61.5% | | 34.7% | | 3.8% |
| - Private | 499 | 63.4% | 31.3% | | 66.1% | | 2.6% | |
| - Total | 787 | 100% | 19.8% | 22.5% | 41.9% | 12.7% | 1.7% | 1.4% |
| Overview: | | | | | | | | |
| Number of license holders reporting in total | 648 | 82.3% | 19.6% | 24.7% | 40.4% | 12.8% | 1.5% | 0.9% |
| License holders not reporting | 140 | 17.7% | 20.9% | 12.2% | 48.9% | 12.2% | 2.2% | 3.6% |
| License holders only reporting 0-catches | 293 | 45.2% | 20.5% | 20.5% | 50.2% | 7.5% | 1% | 0.3% |
| License holders reporting catches > 0 kg | 354 | 54.8% | 18.9% | 28.2% | 32.4% | 17.2% | 2% | 1.4% |
| License holders reporting within season ² | | | | | | | | |
| Reports with catch > 0 kg | 182 | 28.1% | 23.6% | 20.3% | 34.6% | 18.7% | 2.7% | 0% |
| Reports with 0-catch | 68 | 10.5% | 36.8% | 10.3% | 41.2% | 10.3% | 0% | 1.5% |
| License holders reporting between time of closure and last date of reporting ² | | | | | | | | |
| Reports with catch > 0 kg | 118 | 18.2% | 17.8% | 41.5% | 20.3% | 15.3% | 1.7% | 3.4% |
| Reports with 0-catch | 156 | 24.1% | 23.7% | 32.1% | 38.5% | 3.8% | 1.9% | 0% |
| License holders reporting after last date of reporting ² | | | | | | | | |
| Reports with catch > 0 kg | 54 | 8.3% | 5.6% | 25.9% | 51.9% | 14.8% | 0% | 8.3% |
| Reports with 0-catch | 111 | 17.1% | 8.1% | 11.7% | 66.7% | 13.5% | 0% | 0% |

² Percentage is compared to total number of reporting license holders (648). Please note, that a license holder can send multiple catch reports. The same license holder can therefore be included in multiple buckets.

³ Percentage is compared to total number of license holders reporting within each section.

3.3 Regulatory measure 8 (f) – interviews with non-reporters

As per the regulatory measure, post season interviews are conducted with non-reporters. 41 people were interviewed during October and November 2023. 40% of the respondents were not aware that they were not able to receive a new license next year if they had not reported. 60% of the respondents said that they had simply forgot to report. 15% said that they did not have the time. 25% said other reasons. This also



revealed that 50% of those interviewed had not received text messages from GFLK about reporting. This shows that there is a need to keep updating the contact information of the license holders in our systems. 60% of those interviewed said that they had not caught any salmon, which is usual among non-reporters. 55% of those interviewed responded that they had seen or heard about the press releases with information about the closure of the fishery.

Most of those interviewed were happy with the current set up, but some mentioned that the online reporting system could be simpler and with less steps. It could therefore be fruitful to look into making the reporting system simpler or easier to use. Some use the online reporting system but print out their report to bring it to the municipality or send it via email. Having a focus on informing of the digitalization of the online reporting system could therefore also be beneficial, since it is possible to send the report via the system, which is the easiest way of reporting out of the several options available.

A positive byproduct of the interviews is that GFLK notice more reports coming in, in the same period.

4. Evaluation of regulatory measure (5)

As in the first year of this regulatory measure, Denmark (in respect of the Faroe Islands and Greenland) agrees to close the fishery at West Greenland when the registered catch has reached no more than 49% of the overall TAC in 2023.

At the NASCO annual meeting in 2023, it was decided to keep this measure at 49% for the 2023 season. There was also a desire to see the data behind the closure of the fishery in Greenland for the 2022 and 2023 season. Data for the 2022 and 2023 seasons are presented below.

| Table 5 | 2021 | | | 2022 | | | 2023 | | |
|--|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | NW-P | SW -P | SW -R | NW - P | SW - P | SW – R | NW - P | SW - P | SW – R |
| opening date | 09-01-2021 | 08-01-2021 | 08-01-2021 | 09-01-2022 | 08-01-2022 | 08-01-2022 | 09-01-2023 | 08-01-2023 | 08-01-2023 |
| closing date | 09-22-2021 | 09-15-2021 | 09-22-2021 | 10-19-2022 | 08-22-2022 | 09-11-2022 | 10-02-2023 | 09-15-2023 | 09-15-2023 |
| season (days) | 21 | 45 | 52 | 49 | 21 | 41 | 31 | 46 | 46 |
| quota (ton) | 7.56 | 11.34 | 4.86 | 7.56 | 11.34 | 4.86 | 7.56 | 11.34 | 4.86 |
| harvest (ton) | 15.86 | 14.95 | 5.90 | 11.39 | 11.90 | 6.93 | 11.96 | 12.53 | 5.67 |
| overage (ton) | 8.30 | 3.61 | 1.01 | 3.83 | 0.56 | 2.07 | 4.40 | 1.19 | 0.81 |
| total quota uptake % | 210% | 132% | 121% | 151% | 105% | 143% | 158% | 111% | 116% |
| >100% quota date (Catch) | 09-10-2021 | 09-08-2021 | 09-16-2021 | 09-30-2022 | 08-21-2022 | 09-02-2022 | 09-21-2023 | 09-11-2023 | 09-08-2023 |
| 3 days prior | 09-07-2021 | 09-05-2021 | 09-13-2021 | 09-27-2022 | 08-18-2022 | 08-29-2022 | 09-18-2023 | 09-07-2023 | 09-05-2023 |
| % quota uptake (Registered 3 days prior) | 13% | 56% | 60% | 23% | 39% | 54% | 31% | 47% | 38% |



| | | | |
|---------------------------------|-----|-----|-----|
| to optimal closing date) | | | |
| Weighted average % quota uptake | 43% | 37% | 40% |

P: professional; R: recreational.

The *Weighted average % quota uptake* is a warning tool to support the decision on when to close a fishery in the future in order to prevent that the quota is exceeded. In table 5, this measure is based on the three fisheries where it is needed to foresee a closing date and close the fishery before the end of season; the professional fisheries in NW and SW as well as the recreational fishery in SW. The Data Working Group from 2022 included the recreational fishery in NW, but since this it is not needed to close this fishery before the end of season, it is not included in table 5.

>100% quota date refers to the date, where the fishery should have been closed in order to reach a 100% of the quota. To close the fishery, the upcoming closure is announced 3 days in advance.

In 2023, the optimal date to announce the upcoming closure for the professional fishery in NW would have been the 18th September and the optimal closing date 21th of September.

% quota uptake refers to how many percentages the registered catch constitutes of the quota three days in advance of the optimal closure date. On the 18th September which was the optimal date to announce the upcoming closure for the professional fishery in NW, the quota uptake registered was 31 % of the total quota.

The decision on when to close the fisheries is not only based about how many reports and catches are registered by the fishermen. The local GFLK fisheries inspectors contribute, daily, with their observations on the fishery and at the local markets. Factors as the day of the week and the weather, also play a large role on the catches, where a week of sun and low winds can be enough time for the quota to be fished.

Another delay occurred when GFLK experienced a technical issue with automatic registration of the electronic reports. The online system made available on Sullissivik had received a formatting update which meant that for specific forms information, our fisheries database was not able to properly parse the information automatically. This was discovered late in the season as GFLK was not informed about the formatting updates. This was used as an opportunity to further improve the online solution and ensure fewer errors in the future. The specific problem is solved ahead of the 2024 season as it is no longer an option in Sullissivik to type information in a format that cannot be loaded into the database.

The overall catch in the 2023 season is 32,58 tonnes in West Greenland, which is an increase of 12,8% from the 28,88 tonnes fished in 2022. While this is an increase, it should be seen in the light of the increase in the number of reports received in 2023 compared to 2022, with the reporting percentage being the highest since before 2019.



In conclusion, higher delay in reporting has made it more difficult to close the fishery in a timely manner. This has led to overfishing. On the other hand, technical factors have contributed to the lack of reporting. Since this is still a fairly new measure, and that the last two years have seen a comparatively low level of overfishing, it is recommended to keep the closure percentage at 49% for the 2024 season as well. This will also give Greenland more leegroom to implement this measure, since other factors are equally important to include in the decision on when to close the fishery.

5. Summary of 2023 season

Table 5 shows the uptake and reporting percentage. The regulation mechanism on when to close the fishery has seemingly had a positive impact on the quota uptake, but other factors could also have impacted the level of uptake. The number of license holders reporting in a timely manner, according to current regulation, has increased to the highest level since before 2019.

| Table 6. Summary of the fishery in West Greenland 2019-2023 | | | | | |
|---|-------|-------|-------|-------|-------|
| Year | 2019 | 2020 | 2021 | 2022 | 2023 |
| Reporting percentage | 81.6% | 81.4% | 69.5% | 68% | 82,3% |
| Quota uptake (tons) | 28.8 | 30.7 | 39.97 | 28.88 | 32,58 |